

UNDERGRADUATE STUDENT PERCEPTIONS ON THE USE OF  
COGNITIVE STIMULANTS

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## **Abstract**

In the 1990s, the use of cognitive stimulants such as Adderall and Ritalin, increased significantly across college campuses in the United States (Cassidy et al., 2015). Many students have claimed that the used non-medical prescription ADHD-stimulants has become a college campus norm (Babcock & Byrne, 2000). Although there is research on college students use of non-medical cognitive stimulants not much has been done to examine this epidemic. This study investigates the lived experiences and perceptions about non-prescribed cognitive stimulants among college students. Exploring student perceptions on the use of non-prescribed cognitive stimulants invites leaders in higher education to reevaluate the demands placed on, and the strategies employed by students to fulfill their college requirements and meet their academic goals. To accomplish this, a modified phenomenological (Moustakas, 1994, as cited in Creswell, 2007) and narrative research design (Clandinin & Connelly, 2000) was used to inquire into the lived realities of participants. This qualitative study explores the following research questions: What are undergraduate students' perceptions on the use of non-prescribed cognitive stimulants such as Adderall and Ritalin? And, according to undergraduate students, what are the circumstances that contribute to the use of non-prescribed cognitive stimulants such as Adderall or Ritalin?

## **Dedication**

To those who thought they could not

Proof that you can

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Growing up in a society that values education, I did not believe I would live up to such standards. Without the support of family, friends and previous educators I would not be where I am today. I understand that I would not have been able to achieve this goal on my own, everyone either big or small has made an impact on this process. I would like to thank those who have supported me throughout my journey to attain a master's degree.

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## **Chapter One**

### **Introduction**

The United States is the number one leading nation in prescribing Attention-Deficit Hyperactivity Disorder (ADHD) medications such as Adderall and Ritalin (McCabe, Knight, Teter, & Wechsler, 2005). Today, prescribed medication is the number one treatment for individuals with ADHD (Madsen et al., 2018). Given the increased use of cognitive stimulants among the general population, many college-aged students have started taking either medically prescribed or non-prescribed medically cognitive stimulants for academic and recreational use (Teter, McCabe, Cranford, Boyd, & Guthrie, 2005). The use of non-medically prescribed cognitive stimulants has become increasingly popular on college campuses creating a normative culture across the United States (Babcock & Byrne, 2000). Some benefits of cognitive stimulants include increased attention, alertness and concentration (Teter, McCabe, Cranford, Boyd, & Guthrie, 2005). The use of cognitive stimulants, such as Adderall and Ritalin, allows students to relieve pressure and focus on studying in the mist of their busy schedules. One of the main reasons for use that has been reported is to cope with academic workload (Vrecko, 2015).

### **Statement of Purpose**

Given the increased prevalence of cognitive stimulants on college campuses in the United States (Teter, McCabe, Cranford, Boyd, & Guthrie, 2005), I wanted to take on the following research questions: What are undergraduate students' perceptions on the use of non-prescribed cognitive stimulants such as Adderall and Ritalin? And, according to undergraduate students, what are the circumstances that contribute to the use of non-prescribed cognitive stimulants such as Adderall or Ritalin?

This research relies upon a blended phenomenological and narrative methodology to capture the common lived experiences of each participant. Through open-ended, semi-structured interviews, I was able to gain an understanding of the perceptions of five current or recently graduated undergraduate students who attend or who attended university in California. Given the current literature along with the stories of those I interviewed, this study explores the stressors everyday college students face. For example, data seems to suggest that current students have found that the use of cognitive stimulants relieves some of the academic pressure by allowing them to focus on studying for long periods of time (Vrecko, 2015).

### **Theoretical Framework**

This work aligns with two different theoretical perspectives, namely the Social Learning Theory (Bandura, 1971) and the General Strain Theory (Thaxton & Agnew, 2018). Social Learning Theory claims that modeling influences learning and behaviors (Bandura, 1971). Bandura (1971) suggested that those who see a problem fixed by others will issue the same response to fix it themselves. Additionally, I have also chosen General Strain Theory which claims that individuals who experience high levels of stress are more likely to cope with the stress in multiple ways, either legal or not (Thaxton & Agnew, 2018). Both of these theoretical perspectives provide some context as to why college students are turning to the use of non-medically prescribed cognitive stimulants such as Adderall and Ritalin to meet their many and sometimes competing responsibilities.

### **Definitions**

Cognitive stimulants are generally prescribed to individuals with ADHD and narcolepsy. Cognitive stimulants are used to increase focus and alertness. Such stimulants include but are not

limited to: Adderall, Ritalin, Concerta, Strattera, and Vyvanse (DeSantis & Hane, 2010). In the same vein, illicit drugs in this study refer to pharmaceuticals that either stimulate or inhibit the central nervous system (Uutela, 2001). There are four major types of illicit drugs: stimulants, depressants, narcotics, and hallucinogens (Houck & Siegel, 2015). Recreational drug use is used for an individual's pleasure and enjoyment, generally used while socializing. Recreational drug use has little to no impact on the individual's finances or wellbeing (White, 2012)

### **Organization of Chapters**

This thesis is organized into five different chapters. Chapter Two offers a review of the literature on cognitive stimulants. The review of the literature allows readers to understand the research that has been conducted while providing more context as to why this study is important. The methodology guiding this study is laid out in Chapter Three. In Chapter Four, I set out findings from this study based on interviews with five current or recently graduated undergraduate students who shared their perceptions on the undergraduate use of cognitive stimulants such as Adderall and Ritalin. Lastly, Chapter Five presents a discussion of the implications of the findings of this study for higher education and provides future recommendations.

## **Chapter Two**

### **A Review of the Literature**

In recent years, there has been a dramatic increase in the diagnosis of Attention Deficit/Hyperactivity Disorder (ADHD). Lebowitz, Rosenthal, and Ahn (2016) claim that ADHD is the most commonly diagnosed disability in children, affecting around 8.7% of children in the United States. More recently, researchers have found that 30% to 70% of pediatric diagnoses of ADHD continue into adulthood (DeSantis & Hane, 2010). According to the Center for Disease Control (CDC), a person diagnosed with ADHD has difficulties paying attention, controlling impulsive behaviors or is overly active, sometimes making daily life challenging (Centers for Disease Control and Prevention, 2017). Attention-Deficit Hyperactivity Disorder is a developmental disorder with lifelong complications. Such complications may negatively affect an individual's social, academic and professional life depending on the severity of the ADHD and the treatment prescribed (Madsen et al., 2018). Attention-Deficit Hyperactivity Disorder has been found to be highly inheritable meaning that much of the genes related to the disorder are passed down across generations (Taylor, Charman, & Ronald, 2015). Madsen et al. (2018) have also claimed that ADHD is linked to psychosocial, environmental factors, and genetic and biological contributors as well.

#### **ADHD Identification and Treatment**

To diagnose ADHD in children and adults the Diagnostic and Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition (DSM-V) has set parameters. These parameters give experts criteria to determine a diagnosis. Many have to keep in mind, while diagnosing an individual with ADHD, the DSM- V does not set parameters for developmental differences, which may

lead to misdiagnoses (American Academy of Pediatrics, 2011). In terms of ADHD, the parameters set out in the DSM-V are as follows:

*Table 2.1* DSM-V parameters for the diagnosis of ADHD (Center for Disease Control and Prevention)

**Inattention: Six or more symptoms of inattention for children up to age 16, or five or more for adolescents 17 and older and adults; symptoms of inattention have been present for at least 6 months, and they are inappropriate for developmental level:**

- Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities.
- Often has trouble holding attention on tasks or play activities.
- Often does not seem to listen when spoken to directly.
- Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., loses focus, side-tracked).
- Often has trouble organizing tasks and activities.
- Often avoids, dislikes, or is reluctant to do tasks that require mental effort over a long period of time (such as schoolwork or homework).
- Often loses things necessary for tasks and activities (e.g. school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones).
- Is often easily distracted
- Is often forgetful in daily activities.

**Hyperactivity and Impulsivity: Six or more symptoms of hyperactivity-impulsivity for children up to age 16, or five or more for adolescents 17 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:**

- Often fidgets with or taps hands or feet, or squirms in seat.
- Often leaves seat in situations when remaining seated is expected.
- Often runs about or climbs in situations where it is not appropriate (adolescents or adults may be limited to feeling restless).
- Often unable to play or take part in leisure activities quietly.
- Is often "on the go" acting as if "driven by a motor".
- Often talks excessively.
- Often blurts out an answer before a question has been completed.
- Often has trouble waiting his/her turn.
- Often interrupts or intrudes on others (e.g., butts into conversations or games)

The National Survey of Children's Health has determined that rates of ADHD in children have dramatically increased over the past decade (Walkup, Stossel, & Rendleman, 2014). The CDC revealed that the increase in diagnoses of ADHD more likely reflects a progression toward the truest rates of ADHD (Posner, 2014). With rising rates of diagnoses, a fuller picture of the number of individuals living with ADHD may be emerging (Walkup, Stossel & Rendleman, 2014). Unfortunately, there are still large numbers of children who have yet to be diagnosed with ADHD (Madsen et al., 2018). Of course, diagnoses are in part related to different factors including, but not limited to, gender, the family status, parental mental health, where the child lives and the parents' socioeconomic status (SES). Research has shown that young girls are more likely to be under-diagnosed than young boys (Madsen et al., 2018). Many believe this underrepresentation among girls has to do with young boys showing more disruptive behaviors in classroom settings than their female counterparts. Girls typically show low levels of disruptiveness, while showing greater levels of inattentiveness, making symptoms easily overlooked (Madsen et al., 2018).

