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How symptoms of anxiety, depression, attention deficit disorder (add) or attention deficit hyperactivity disorder (adhd) contribute to students self-medicating via marijuana and non-medical prescription drugs

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HOW SYMPTOMS OF ANXIETY, DEPRESSION, ATTENTION DEFICIT
DISORDER (ADD) OR ATTENTION DEFICIT HYPERACTIVITY DISORDER
(ADHD) CONTRIBUTE TO STUDENTS SELF-MEDICATING VIA
MARIJUANA AND NON-MEDICAL PRESCRIPTION DRUGS

by

MARIA A. THOMAS

A thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program
in Sociology in the College of Sciences and in The Burnett Honors College
at the University of Central Florida
Orlando, Florida

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Thesis Chair: Dr. Amy Donley

ABSTRACT

This study examines student's nonmedical prescription drug (NMPD) and marijuana use and whether anxiety, depression, ADD or ADHD symptoms are associated with their use and if students are self-medicating to alleviate symptoms. The method of obtaining this information was provided by a total of 278 college students who voluntarily and anonymously completed a Web-based survey. This study fills in the gaps of previous research and reveals the most frequent NMPD's used by students and their overall perceptions of their intended effects of the drug and answers why students do not seek professional help for their anxiety, depression and impulsivity symptoms.

Results from the survey indicate that students who report NMPD use self-reported higher symptoms of anxiety, depression and impulsivity. NMPD users reported higher percentages of other substance abuse compared to nonusers. The most prominent NMPD's used by students are Adderall and Vicoden or Codeine. Data also indicates student's primary reasons for their NMPD use are related to academic purposes; as opposed to nonacademic. This analysis is further supported by the fact that the majority of NMPD users did not use before they began college and do not use while classes are not in session. Furthermore, students perceive their overall intended effects of their NMPD use to be beneficial, despite the known risks associated with their drug use. By examining college student's current NMPD use we can provide alternative solutions to students who are self-medicating as a coping mechanism for underlying issues or mental health disorders. Also, we can provide them with the necessary services in order to address their problems professionally.

DEDICATION

For my daughter Shanese Hutchinson and my grandson Giovanni Pagan for all the hours I was unavailable to spend with you, while I was committed to writing this thesis. For all the mornings “Giovanni” that we could not watch the Mickey Mouse Clubhouse together and sing our song, “It’s the Mickey Mouse Clubhouse!” “Come inside, it’s fun inside!” I love you guys!

For my son Jovanni “Gio” Santiago, whose personal struggle with anxiety and ADD symptoms, since childhood, inspired me to choose this as the topic of my research. I love you and I am very proud of the person you have become despite your struggles.

For my father Samuel A. Thomas you were always proud of my accomplishments and shared them with all your friends. Even though you are not able to share this accomplishment with me physically, you are forever in my heart and I know your spirit watches over me. I will “keep punching” as you always quoted. I love you and miss you dearly!

For my very close and longtime friend Vera Starling who has always been there for me since I was younger. Your guidance and your faith in me throughout my entire life have always pushed me to strive for my accomplishments and goals. Thank you for your genuine friendship and always believing in me, when I did not believe in myself. I love you!

For my friend Harry Vasquez for repeatedly making me smile, while I tediously worked in SPSS analyzing data and repeatedly running tests for long hours. Your quirky jokes and uplifting words always came at the perfect moment. Your presence helped me keep my sanity. I love you!

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INTRODUCTION

Non-medical prescription drug use is becoming an increasingly popular trend among certain populations. A major contribution to this vastly growing problem may be the greater availability of these stimulants and possibly the perception of students believing that the benefits of their intended use outweigh the costs or possible harm. According to the U.S. Department of Health and Human Services (2008) the number of stimulant prescriptions in the U.S. rose from 5 million in 1991 to 35 million in 2007 and for the opiates hydrocodone and oxycodone from 40 million to 180 million; ranking the U.S. the highest consumer of this product. These stimulants and opiates if taken for their intended purpose have proven to be beneficial; however if not taken as prescribed can pose serious health risks related to their abuse which can include addiction.

Non-medical prescription drug use among the college population is increasingly becoming socially acceptable and the drug of preference over other illicit drugs. Whether students intended NMPD use is to self-medicate for symptoms such as anxiety, depression, ADD or ADHD or to get high or to increase academic performance it is important for them to understand the risks involved. Short-term and long-term use of NMPD can result in drug dependency, personality changes and cognitive impairment. Paradoxical drug reactions may also occur in absence of the intended reactions of the user's initial reasoning for using the substance increasing the severity of its use.

The findings of this research will provide the public with a better understanding of college students who misuse NMPD's and other substances to self-medicate in an attempt to alleviate undiagnosed disorders in students who report symptoms of anxiety, depression, ADD

and ADHD. The discoveries may help parents, students, educators, medical personnel and others recognize the dangerous trend of NMPD misuse and provide them with knowledge pertaining to addiction awareness, prevention and treatment.

LITERATURE REVIEW

Non-Medical Prescription Drug Use Among College Students

The misuse of non-medical prescription drugs (NMPD) is becoming a trend among a small population of college students, within in the last decade, raising questions of concern. In 2009 the National Institute on Drug Abuse indicated, 16 million students ages 12 and older reported using pain relievers, tranquilizers, stimulants or sedatives for non-medical purposes at least once in the previous year. Waldley (2012) reported that according to the findings of a 2011 Monitoring the Future (MTF) study, students in the United States ranked third out of thirty seven countries as having the highest proportion of students using drugs. American students also have the highest proportion reporting lifetime use of amphetamines of 9%, a rate three times more than European countries. This upward trend among American students may be a reflection of cultural expectations in our society; where an emphasis is placed on competition and college and graduate school admission procedures are rigorous. Also, according to further research non-medical prescription drugs (NPMD) may become more influential as student move towards upperclassman and the demands and expectations placed on young students increase. A 2010 Monitoring the Future (MTF) study, funded by the National Institute on Drug Abuse (NADA), reported that 2.7 % of 8th graders, 7.7% of 10th graders and 8.0% of 12th graders abused vicodin and 2.1% of 8th graders, 4.6% of 10th graders and 5.1% of 12th graders abused Oxy Contin for non-medical purposes at least once in the prior year. Further research found that amphetamine use among college students in 2011, according to Monitoring the Future (2012) reached an all-time high of 9.3%, up from 5.7% in 2008. The increased interest in using NMPD may be to

improve school performance. Recent research attempts to explain what factors are contributing to students increased use of NMPD.

Symptoms of Depression and Anxiety Disorders

Students who exhibit signs of depression and anxiety are more prone to misuse NMPD indicating there is a correlation between the two variables. Weyandt et al. (2009) explored the relationship between psychological variables and non-medical stimulant use among college students and found that students who reported higher stimulant use also reported higher psychological distress and restlessness. Although a substantial amount of research has indicated that students who report higher stimulant abuse also report higher overall abuse of other substances Zullig and Divin (2012) discovered that students who reported feeling hopeless, sad or depressed were more likely to report use of NMPD regardless of the absence or presence of the covariates, cigarette smoking and alcohol use, added to the model. Students who experience depressive symptoms may have a higher tendency to use painkillers, stimulants and antidepressants as a coping mechanism and as a means to self-medicate and alleviate their negative feelings. The effect of these prescription drugs increases dopamine levels creating a euphoria allowing the user to escape their current mental state.

Agnew's General Strain theory was applied to the college environment in a study by Ford and Schroeder (2008) and the hypothesis that academic strain and student's stimulant use would have a relationship revealed that there was an indirect relationship. The direct relationship was found between the negative feelings which academic strain produced and student's use of

NMPD, indicating that depression is significantly associated with non-medical prescription stimulant use (Ford and Schroeder 2008).