Early identification and intervention is crucial in helping children with ADHD succeed in daily life structures (Madsen et al., 2018). With the rise of ADHD, there is a limited number of mental health resources, and primary physicians are now being called upon to diagnose. This lack of treatment may be detrimental to an individual long-term.

Due to the everyday exposure to children, parents and teachers are now being relied on to help with the diagnosis of children. They have even begun training programs to help better inform parents, supports, and educators on the symptoms of ADHD (American Academy of Pediatrics, 2011). With these efforts, experts have taken note of the large increase in parent

ADHD identification (Visser et al., 2014). After much research, Visser et al., (2014) found that early identification of ADHD among children is, in fact, first identified by parents. In 2007, 78% of children diagnosed with ADHD were characterized by their parents.

Once an individual has been diagnosed, intervention is typically the next step in treating ADHD. The social pressure for individuals to control their behavior, either at home, school or at work is largely why individuals choose to get treatment (Thompson et al., 2009). In the United States ADHD is typically treated in two ways, behavioral and pharmacological intervention, many have found that the combination of the two are often most beneficial (Tamm et al., 2017).

A majority of behavioral treatment consists of talk therapy (McCarty, Vander Stoep, Violette & Myers, 2015). Students with ADHD experience difficulties in school and daily functions such as decreased attention, self-monitoring, and mood swings. These students tend to have lower grade point averages and lower graduation rates, poorer self-reported quality of life and higher rates of academic probation (Gu, Xu, & Zhu, 2018). In this case behavioral therapy becomes a great resource for those students. Treating these behaviors early can help improve one's quality of life while reducing depression and anxiety. Behavioral therapy has also shown to increase academic performance (Gu, Xu, & Zhu, 2018). Behavior therapy can help individuals with reducing outburst or disruptive behaviors. Behavior therapy is also recommended for parents and teachers, giving them a chance to learn about ways to positivity reinforce wanted behaviors from their children with ADHD. Behavioral Therapy has also shown ways to help parents and teachers strengthen the bond with the individual (Centers for Disease Control and Prevention, 2017).



## **Mindful-Based Cognitive Therapy**

Mindful-Based Cognitive Therapy (MBCT) is one of the recommended treatments for individuals with ADHD. This therapeutic approach combines both cognitive-behavioral therapy and mindfulness. MBCT is typically held over an eight-week session including three-hour weekly sessions. MBCT's approach includes sustained attention training, emotion control, somatic awareness, non-judgmental awareness, curiosity, and acceptance of the "here-and-now," distancing from a self-focused perspective, and openness to present experience (Gu, Xu, & Zhu, 2018). MBCT has shown positive outcomes on attention, mood, self-regulation, executive function, behavior problems and an overall better quality of life, some even showing signs in the first five days (Gu, Xu, & Zhu, 2018).

Unfortunately, MBCT is not suitable for all persons with ADHD. Research has found that this process is challenging for college and universities to uphold. Due to MBCT's long process, college counseling clinics have difficulty due to the limited resources with budget restrictions and constraints during therapy sessions. College students are under different stressors, as well, that make college counseling clinics essential. Common stressors include, moving away from home and transitioning to a new environment, academic stressors, an unsteady social support system, economic stressors, risky sexual behavior, increased cigarette smoking, alcohol and drug dependency, and sleep disorders among others (Gu, Xu, & Zhu, 2018). Due to the increased demand for the universities and college counseling clinics, many campuses find themselves with waitlists and short-term treatment programs. However, research suggests that between two and eight percent of college students meet the criteria for ADHD (Gu, Xu, & Zhu, 2018). With this population struggling to be served there is an increased risk of comorbid conditions such as anxiety, depression, daytime sleepiness, suicide, self-injurious behaviors, physical illness,

decreased physical activity, risky sexual behavior, increased cigarette smoking, alcohol and drug dependency, and severity of work performance difficulties (Gu, Xu, & Zhu, 2018). Behavioral Therapy intervention is important for this population as they try to achieve their academic goals. For a student attending college or university intervention has been discovered to decrease the incidence, severity, and duration of future mental health problems, including major depressive disorder, anxiety disorders, and substance abuse (Gu, Xu, & Zhu, 2018).

### **The Core Treatment of ADHD**

Today, medication is the core treatment for ADHD (Madsen et al., 2018). Typically, medications prescribed to treat ADHD are either Adderall or Ritalin. Adderall is a mixed AMP salt consisting of dextroamphetamine (d-AMP) and Ritalin is a methylphenidate (Smith & Farah, 2011). The United States is ranked highest in the world in prescribing these medications, consuming most of the world's methylphenidate (McCabe, Knight, Teter, & Wechsler, 2005). According to the United States Drug Enforcement Administration (DEA), the production of Ritalin has increased by almost 900% from 1990 to 2000. Newer medications such as Concerta and Metadate, have increased production of methylphenidate by 40% from 2000 to 2002. As well as amphetamines such as Adderall and Dexedrine, increasing by 5,767% from 1993 to 2001 (Hall, Irwin, Bowman, Frankenberger, & Jewett, 2005). Importantly, although rates of medication use have increased in the past decade, approximately 70% of children and teens with ADHD are currently receiving treatments with medications (Walkup et al., 2014). Consistent with the seeming reality many fear these drugs are over prescribed (Babcock & Byrne, 2000). The DEA has recognized the issue and has set limitations on how the prescribed drugs are to be distributed. Legally, Adderall, Ritalin, Vyvanse and Dexedrine are only available through prescriptions and allowed to be refilled every thirty days (DeSantis & Hane, 2010). Although the

government is trying to reduce the problem, college-aged students are using the drugs more than ever (Hall, Irwin, Bowman, Frankenberger, & Jewett, 2005).

Research has found that some school districts have rates of students using these cognitive medications as high as 10% and majority being 2<sup>nd</sup> through 5<sup>th</sup> grade. In one study, researchers found cognitive medications are typically being prescribed to boy's ages 5-14 years old with most of them identifying as White and living in higher income areas (Hall et al., 2005).

In a study preformed in western North Carolina, researchers studied children ages nine to 16 years diagnosed with ADHD. Only 3.4% of the children diagnosed with ADHD were found to meet the criteria of an individual with ADHD, yet 7.3% of the children were receiving medication from physicians. Hall, Irwin, Bowman, Frankenberger, and Jewett (2005) claimed that in a study conducted by Moline and Frankenberger, 34% students in middle and high schools taking medication to treat ADHD were approached to sell or trade their medication. Additionally, 53% of non-medicated students claimed students with medication had offered to sell or give away their medications. With much of this illicit use happening around school campuses, a sample of administrators were asked if they were aware of the epidemic. Interestingly, only one of 50 administrators claimed to be aware of the illicit use of ADHD medication (Hall, Irwin, Bowman, Frankenberger, & Jewett, 2005).

### **Non-Medically Prescribed Stimulants on College Campuses**

Since the 1990s, the illicit use of Adderall and Ritalin have become increasingly popular across college campuses in the United States. During the typical college years, 18 to 25 year olds are more likely to experiment with recreational drug use (Hall, Irwin, Bowman, Frankenberger, & Jewett, 2005). Today, we primarily see the most illicit use of cognitive stimulants among

white fraternity members, attending northeastern state universities, or attending universities with high admission standards (DeSantis & Hane, 2010). Further research has suggested that students whose parents have a four-year college degree are also more likely to engage in the use of non-medical cognitive stimulants (Arria et al., 2018). Additionally, research has shown a positive correlation between high study demands and psychological distress with the non-medical use of the cognitive stimulants among students (Lazuras, Ypsilanti, Lamprou, & Kontogiorgis, 2017). According to the 2009 National Survey on Drug Use and Health, 2.6 million children ages 12 and up have used non-medical prescription ADHD stimulants (as cited in Cassidy et al., 2015). Most students are receiving these drugs from peers in order to improve their academic achievement (Advokat, Guidry, & Martino, 2008). Today, students claim cognitive medications, such as Adderall and Ritalin help them gain a competitive edge and provide a way to cope with the stress of studying, some even stating it was a “means-to-an-end” (Lazuras et al., 2017). According to Teter, McCabe, Cranford, Boyd, & Guthrie, 2005, students claim that stimulants help with concentration, increased alertness and getting high. The unapproved use of cognitive stimulants is typically understood by researchers as college students seeking to enhance their abilities to concentrate on their academic workload, and it has now become the main area of cognitive enhancements (Vrecko, 2015) Cognitive stimulants such as Adderall and Ritalin, have become so readily available on college campuses that many individuals have claimed that they have either been solicited to buy or sell these drugs. In a recent study, over half the students prescribed such medication had been asked to sell or share their medication (Shillington, Reed, Lange, Clapp, & Henry, 2006). Many students even claim the non-medical use of cognitive stimulants has become a campus norm and they do not see anything morally or medically wrong with using non-prescribed Adderall or Ritalin (Babcock & Byrne, 2000).

This phenomenon raises a number of ethical and policymaking questions as to whether the non-medical use of cognitive enhancements is cheating in an academic setting, due to the reported boost in concentration and focus on academic work. Many have even claimed that individuals who choose to not use cognitive enhancers might feel pressured to take enhancers to keep up (Vrecko, 2015). The use of cognitive stimulants is now being compared to the use of athletic performance enhancers. Scholars have now coined the term *academic doping* for individuals taking part in the use of non-medical cognitive enhancements (Lazuras et al., 2017).

Unfortunately, college-aged students, 18-25 years old, are the most likely to abuse these stimulants (Babcock & Byrne, 2000). Research has found that individuals attending college are more likely use nonmedical prescription stimulants in comparison to their peers (Arria et al., 2018). A study conducted in the US showed that first time users' primary motivation for using non-medical cognitive stimulates was to deal with academic stress and anxiety, many supported and encouraged by close peers (Lazuras et al., 2017).

High use of stimulate medication can led to cardiovascular complications, increased blood pressure and severe headaches (White, Becker-Blease, & Grace-Bishop, 2006). There has even been a college student who died from mixing prescription drugs with alcohol (Low & Gendaszek, 2002). Studies show that students who use non-medical stimulants report higher rates of using other drugs and heavy drinking (Shillington, Reed, Lange, Clapp, & Henry, 2006). Students who are using non-medical stimulants typically have lower grade point averages and skip class more often (Arria et al., 2018). However, users claim that the use of non-medical cognitive stimulants have low risks. One survey conducted on fraternity members found that 89% believed the enhancements were either *not dangerous at all* or only *slightly dangerous* (Partridge, Bell, Lucke, & Hall, 2013). Methylphenidate (Ritalin and Concerta) and

amphetamine (Adderall, Dexedrine, and Desoxyn) are currently specified Schedule II medications, indicating they are controlled with a high chance of abuse (Hall, Irwin, Bowman, Frankenberger, & Jewett 2005). One study showed, 70% of college students claiming their friends currently use non-prescribed stimulants (Cropsey, Schiavon, Hendricks, Froelich, Lentowicz, & Fargason, 2017).

California has the lowest rate of ADHD diagnosis which, in turn, suggests that a lower percentage of medication for treatment of the disorder may be prescribed. Due to the higher rates of non-medical use in the mid-western or eastern college or universities, relatively little research has been performed in the state of California (Shillington, Reed, Lange, Clapp, & Henry, 2006). With the growing phenomenon, the use of cognitive stimulants has reached the attention from public health experts, medical practitioners and government agencies (Vrecko, 2015).

## **Theoretical Frameworks**

### **Social Learning Theory**

As suggested by Bandura (1971), all learning is a direct experience of, or the observation of others' behaviors. Social Learning Theory claims that modeling influences learning and observers acquire a symbolic representation of the specific activities. In many ways, observational learning helps without the individuals or groups having to engage in other learning strategies such as trial and error for themselves. Observation can also help guide individuals on their emotional responses to different situations as well. For example, some individuals may be fearful or doubtful in situations by having witnessed the experiences of those who have gone before them (Bandura, 1971). Social Learning Theory suggests that people may witness phenomena and later use that knowledge to solve or avoid problems in the future (Bandura, 1971). In acts of delinquent behavior, Social Learning Theory suggests that individual actions

are prompted by their social environments, and modeled by their peers (Rukus, Stogner, & Miller, 2017). As stated by Peralta and Steele (2010), Social Learning Theory perspective considers the larger socio-structural conditions, for example exposure to social norms and socialization, in which behavior is manifest.

Social Learning Theory is illustrated as four different sub-processes attention, retention, motoric reproduction, and reinforcement and motivational process (Bandura, 1971). In observational learning, the attentional processes claim that although an individual may witness a model, they may not pick up on the intended focus, and perceive the model as something different. Another key point in the attentional processes states that individuals tend to watch and observe interesting and more influential people. For example, those in the media are heavily looked up to in a way that attracts people of all ages (Bandura, 1971). Although there are heavy media influences, much of this phase is done in intimate settings, for example, within friend networks or through peer socialization. Through these networks, many learn motives, rationalizations and attitudes towards different actions (Peralta & Steele, 2010). The second sub-process is the retention process, which suggests that although an individual may observe phenomena, one needs the long-term memory to retain the information. The retention of information helps one in the future make decisions in light of another's experience. The third process is motoric reproduction, claiming that once an individual has observed the model, though their actions they are able to produce the same outcome. Yet, not all individuals can produce the same outcome as the model. Without the same skill set, some cannot perform to the same capacity (Bandura, 1971). The fourth and final process is focused on reinforcement and motivational processes. An individual may observe and retain an action but unless the action has a positive outcome, the action is less likely to be repeated. Positive reinforcement controls how

people will act out what they have witnessed (Bandura, 1971). When it comes to the misuse of stimulants, Rukus, Stogner, and Miller (2017) have stated that peer attitudes may reinforce the use of cognitive stimulants, generating potential abuse among college students.

### **General Strain Theory**

Historically, many believed that criminal or illegal acts were explained by positivist assumptions about the inherent fallibility of the individual. In other words, traditional suppositions about crime assumed one's flawed genetic or psychological makeup contributed to delinquency. Until the emergence of structural theoretical perspectives that explored the political economy of crime and criminality, the illicit use of drugs had no explanation (Thaxton & Agnew, 2018). General Strain Theory has now become one of the leading theories in cases of crime (Thaxton & Agnew, 2018). General Strain Theory acknowledges relationships or a variety of lived experiences as threatening to an unwanted negative situation or consequence (Polizzi, 2011). A threat could be the experience of losing something valuable. The experience of strain may be characterized by a breakdown of social interactions mixed with social situations, leading individuals to react negatively (Polizzi, 2011). The General Strain Theory claims that individuals, dealing with a higher level of strains or stressors, are more likely to turn to offenses. Research has shown that different strains and stressors contribute to acting out behavior among some individuals (Thaxton & Agnew, 2018). Many can experience negative effects on their emotional state of mind (Thaxton & Agnew, 2018).

General Strain Theory has claimed that, generally, several strains and stressors contribute to the type of coping an individual will turn to, criminal or not. Many criminal coping mechanisms are performed by those with poor coping skills and resources, little support, favorable beliefs to the crime and opportunities for association (Thaxton & Agnew, 2018). Much



of the literature on General Strain Theory has stated that a single condition does not conclude what type of coping mechanisms one might choose. However, there are many different coping strategies from which to choose (Thaxton & Agnew, 2018). Many of the stressors can include but are not limited to parental rejection, harsh discipline, school problems such as low grades, negative relationships with teachers, discrimination, and inability to achieve goals and peer relationships (Thaxton & Agnew, 2018).

Referring to events or conditions that are disliked, Agnew (as cited in Thaxton & Agnew, 2018) has stated that there are four different types of general strains; objective, subjective, vicarious and anticipatory (Polizzi, 2011). Objective strain generally happens from an event or condition that an individual would perceive as negative. More specifically, objective strain is a confrontation of a lived experience while subjective strain refers to an event or condition that an individual does not like (Polizzi, 2011). Agnew has stressed that the differentiation between the two is how the individual perceives the situation. Vicarious strain refers to an emotional response to when something bad happens to someone close to an individual. Lastly, anticipatory strain is the belief that one's experience of strain will continue or that new strains will appear. Anticipatory strain can be dealt with or handled in different ways based on context or how society might expect one to respond (Polizzi, 2011).

### **Summation and Future Direction**

In this review of the literature, I explored the rise of Attention-Deficit Hyperactivity Disorder (ADHD) and its parameters with an emphasis on two different angles. One portion of the literature stated that the United States is finally catching up with the actual number of diagnosed individuals and is, thus, coming closer to identifying the actual number of individuals with ADHD, thus explaining the rise in prescriptions for these medications. The second point of view

from the literature considered the rising concern regarding over-prescribing cognitive stimulants, and the call for more training among practitioners in educational institutions. Many believe that alternative methods such as behavioral therapy, should be explored before turning to medication.

With the large number of cognitive stimulants being prescribed, there seems to be an increase in the misuse these stimulants (Vrecko, 2015). In the United States, research has found that a significant rise in non-medical prescription stimulants has reached an all-time high rate of 6.9% (Vrecko, 2015). The most frequent users of illicit cognitive stimulants are the typical college-aged student ranging from 18-25 years (Hall, Irwin, Bowman, Frankenberger, & Jewett, 2005). Many of the users claiming cognitive stimulants aid them with their academic performance, alertness, concentration and *getting high* (Partridge, Bell, Lucke, & Hall, 2013). The increase of the non-medical use of cognitive stimulants across college campuses has led to many referring to the use of non-medical use of prescription drugs as a growing phenomenon and receiving much attention from public health experts and drug abuse prevention programs (Vrecko, 2015).

Through a narrative exploration, it is anticipated that this study will contribute to a better understanding of undergraduate students' perceptions of the use of cognitive stimulants such as Adderall and Ritalin. The next chapter will delve deeper into the particular methodological strategies I utilized, their alignment with the research question, as well as alignment with the theoretical frameworks foregrounding this study.