A study conducted by Heiligenstien and Keeling (1995) proposed the possibility that college students who went to their university counseling and health centers to seek professional help for their academic difficulties and non-specific psychological problems may suffer from an unrecognized Attention Deficit Hyperactivity Disorder (ADHD). Of the 42 students diagnosed with ADHD 55% who complained of presenting problems displayed ADHD symptoms; relatively these students also appear to have higher feelings of inadequacies and suffer from associated problems such as; depressive disorders (26%) and anxiety disorders (5%). These findings suggest a comorbid diagnosis exists for students who are diagnosed with ADHD (Heiligenstien and Keeling 1995).

Academic Performance and Attention Difficulties

The common goal for college students is to obtain high academic achievement in the midst of coping with the stress of having to transition into adulthood with the diminishing support of their familiar networks and the presence of their families. The homogenous goal to succeed among students who live the college life carries significant weight when explaining why NMPD use is socially acceptable and not stigmatized by the college population. Students report the use of NMPD to gain a competitive edge in the academic world; especially students who struggle with attention difficulties.

In a 2009 longitudinal study by Rabiner et al. the most common motives students reported for using ADHD medication were associated with academic performance, where 41-

61% reported use to enhance study habits outside of class and 10-18% to enhance performance during class. Weyandt et al. (2009) study confirmed Rabiner's research and found that students most common reasons for reporting stimulant use were to perform better on schoolwork, perform better on tests and focus better in class. Rabiner et al., 2009; Rabiner et al., 2010; Weyandt et al. (2009) found that students whose academic performance concerns were higher, students associated with the Greek system and students who reported lower GPA's were more prevalent to using NMPD.

With regard to attention difficulties the question has been pondered whether students use NMPD because they suffer from an unrecognized ADHD disorder. Heiligenstien and Keeling (1995) observed this possibility in a study of 42 college students diagnosed with ADHD in the year of 1993; whose medical charts were reviewed for historical characteristics which focused on the students presenting ADHD symptoms, previous evaluations as a child, adolescent or adult and reported associated problems in childhood were analyzed. The authors concluded that 55% of the students who complained of presenting problems displayed ADHD symptoms; including poor concentration, inattention, distractibility and problems focusing and 14% suffered from academic underachievement. However, these students who were diagnosed with ADHD as adults exhibited many of the symptoms throughout their childhood, indicated by previous evaluations for academic behavior problems and reports from parents, teachers and school records, a history of academic underachievement and behavioral problems. In contrast, 33% of the students diagnosed with ADHD who were presenting for their first time and displayed no previous signs or symptoms indicates they were able to adapt and facilitate coping mechanisms through childhood, but as the demands increased in their college life their coping mechanisms

weakened and they began to experience academic difficulties causing them to seek help (Heiligenstein and Keeling 1995).

Similar findings surfaced in a study by Rabiner et al. (2010) which analyzed college students in their first and second semester of college, their reported NMPD use and the onset of their reported use. The results indicated that 45 students out of the sample group who had reported no NMPD use in their first semester later indicated doing so by their second. The study further concluded that the odds of becoming a NMPD user increased by 1.78 times for each standard deviation for first semester students who reported attention difficulties. These findings reinforce Heiligenstein and Keeling's findings and suggest that attention difficulties become more crippling to student's academic success as they move to upperclassman and both are factors that predict the initiation of NMPD use.

In Rabiner's 2009 longitudinal study titled "Motives and Perceived Consequences of Nonmedical ADHD Medication Use by College Students: Are Students Treating Themselves for Attention Problems" revealed that 8.9% of the students used NMPD since beginning college. Students who reported using NMPD medication exclusively or in combinations for academic reasons experienced increased difficulties with attention and greater academic concern. The NMPD users compared to the nonusers did report higher scores for inattentive symptoms (.28 vs. -.03) and hyperactive-impulsive symptoms (.42 vs. -.06) (Rabiner et al. 2009). Arria et al. also found that the "stimulant group" who reported using Adderall, Ritalin, Concerta or other NMPD at least once in all three consecutive years scored higher on the ASRS and the inattention subscale of the ASRS than the "marijuana group" and the "nonuser" group (2010). Research has

continuously shown that there is a relationship that exists between attention difficulties and students use of NMPD.