## **Chapter Three**

### **Methodology**

#### **Narrative Analysis**

In 1969, the term narratology was coined, in part due to a recognition that natural science methods advanced minimal understanding of human's social lives (Riessman, 1993). Riessman (1993) has claimed that different disciplines, including the applied sciences, are now turning to narrative analysis to better grasp human experiences. With this recognition as a credible research technique, some have regarded narratology as its own independent discipline (Cortazzi, 2014). Simply put, narrative analysis investigates the story of human experience (Riessman, 1993). Clandinin and Connelly (2000) have argued that individuals understand the world largely through narrative. Since humans have a natural tendency to tell stories, storytelling becomes an important activity in the sharing of human experiences (Riessman, 1993).

Narrative exploration in research relies largely on interviews as an important source of data told through story. In a narrative analysis, participants answer questions in their own words and in their own way, explaining their story which guides the direction of the interview (Riessman, 1993). Conducting a narrative analysis encourages participants to engage with their narratives in a manner in which they organize into a pattern helping to explain and make connections to their stories (Cortazzi, 2014). Among others, Cortazzi (2014) has suggested that narrative research offers an open window into one's mind and culture.

#### **Phenomenological Method**

Creswell (2007) nicely states the differentiation between a narrative analysis and a phenomenological method. Whereby a narrative study focuses on a single experience and the

storytelling that frames experience, phenomenology considers lived experiences in the context of a larger phenomenon bringing together the fact that all participants have a common lived experience within a certain phenomenon. The phenomenological method considers a collective of individual experiences that taken together form a common principle (Creswell, 2007). The focus of phenomenology is on an individual or small group experience of consciousness within the phenomenological context (Durdella, 2019). Patton (2015) has claimed that the phenomenological approach focuses on how individuals make sense of their experiences and bring that to the forefront of their consciousness. Patton (2015) has further suggested that consciousness is our only understanding to access the world, thus researchers can only ever explore consciousness. In turn, whatever falls outside an individual's consciousness is not a possible lived experience, and therefore cannot be explored (Patton, 2015).

To gather information on individual or small group's experiences, qualitative researchers suggest an interview-styled research study (Patton, 2015). This strategy will allow for the researcher to have a greater understanding of the participant's experiences, perceptions, and judgements (Patton, 2015). Participant experiences provide a deeper understanding of the phenomenon in question (Creswell, 2007). Phenomenology takes qualitative research further to explore individual or small group's experiences and their potential implications for society (Durdella, 2019).

### **Alignment with Theoretical Framework**

In Chapter Two, I present two theoretical frameworks that guide this study. As mentioned, these are Social Learning Theory and the General Strain Theory, both of which align with narrative analysis and phenomenology in more ways than one. Social Learning Theory suggests that learning is done through observation of one's lived experiences supporting the

narrative methodology and phenomenology claiming that we see the world through told and lived experiences. Both methodologies share the idea that lived experiences are central to one's story. On the other hand, but complementarily, General Strain Theory focuses on a specific experience informing an action or thought. Thus, throughout the analysis, narrative and phenomenology are strategies that are consistent with both of these theoretical frameworks given their focus on the individual and the collective experiences relating to a specific phenomenon.

### **Participants and Recruitment**

Participants in this study were undergraduate students enrolled or recently graduated (2 years or less) from a four-year institution in Southern California. In addition, participants had to be over 18 years old. Voluntary members were contacted through purposeful snowball sampling (Creswell, 2007) as well as through fliers posted throughout the recruitment sites university residence halls. The parameters for participation in the study were set out on the flyers and displayed throughout the CSUCI residence halls in accordance with the CSUCI housing policies and procedures. A copy of the flyer and the consent form are attached in Appendices A and B, respectively. The consent form provided a summary of the study's purpose, emphasized the voluntary nature of participation and was written in such a way that it is understandable to college-aged students. Both documents highlight that participation in this study was completely voluntary and confidential. Also, participants were informed that, should they decide not to continue at any point with the study, there would be no negative repercussions.

### **Demographic Questionnaire**

Once the participants contacted me, I sent them a copy of the consent form (Appendix B) and the demographic questionnaire (Appendix C) as a packet via email. The demographic

questionnaire focused on collecting personal information about the participants to provide an overview of the study population. Some questions included the participant's age, gender, race, Major and GPA (grade point average). A majority of the questions were fill-in-the-blank, for example, age, gender and major. This was done purposefully so that participants did not feel limited to checking off a box. In full, the demographic questionnaire was comprised of thirteen questions. On average, it took between 15 to 20 minutes to complete the survey assuming the participant choose to complete it in full.

### **Semi-Structured Interviews**

One-on-one, semi-structured interviews took place in various locations on Southern California college campuses or at a convenient location off campus. Interviews were scheduled at a mutually-convenient time and place with particular consideration to ensuring that the participant was comfortable before beginning the interview. Before beginning the interview proper, I reminded the participant of its focus, which is to investigate undergraduate student perceptions of the use of cognitive stimulants such as Adderall and Ritalin. The core of the interview questions sought to understand student perceptions, ideas, feelings and contributing factors to the use of cognitive stimulants, such as Adderall and Ritalin. I closed the interview by thanking the participants for their contributions and reiterated contact information including my coordinates, those of my thesis advisor and of local support agencies. Each interview was audio recorded and transcribed verbatim by an outside service.

### **Confidentiality and Pseudonyms**

To ensure confidentiality, all participants have been assigned a pseudonym for the purpose of this study. All identifying information, including information about the interview

setting and locations where the data are collected, participants' undergraduate universities, and regarding all other locations mentioned by participants was removed from interview transcripts and in the study.

### **Coding Process**

Once all five interviews had been transcribed, I started to code the transcripts manually (Saldana, 2016). In other words, I did not use digital coding and analysis software. Manually coding allowed me to write directly on my transcripts, highlight, take notes and circle key themes, statements or words (Saldana, 2016).

I started with what Saldana (2016) calls pre-coding. Pre-coding is the first form of coding that includes circling, highlight and making notes of quotes that stand out (Saldana, 2016). Saldana (2016) calls these *quotable moments*. During this pre-coding stage I both, listened and read through each transcript. The act of listening to the interview while following along with the text allowed me to fully grasp what each participant meant with each word. By listening to the interview, I heard the tone of voice and conviction each participant said with their words. By reading the transcripts, it allowed me to see the order in which each participant was illustrating their story

After initially going through each transcript, taking notes and highlighting important quotes in yellow, I used what is called in vivo coding. In Vivo coding is the act of splitting up data into individually segments (Saldana, 2016). By circling, underlining and taking notes in the margins of each transcript, I had found common thoughts or ideas that had been displayed in each of the transcripts stated by the participants in this study. Once I had clearly labeled different

passages and quotes into three generalized thoughts with a variety of subcategories, I started the third and final stage of coding.

My final stage of the coding process is termed as focus coding, stating that one compares, focuses and reorganizes their data, allowing one to prioritize the data. The act of prioritizing data allows the data to be centralized into, in the case of this study, three major themes (Saldana, 2016). My three themes included campus prevalence, competitiveness and a quick fix. I organized my data by picking three different colors to highlight my transcriptions. Each other was a major theme. When highlighting a quote with a color, I would then handwrite in blue ink what subheading the quote would fall under. These three emergent themes allowed me to prioritize my findings as explained in Chapter Four.

### **Trustworthiness**

To maintain trustworthiness and credibility throughout the research process, Carlson (2010) has claimed that qualitative research should always think about three different lenses. These lenses include one's self (the researcher), the lens of the participants and, finally, the lens of the external readers. I considered the three lenses listed above throughout this study to maintain trustworthiness (Carlson, 2010). With that, data and participants narratives were revisited throughout the study (Carlson, 2010).

### **Member checking**

One of the strategies that I used to ensure trustworthiness was to engage in member checking which is used to give participants an opportunity to review and give approval on their aspects and interpretations of the study (Carlson, 2010). Member checking was implemented due to the nature of this narrative study. As previously mentioned, a narrative and



phenomenological study is based on the thoughts, memories and interpretations of an individual or small group lived experiences (Durdella, 2019), all of which can continuously change and transform (Carlson, 2010). Allowing members to review what they have stated during their interviews not only brings more creditability to the study but allows each participant to trust that I have told their story in full (Carlson, 2010).

### **Role of the Researcher**

Throughout this process of conducting and putting together research, my touch, thought and convictions have been poured into this research—from the topic I chose, the questions that would be asked, to the articles I would research and read. As the qualitative researcher, I have played a large role in what has been portrayed throughout this study, choosing the areas and topics that I find the most important. One tries to be unbiased and hear all sides of every story, but we have been groomed to think and act a certain way whether it be from our guardians or society itself, this is where the importance of trustworthiness comes into play. As mentioned earlier, member checking plays a large role in making sure that I have portrayed the individual narratives in this study accurately.

Attending a four-year university in California, I was exposed to many peers being influenced or influencing others to use cognitive stimulants such as Adderall and Ritalin. I saw the dependence many had or felt they needed to get through the pressures of exams and social outings. My own lived experiences and understanding of why the undergraduate student may use cognitive stimulants have both knowingly and unknowingly influenced the direction of my research.

## **Limitations**

There are several limitations to this study. Due to the sensitive nature of, and more hush topic, finding participants to open up about the use of cognitive stimulants posed its challenges. In addition, given my role as a professional in a university setting may have held students back from sharing their most insightful perceptions although I stated that measures would be taken to ensure confidentiality, and that there would be no repercussions from leaving the study at any point. Not only was I involved with the university through a master's program, I worked at the university in the Housing and Residential Education department. Due the nature of my position, if I were to have student currently living in housing facilities come forward claiming they had used non-prescribed cognitive stimulants in the presences of the university residence halls, I would have had to follow the Housing procedures and document the case. Therefore, students living in housing at a particular campus in Southern California were not involved in the research project.

## **Conclusion**

This study sought to understand the perceptions of university students on the illicit use of cognitive stimulants. This investigation drew from two methodologies, phenomenology and narrative analysis and both of which focus on the memories, thoughts and ideas of each participant.

This chapter provided methodological details relating to the recruitment of the participants, the interviews, coding processes, trustworthiness and my own relationship with the topic. Going forward, in Chapter Four, the participants stories are examined to gain further understanding of their perceptions on the use of cognitive stimulants such as Adderall and

Ritalin. I will introduce five participants who all speak to three major themes, campus prevalence, competitiveness and a quick fix.

## **Chapter 4**

### **Findings**

In this chapter, I report on the perceptions of my participants on the use of cognitive stimulants, such as Adderall and Ritalin. As mentioned in Chapter Two, cognitive stimulants have become so readily available on college campuses, they have become a cultural norm (Shillington, Reed, Lange, Clapp, & Henry, 2006).

In this chapter, you will hear the stories of two current and three recently graduated students from four-year universities in southern California. Each story centers on the experiences of participants and their perceptions of the use of different cognitive stimulants. These narratives have been coded and categorized into themes to answer the original research questions: What are undergraduate students' perceptions on the use of non-prescribed cognitive stimulants such as Adderall and Ritalin? And, according to undergraduate students, what are the circumstances that contribute to the use of non-prescribed cognitive stimulants such as Adderall or Ritalin?

### **Participants**

Of the five participants whose ages range from ages 21 to 25 years, two identified as female and three identified as male. In their own words, three of the participants identified as White, one as mixed race, and the last as a multiracial. Participants in this study were given the following pseudonyms: Sarah Bird, Christopher Kade, Kelly Haddix, Michael Hill and Nolan Oakley. What follows are narrative descriptions of the participants (Bundy, 2018).

Sarah Bird is a college graduate who appreciates hanging out with friends, traveling, going in the jacuzzi and has a love for true crime shows on Netflix. Sarah recently traveled throughout New Zealand in a camper van while hiking various locations.

Christopher Kade is a recent college graduate who enjoys going to the beach, traveling with friends and has recently picked up golfing. As part of a fraternity, Christopher has stated that he enjoys hanging out with members of his fraternity.

Kelly Haddix is the final college graduate who enjoys hanging out with friends, family and her cat. She keeps her weekends full by running errands, going to the gym and having either lunch or dinner with friends.

Michael Hill is currently enrolled in a four-year university. Michael stated that he likes to stay in shape by exercising with weights, swimming and skiing.

Currently enrolled in a four-year university, Nolan Oakley is our final participant. When time permits, Nolan tries to surf and exercise as much as possible. Nolan enjoys being around family and friends, either at parties, concerts or music festivals.

## **Emergent Themes**

While reviewing and coding the transcripts of each participant, three major themes emerged. These themes include: The Perception of the Prevalence of Cognitive Stimulants on College Campuses, The Competitive College Culture, and A Quick Fix. In the following sections, I delve deeper into each theme. These are the stories and lived experiences of each participant. Where appropriate, I refer to direct quotes to further explain their perceptions.

### **The Perception of the Prevalence of Cognitive Stimulants on College Campuses**

As mentioned in Chapter Two, the use of cognitive stimulants has become normalized on college campuses (Babcock & Byrne, 2000). During his interview, Michael commented, “it almost seems abstract if you aren’t using it—Adderall—to study for your tests.” This theme

regarding the prevalent use of cognitive stimulants on college campus was carried throughout all five interviews. All five participants claimed that they saw the most use of cognitive stimulants among college students. Sarah claimed that, “if I had to pick one [group who uses cognitive stimulants], I would say college students.” When asked participants about their perceptions of the use of stimulants on college campuses, all respondents stated that they believed this kind of drug use was common. Many participants stated that a majority of their friends or people they know have come into contact with cognitive stimulants. Sarah suggested, “I know that’s it is pretty common in college for people to use it, even when [the drugs] are not prescribed.” She continued by stating that, “a majority of my friends have tried it, or used it for school, or even just day-to-day”. Nolan admitted, “I know a lot of people take them, I was someone who actually took them.” Meanwhile, Kelly claimed, “I know that it is widely used on college campuses for recreational use as well as a stimulant for academics”.

The perception that these stimulants are readily used has made the use of these drugs to become normalized. Christopher commented that, “in universities it is pretty normalized to use these stimulants. It’s not something that is looked down upon.” He also stated that, “If other people are using it, then it is okay for me to use it”. When students hear about another student using these stimulants, it generally does not come as a shock to them nor would one think anything wrong with the use. Kelly claimed that, “I think the moral of using it is not necessarily bad.” She followed that statement by claiming she knew people who had both sold and taken non-medically prescribed stimulants. All five of the participants stated that they knew someone who had sold stimulants such as Adderall or Ritalin. Kelly stated that she believe, “the majority of the people I’ve run into through my college career have either used it, have sold or have been involved in any type of stimulant drug”.

When discussing of sale of stimulants, Christopher claimed there was an incentive to selling these cognitive stimulants because of the value they hold. Due to the heavy use on college campus, many students have now begun to sell their own prescribed medication. Sarah claimed that, “When people found out that I was on it, they would always ask me for some. People would ask me for it a lot.” She continued to claim that she could get anywhere from three hundred dollars for 30 capsules.

Kelly urged that those who were prescribed cognitive stimulants would not take their medication every day and “still could function and get by. Therefore, didn’t want to take their entire dosage.” This resulted in those individuals having “leftover” to sell to their peers. Kelly continued by stating that:

If you are prescribed you can get it for free through insurance making a profit from hiking the price per pill. But from the standpoint of someone who wasn’t prescribed it and doing it solely for income, they would buy it off someone who was prescribed for a very low price then hike up the price for those who are buying it from them.

Kelly claimed that the price range was anywhere from, “seven to twelve dollars per pill depending on milligrams and extended or slow release.” Kelly continued to state that people would generally buy around 10 to 20 pills at a time. When asked how she would come into contact with those who were selling cognitive stimulants, Kelly claimed that she made a lot of her connections through her sorority. Kelly stated that, “people in sororities have a larger social group and so therefore knew more people who had it.” With that Kelly knew people who had access, where to get it or who had cognitive stimulants on them.

Due to cognitive stimulants being so readily available on college campuses, four of the five participants blamed its prevalence on how readily these cognitive stimulants are prescribed from medical doctors. During our interview, Michael stated that, “it is really way too easy to get prescribed.” Nolan claimed that all you have to say is, “I really just can’t study, and I can never focus, I’m always needing to do something different...and if you say the same symptoms that go along with having ADD... they’re going to prescribe you some kind of drug”.

### **The Competitive College Culture**

In today’s society, a college education has become so valuable that individuals go to great lengths to receive one. A recent college admissions scandal involving celebrities and their children who hire individuals to use illegal practices to get their children into different elite colleges across the United States is a testament to the high-stakes nature of becoming college educated. The competitiveness begins before college. As Christopher claimed, the race to college begins with the pressure of ACT’s (American College Testing), SAT’s (Scholastic Aptitude Test) and college applications. Additionally, parents put different pressures on their children to attend universities while receiving an above average grade point average (GPA). Sarah claimed that her mother had a big impact on her going to college along with the college that she chose to attend. Sarah claimed, “without [mom] pushing me, I don’t know if I would have done it.” Sarah also stated that her mother was the reason she was prescribed cognitive stimulants to begin with.

In sixth grade, Sarah had been prescribed Concerta, claiming that her mother told her it would help with school. When Sarah was showing no signs of improvements, Sarah’s mother along with the psychiatrist decided to up her dosage.



In support of Sarah's story, Nolan claimed that parents fall into the societal pressures by feeling that their child needs to do well in school and deciding to have their child prescribed with cognitive stimulants if they notice any signs of their child struggling. Of course, many parents and supporters want the best for their child while giving them a competitive advantage in such a highly valued part of their lives, namely school.

Four of the five participants indicated that one of the primary uses of cognitive stimulants had to do with staying competitive with their classmates. Kelly stated that, "the sole reason, I took it [cognitive stimulants] was wanting to be competitive within my class." Kelly claimed that although she did not necessarily know how students were doing in her class, through conversation she felt as if she was behind. Kelly claimed that, with the use of cognitive stimulants, she was able to focus and relieve her anxiety. Kelly stated that on Adderall she was able to collect her thoughts and focus on studying while meeting the high standards she had set for herself. While setting high standards for one's self was a common theme through the interviews, Nolan claimed that:

Nobody wants to be just average. People want to be better than average or want to be the best. But coming to the point of being the best, I think that comes in the same that people are willing to do whatever they can in order to be the best.

After finding that many students are turning to non-medically prescribed stimulants to stay competitive with their classmates, Christopher stated that:

You're competing with other kids who are doing really well and you find that, well, if they are taking it [cognitive stimulants] and they are

competing at a certain level, I need to take it so that I continue to keep pace and stay at the same level or effectiveness as those who do take it [cognitive stimulants].

Christopher continued by stating that, “When people find the tool or something that makes them perform better, they will lean toward looking into a drug like this to accomplish the goal.”

Aligning with the literature, Michael stated that, “people who take it [cognitive stimulants] are able to study longer resulting in them doing better on their tests.” Michael continued to suggest that those who are able to work, and study longer already have an advantage over those who are not taking cognitive stimulants.

Nolan spoke about the advantages cognitive stimulants may give one after they complete their education. He said, “I want to get a good GPA, so that I can get my degree and look really good on paper.” Michael also made a point to claim that college athletes are using cognitive stimulants to enhance their athletic abilities such as their agility. Nolan, a former college athlete, suggested that he had used Adderall during his time at college. With different competing and demanding responsibilities, the use of cognitive stimulants allowed Nolan to stay hyper focused on the game.

Many of the participants claimed that the reasoning for needing to use cognitive stimulants were competing responsibilities. As many know, college life may come with a variety of distractions including social life, work and clubs and organizations in addition to school work. Many universities encourage this behavior, claiming that it is best to join clubs and get involved in extracurricular activities anyway you can as it will enrich one’s college experience.

Christopher claimed that, “most students primarily have crazy schedules, not even to add on top the extracurricular, internships and jobs.” Michael spoke about how students with jobs generally have a hard time studying. He provided an example of a student waking up early to go to work, then having to attend classes while finishing off the long day with having to complete their homework. Michael argued that “there is no way [students with busy schedules] are doing that on regular energy. It’s usually artificial. It’s much different than coffee, it is more long-term and keeps you more focused.” Likewise, Kelly stated that one of her coworkers takes an Adderall to just get through the day. She continued by suggesting that maintaining a social life while still continuing to do well in school is one of the largest competing responsibilities. Kelly spoke about students who attend parties on a Saturday night, need to take a cognitive stimulant to be aware and awake the following day either for work or school work. Kelly stated that students, “have less time to do all the things that you need to do, so they definitely are using it [cognitive stimulants].” While students try to master different responsibilities in their life, this amount of pressure can become stressful, as these students try to stay competitive with a good GPA, internships, paying jobs and a large amount of extracurricular activities.

When asked if other students are taking cognitive stimulants because their peers are, four of the five participants claimed that students are, indeed, taking drugs not to “be cool” but more of a survival tactic. Many students are under a lot of stress having to maintain their busy schedules while cognitive stimulants can relieve some of their worry. Sarah stated, “I don’t see Adderall or stimulants as a cool thing to do.” She continued to compare the stimulants to marijuana, claiming, “I don’t see it as smoking weed where people are, ‘Oh, she’s doing it. I’m going to do it.’” Kelly stated that she does not feel peer pressure contributes to the use of nonmedical prescribed cognitive stimulants, because, “everyone is taking it for their own benefit.” Sarah

believed that the main reasons for students to use cognitive stimulants involved the stress and students' feelings of being overwhelmed by the workload. Finally, Christopher supported Sarah's contention that a majority of students are taking stimulants due to the pressure of academics.

### **A Quick Fix**

When discussing the side effects of the use of non-medically prescribed cognitive stimulants, two participants attested to the different side effects they had experienced. Others made claims such as, "I haven't heard or seen anything bad happen to people taking them [cognitive stimulants]." Additionally, Christopher argued that:

I don't know anybody or haven't been around someone who's abused the [cognitive stimulant] and it's been fatal, or they have gotten really ill. So, in my opinion, I think that the fact that there haven't been fatalities or anything that encourages people to keep believing that there's not really any negatives [with this kind of drug use].

On the other hand, Christopher stated that he believes there is a lot of risk involved with using non-medically prescribed stimulants. As for Michael, he made claims stating that he has "seen girls who take it with really low weight and they just either throw up, or they pass out." Michael continued by stating "there are several side effects including loss of appetite, headaches, dehydration, the list goes on."

Nolan stated that some of the side effects from taking these medications included anxiety and stress claiming that, "I realized one day that I had anxiety and stress for no reason. I didn't have any due dates coming up. I actually had a vacation coming up and I was stressed, had

anxiety and worry for no reason.” He also stated that he, “would just be pissed off for no reason, and periods where he would be fine, and then be super down for no reason.” After much confusion, Nolan looked up the side effects for Concerta, a cognitive stimulants, online and claims that, “my symptoms and everything were spot on with the medicine.” After Nolan stopped taking cognitive stimulants, he realized he was experiencing withdrawal symptoms from the medicine stating that his, “eyes were swollen, couldn’t eat, stomach was killing me, [and was feeling] nauseous.” After the withdrawal symptoms, he claimed that he believed he had been addicted to cognitive stimulants.

Sarah had also experienced side effects while taking cognitive stimulants such as Adderall, Ritalin, Vyvanse and Concerta. She claimed that it would change her emotional state claiming that Adderall, Vyvanse and Ritalin gave her a lot of energy opposed to Concerta or Strattera. Sarah claimed that she would categorize herself as very bubbly person with a lot of energy. However, while on cognitive stimulants she felt as if she were suppressed, subdued and flat. She stated that she did not get excited about things. Sarah noticed this in herself, and limited her drug use in response to more high-pressure situations. She told her story this way:

I wouldn’t take it every day because it would change my personality, and I would get easily agitated. The littlest thing would piss me off and set me over the edge. I didn’t like someone tapping their pen. So, I would only take it if I planned on studying the full day, or the week of finals.

While interviewing each participant, although some mentioned side effects many saw the drug as an easy fix or as an aid to help get them through a test the following day. Since the average college student tends to be busy managing different responsibilities, many had not been taught or had to learn how to manage their time more effectively.

Sarah mentioned that she relied on cognitive stimulants because she, “procrastinated a lot.” She continued by stating that, “Adderall taught me how to study.” With little instruction or guidance from professors on how to study, Sarah indicated that the “[cognitive stimulants] taught me how to use flash cards and how to memorize.” Sarah had claimed that, “the discipline of Adderall, made me sit there for hours and do it [complete homework assignments].”

Additionally, Kelly attributed much of her academic success to cognitive stimulants. She indicated that, “it helped me do well in school right off the bat and then gave me confidence to do it over and over again until I graduated.” Kelly’s transition into a four-year university had lowered her self-esteem. She found that she was not confident and was struggling to get good grades. When comparing her four-year university experience after the use of non-medically prescribed cognitive stimulants Kelly rated her overall experience as very positive.

## **Conclusion**

In this chapter, I introduce the perceptions and lived experiences relating to the illicit use of cognitive stimulants among five participants: Sarah, Christopher, Kelly, Michael and Nolan. In their own words, they explained their views on undergraduate students’ use of cognitive stimulants, such as Adderall and Ritalin.

In Chapter Five, I consider these findings in light of the theoretical framework used in this study. Moreover, I return to the research questions which are: What are undergraduate students’ perceptions on the use of non-prescribed cognitive stimulants such as Adderall and Ritalin? And, according to undergraduate students what are the circumstances that contribute to

the use of non-prescribed cognitive stimulants such as Adderall or Ritalin? Chapter Five concludes with a discussion and suggestions for future consideration.

## Chapter Five

### Discussion and Conclusion

In Chapter Two, I examined the literature relating to cognitive stimulants and the use of non-medical cognitive stimulants on American college campuses, while aligning with two theoretical frameworks. These theories are the Social Learning Theory and the General Strain Theory. Chapter Three outlined the phenomenological and narrative approaches used to frame the collection and analysis of data gathered through semi-structured interviews. In the fourth chapter, five current or recently graduated college students from southern California who have used cognitive stimulants during their undergraduate experience share their perceptions and experiences. While listening to their stories, and coding the interviews, three themes emerged. These themes include: The Perception of the Prevalence of Cognitive Stimulants on College Campuses, The Competitive College Culture, and A Quick Fix. In this chapter, I consider the findings and discuss their implications for higher education. Returning to the concepts advanced by the theoretical perspectives, I explore the larger context of post-secondary education and the stress and pressures on students.

#### Theoretical Perspectives

**General Strain Theory.** As stated in Chapter Two, the General Strain Theory claims that an individual with a number of stressors may turn to various types of coping mechanisms which may include the illicit use of cognitive stimulants such as Adderall and Ritalin (Thaxton & Agnew, 2018).

General Strain Theory suggests that there is a connection between the levels of stress students have while juggling multiple responsibilities and the coping mechanisms they use



(Thaxton & Agnew, 2018). The General Strain Theory claims that stressful events can lead to crime and deviance given due to the absence of coping mechanisms (Steele, 2016). During her interview, Sarah claimed that stress was a large reason for turning to the use of cognitive stimulants. Sarah continued by stating that much of her stress was brought on by deadlines and school work. Research has found that adolescences may be vulnerable to abuse substances in light of their lack of established coping skills (Steele, 2016). Similar to Sarah, Kelly stated that she turned to Adderall so she was able to focus on school and, “not every little stressor in my life.” This idea of managing stress was repeated many times among participants. As one interviewee stated, when asked why not just drink coffee instead of taking cognitive stimulants, they commented how it is just not strong enough to get the amount of work done that is needed.

As previously mentioned, according to the General Strain Theory when an individual is in a state of stress they may turn to coping mechanisms. Unfortunately, some turn to coping mechanisms that are considered illegal such as substance abuse when social support is not available (Steele, 2016). Christopher argued that attending university was the number one contributor to his use of cognitive stimulants. He also stated that it is normal on college campuses. Consistent with the work by Steele (2016), Christopher suggested that institutions must become more mindful of the needs of students by offering different kinds of support and social settings in which students might use to cope with the pressure of attending a university.

**Social Learning Theory.** As mentioned in Chapter Two, the Social Learning Theory claims that individuals learn from observing the actions and behaviors of others (Bandura, 1971). Watching one’s actions may influence an individual’s actions on whether to make the same choice or not (Bandura, 1971). As Christopher mentioned during his interview, when you find that others are taking cognitive stimulants and performing at a certain level, many students

choose to do the same. The use of cognitive stimulants on college campus has become so prevalent that many students find it to be a campus norm (Babcock and Byrne, 2000). As mentioned in the previous chapters, Michael stated that it would be abnormal if a student had not used a cognitive stimulant for their academics. Kelly stated that she did not see anything morally wrong with students using non-medically prescribed cognitive stimulants such as Adderall and Ritalin to reach their academic goals.

### **Limitations**

Seeking participants who may have done something illegal may be more difficult than in the recruitment of other types of respondents in other studies. While, initially, it was difficult to recruit participants, after the interviews, many participants wanted to continue the conversation off-the-record, providing more information about their perceptions on the use of cognitive stimulants. When I asked why they did not continue their stories during their interview, most commented that they were scared to.

Additionally, recently in the media, there has been a college admission scandal involving celebrity and affluent parents who payed individuals to get their children into top universities. The scandal has led to many families involved in legal repercussions. While interviewing two of the participants, I could feel their hesitancy to reveal any information regarding their involvement in the distribution of cognitive stimulants or their personal use. Even with the confidentiality brief, I believe this was a limitation as it kept participants from telling their entire story in full.

## **Prevalence of Cognitive Stimulants on College Campuses**

The demands of college have increased dramatically over time (Kosmala-Anderson & Wallace, 2007). Not only has attending college become a societal pressure to attend and receive a college degree, the overall experience has increased dramatically in price, leaving many students with a financial burden after graduating from a four-year university. These realities alone would leave students in a state of distress hoping to make their college experience worth every penny; trying to get the best grades to secure a comfortable future. Meeting these demands place stress on students which may, in part, explain the need for increased mental health programming for students. As Kosmala-Anderson and Wallace (2007) mentioned, students experiencing high levels of stress not only may experience long term health issues, but also the students' performance during examination periods may worsen.

Furthermore, the expectations that school be a full-time job for students, unfortunately, has become unrealistic in today's society. The higher education system must rethink the framework and structure of their course and work load for students. By having university professionals assist students in controlling and maintaining students stress, students may improve their academic performances resulting in better grades and experiences with higher education. Studies have even found a gender difference in which males and females handle stress differently. For example, test anxiety is much higher in females than males (Kosmala-Anderson & Wallace, 2007) which suggests that programming to assist students may need to be differently planned for women and men.

## **The Competitive College Culture**

Competition was an emergent theme in this study making its way into each participant's interview without being prompted. As mentioned through during the interview, college can be very stressful not only from the workload but societal pressures as well. As Nolan said that neither he nor other students want to be average. Students strive to be top of their class. As previously stated, Kelly mentioned that her sole reason for using non-medically prescribed cognitive stimulants was to be competitive with her classmates. Nolan also suggested that many students want to "look good on paper" meaning that their GPA and extracurricular activities will give them an advantage when entering the work force.

Similarly, Michael stated that the pressure to stay competitive can continue outside of university as well, stating that people are using cognitive stimulants in the work force. Michael mentioned that, in his view, this allows working professionals to put in longer hours making them more competitive for promotions and higher-ranking jobs.

The pressure and competition between parents was also mentioned in two of the interviews. As mentioned above, Sarah claimed that her mother pushed for her to be prescribed cognitive stimulants at a young age. When it did not work, her mother demanded that she be prescribed a higher dosage. Sarah also stated that she believes that her mother was the reason for her attending college, claiming that she did not know if she would be where she was if it was not for her mother. Parents feel the pressures from society as well. As Wartman and Savage (2008) stated that many parents in the upper to middle class want their child to attend prestigious institutions. Students growing up in the upper to middle class may have highly involved parents within their admission process. These parents want their child to attend the best college and get a return on their investment for the tuition and money spent to raise the child (Wartman & Savage,

2008). Indeed, Nolan made a comment during his interview that he thought parents need to be educated and not just take their children to the doctors to be prescribed for medication, he also believes that parents should help their children to study.

### **A Quick Fix**

Participants in this study commented on how the educational system did not teach them practical ways of studying. Buboltz Jr., Brown and Soper (2001) claim that troubles with students succeeding in college has to do with sleep difficulties. Students are having to pull all-nighters impacting their academic performance (Buboltz Jr., Brown & Soper, 2001). More times than not, the participants stated that procrastination was something that was a factor in their use of cognitive stimulants. Educators need to carve out time to help prepare students for upcoming exams or even providing classroom time in which to advance projects. As Elliott, Godshall, Shrout and Witty (1990) claimed, for a college student to succeed, a set of skills need to be gained. For example, these skills may include problem solving, time management and organization. Educators cannot assume students enter college with these skills, but in fact need to teach these skills. Educators should guide students through how to effectively study their course material and requirements all while helping them succeed in the classroom (Elliott, Godshall, Shrout & Witty, 1990). As previously mentioned, Sarah commented that Adderall taught her how to study claiming that while she was able to study with the help of a cognitive stimulant, she also started to make flash cards. The use of flash cards improved her ability to grasp a better understanding for concepts taught in the classroom.

## **Recommendations for Future Research**

There is much more to be studied regarding the use of cognitive stimulants in higher education. To this end, I would recommend conducting a mixed-method research study in two parts. In the first instance, looking both at the number of students using non-medically prescribed cognitive stimulants. A survey would be administered to determine the prevalence of the use of non-medically prescribed cognitive stimulants among college campuses. Second, in-depth interviews will be conducted with a representative sample of students to gather more in-depth stories about student experiences with cognitive stimulants. I believe a quantitative study showing numerical data would impress educators and school administrators to recognize the problem. Linking student stories to statistical information about the non-medical use of cognitive stimulants would likely shed a light onto a problem across college campuses in the United States.

Additionally, some participants touched on the sale or trade of either prescribed or non-prescribed cognitive stimulants. I would recommend further study to capture the experiences of those who engage in the underground economy of prescription drug sales for non-prescribed purposes.

## **Conclusion**

Although there were limitations in this study, each participant shared portions of their story as they were comfortable. The information gathered by each participant included the stories told about the different underlying pressures college students deal with today. The literature points to the fact that the illicit use of cognitive stimulants is serious problem on college campuses (Babcock & Byrne, 2000). I anticipate that this research will inform the work of university educators and administrators since it emphasizes the realities of students self-

medicating to manage their classwork and course load. My hope is that higher education professionals become more understanding and have greater empathy for those students who are juggling multiple responsibilities at one time.

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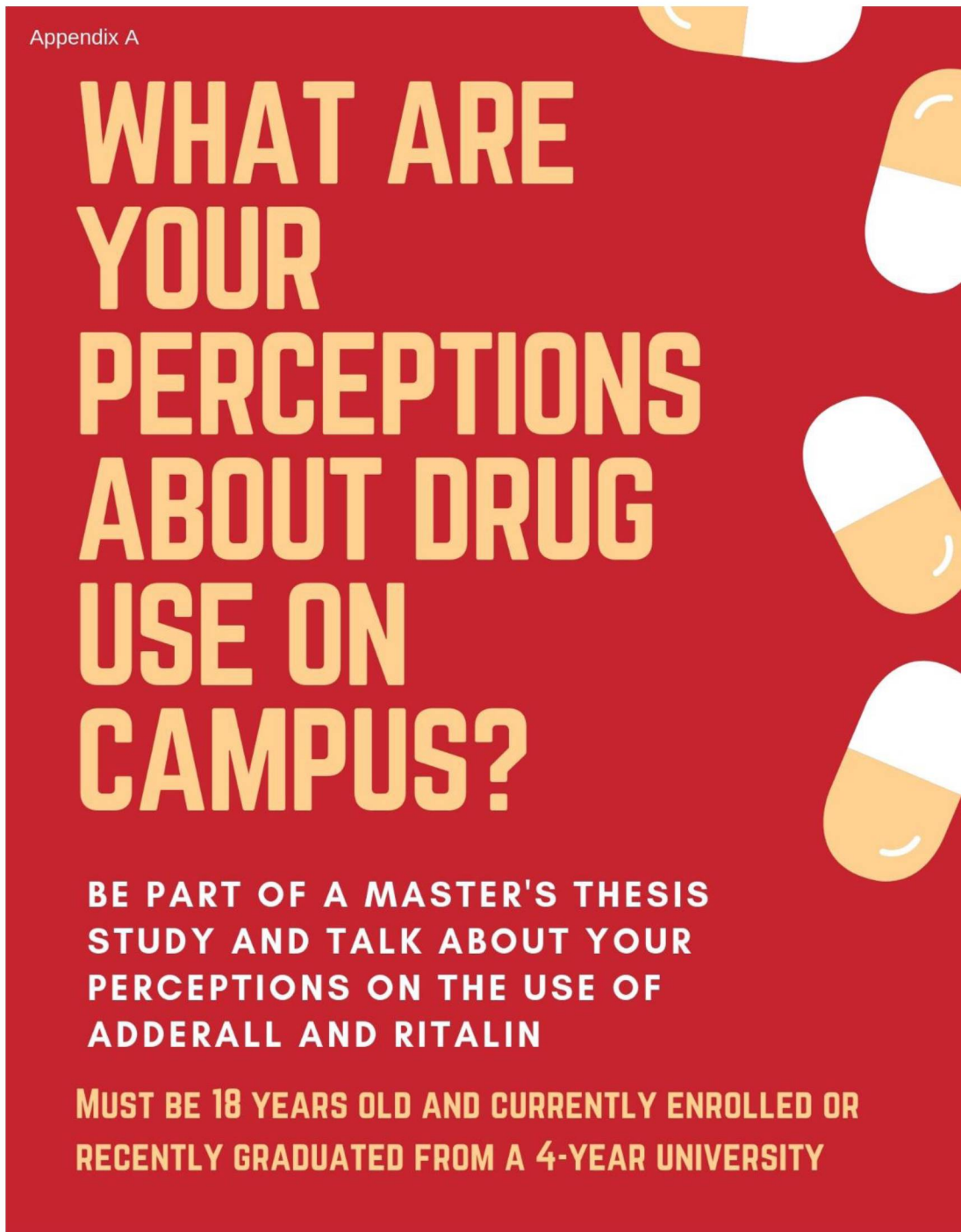
**Appendix A  
Recruitment Flyer**

Appendix A

# WHAT ARE YOUR PERCEPTIONS ABOUT DRUG USE ON CAMPUS?

BE PART OF A MASTER'S THESIS STUDY AND TALK ABOUT YOUR PERCEPTIONS ON THE USE OF ADDERALL AND RITALIN

MUST BE 18 YEARS OLD AND CURRENTLY ENROLLED OR RECENTLY GRADUATED FROM A 4-YEAR UNIVERSITY

The flyer has a red background. On the right side, there are four stylized pills, each split vertically into a white half and an orange half. The pills are arranged in a vertical line, with the top one partially cut off by the edge of the flyer.

**For more information please contact  
[Redacted]**

## Appendix B

### Participant Informed Consent

Dear Participant,

Thank you for participating in this research study focusing on undergraduate perceptions on the use of cognitive stimulants such as Adderall and Ritalin. I am a graduate student at CSU Channel Islands. I hope to inspire future leaders and educate individuals on undergraduate student perceptions use of cognitive stimulants, like Adderall and Ritalin. Please read through this form carefully before signing. Should you have any questions, feel free to contact me, Mackinzee Claus, or my advisor, Dr. Nancy-Jean Pément.

Please know that *you are able to withdraw from the study at any time*. If you choose to do so, there will be *no repercussions* nor any negative implications with your university or CSUCI.

I want to personally assure you that all data collected throughout the study will remain strictly confidential. Additionally, all electronic data will be stored on a password protected computer. This consent form and any physical data will be stored in a locked filing cabinet. All data will be kept for a period of five years according to federal law.

In the final written thesis, all identifying information including information about the interview setting and location, and regarding all other locations mentioned by participants will be removed from the interview transcripts. As well, participants will be assigned a fictitious name (also known as a pseudonym) which will be used to further ensure confidentiality.

Data will be collected in two ways: 1) demographic questionnaire, which will take between 15 to 20 minutes to complete should the participant choose to complete it in full and 2) a semi-structured, one-on-one interview which, with your approval, will be audio recorded and transcribed verbatim. It is anticipated that the interview will last between 45 minutes to one hour. If you wish, a copy of the interview transcription can be provided to you.

There is minimal risk associated with this study. However, not everyone will react the same way while reflecting on their perceptions of the use of cognitive stimulants such as Adderall and Ritalin. If, at any time, during the interview you wish to stop or take a break, please let me know. If you do not want to or feel uncomfortable answering any question(s), you can skip the question or end the interview altogether. Should you have any questions about the study before, during or after, you can reach out to either myself, or my thesis advisor. Our contact information is provided below.



Once the study has been completed, I will be more than willing to share the findings with you. It is anticipated that findings from this study will benefit educational leaders and supporters to better understand student perceptions on the use of cognitive stimulants such as Adderall and Ritalin. Additionally, the findings will inform the creation of a Master's thesis to be stored in the library repository at CSU Channel Islands, as well as presented at the SAGE research conference hosted by CSUCI.

For questions or concerns regarding your rights as a subject, please feel free to contact the Institutional Review Board (IRB) at [redacted].

I have read the information provided above. I understand that by agreeing to be interviewed, I am agreeing to participate in this research study. I understand that I must be at least 18 years of age to participate in this study. I will be given a copy of this form to keep.

- By selecting this box, I agree for the interview to be audio recorded.
- By selecting this box, I do not agree for the interview to be audio recorded.
- By selecting this box, I am giving consent to participate in this study.

Signature \_\_\_\_\_

Date \_\_\_\_\_

Contact details:

Mackinzee Claus, Graduate Student and Primary Investigator

[Redacted]

Dr. Nancy-Jean Pément, Thesis Advisor

[Redacted]

**Appendix C**  
**Demographic Questionnaire**

Your name: \_\_\_\_\_

Your gender: \_\_\_\_\_

Your age: \_\_\_\_\_

Your race/ethnicity: \_\_\_\_\_

What is your major: \_\_\_\_\_

What is your overall GPA (Grade Point Average): \_\_\_\_\_

How do you support your education (please check one):

- Student Loans
- Financial Aid
- Parents/Family/Supports
- Scholarship
- Work Part Time
- Work Full Time
- Other: \_\_\_\_\_

What is your current grade level status (please check one):

- 1<sup>st</sup> Year
- 2<sup>nd</sup> Year
- 3<sup>rd</sup> Year
- 4<sup>th</sup> Year
- 5<sup>th</sup> Year
- 6+ Years
- Graduate

Which institution granted your undergraduate degree: \_\_\_\_\_

How many years have you attended a 4-year university: \_\_\_\_\_

When do you expect to graduate or in what year did you graduate: \_\_\_\_\_

Do you live or have you lived in a residence hall?

- Yes       No

If yes, how many years have you lived there: \_\_\_\_\_

## **Appendix D**

### **Semi-Structured, One-on-One Interview Protocol**

#### **Introduction:**

Hello and thank you for participating in my study. My name is Mackinzee Claus and I am currently a graduate student at CSU Channel Islands. The purpose of my study is gain insight into perceptions on the use of cognitive stimulants such as Adderall and Ritalin. As you know, this study is completely voluntary and all personal information will be kept confidential. This interview will be audio recorded so that I can get everything you have to say. The interview will be transcribed verbatim. I am happy to provide you with a copy of the interview transcript upon request. At any time throughout the interview, you have the right to stop, take a break or refrain from answering a question(s). If you have any questions once we have completed the interview, my contact information and that of my thesis advisor, Dr. Nancy-Jean Pément, is provided on this contact sheet along with support services (point to contact information). Before we begin, do you have any questions for me?

#### **Participant Introduction:**

Please tell me a little bit about yourself? For example,

- Where are you from?
- What are/did you study in school?
- What do you do for fun?
- How is school going?

#### **Questions:**

1. What do you know about the use of cognitive stimulants such as Adderall or Ritalin? (In general? On university campuses?)
  - a. PROBE: To whom are these drugs typically prescribed? Who do you think uses Adderall or Ritalin? (prescribed and illicit uses)
2. How do you feel about the use of cognitive stimulants such as Adderall or Ritalin in general?
3. Do you know anyone who has taken or who takes Adderall or Ritalin? (prescribed and illicit uses)
4. What conditions do you think contribute to the use of cognitive stimulants such as Adderall or Ritalin?

**PROBES:**

- a. Does school contribute? (number of classes, assignments, scheduling)
- b. Does peer pressure contribute? (classes, clubs, residence halls, parties)
- c. Do economic pressures contribute?
- d. Medical need.

\*\* Note: 1a and 4a-e are probing questions.

**Final Discussion:**

Thank you very much for participating in this study, I truly appreciate you taking the time to answer these questions. I want to remind you again that if you have any additional questions, my contact information is on the provided contact sheet.