Other Substance Abuse and Students Perception of NMPD Misuse

A hypothesis considered by researchers in regards to drug misuse is that students who abuse NMPD are also frequent abusers of other substances; therefore their NMPD abuse is merely an extension of their substance abuse. Rabiner et al. 2009 ; Rabiner et al. (2010) found that the odds of becoming a NMPD user increased by 3.81 times for each standard deviation for students in their first semester who indicated other substance abuse; students who were NMPD users were more likely to have used alcohol or other drugs compared to nonusers. Of the 42 students who reported NMPD use in Rabiner's et al. (2010) study 62% reported other substance abuse in their first year.

After conducting a series of multinomial regression analysis of 470 students over a four year period to examine the possible association of ADHD symptoms with the commonality between the "stimulant group" the "marijuana group" and the "nonuser group" the author's found that the "stimulant group" used more drugs in the past year than did the "marijuana group" (Arria et al. 2011).

Many students use NMPD exclusively for recreational purposes or to have "fun"; while others use it exclusively for studying or in combination. Barrett et al. (2005) conducted a unique study to examine Methylphenidate (MPH) use among college students. Fifty participants who were interviewed face-to-face provided details regarding their recreational use and NMPD use of various substances including; tobacco, alcohol, cannabis, LSD, magic mushrooms, GHB,

ecstasy, PCP, heroin, ephedrine, Adderall, d-amphetamine and any other drug. Results indicated that 70% were recreational users of MPH, while 30% used it exclusively to study. The recreational MPH users were more likely to abuse a greater variety of other substances and simultaneously use other psychoactive substances than the participant who reported using MPH exclusively for studying (Barrett et al. 2005).

College students appear to belong to a subculture that is increasingly becoming tolerant of NMPD use. In a society where competition is encouraged and a student's academic performance is a significant factor regarding their success; the use of NMPD to obtain these goals has become socially acceptable in the college environment. An indication of the popularity of NMPD can be seen in a study by Quintero et al. (2006) where 52 participants were interviewed and students revealed using 56 different prescription drugs on 238 occasions; averaging 5 episodes per student. The three primary reasons for their use were self-medication of physiological conditions and states of affect, recreational use and for academic purposes. Students do not view NMPD as dangerous since they are prescribed by a doctor and students know the exact dosage to take and the exact composition and effects of the drug. The drugs are also easily accessible through home medicine cabinets, family members, friends and other students on campus. In contrast, students view other hard drugs such as cocaine, heroin, LSD etc. to be dangerous since the composition is unknown and it is not easily accessible. The majority of students will need to purchase it from an unknown drug dealer on the street, in an unsafe neighborhood and take the risk of being arrested for purchasing narcotics. Since students are able to still function while using NMPD and perform their daily activities; as opposed to hard drugs which hinder an individual's functioning its use is not stigmatized. Instead it is viewed as a

coping mechanism for the stress of every day college life. The current study will further examine NMPD, marijuana and other substance misuse among college students and determine if students who suffer from anxiety, depression, and Attention Deficit Disorder or Attention Deficit Hyperactivity Disorder symptoms are using these substances to self-medicate. This study will also identify other predictors that may cause the onset of NMPD use among the college population. The current research will attempt to fill in the gaps of previous research and answer why students are self-medicating and not seeking professional help and if they have witnessed a change in their grades or GPA since the onset of their use of NMPD.

THEORETICAL ORIENTATION

Non-medical prescription drug use is a fairly new phenomenon which still warrants further research; since there is not an abundance of information that theoretically explains this behavior. A possible theoretical explanation of students non-medical prescription drug use could be applied to the Social Exchange Theory introduced by George Homans in the 1960's. Originally this theory applied to economic relationships and later was applied to social relationships. A student's college career or academics could be referred to as an economic relationship between them and the educators and their relationship with their family is a social relationship. Both of these relationships can be affected depending on a student's academic performance. Homan believed social behavior was based on characteristics such as power, conformity, status, leadership and justice and the significant value a person places on each when weighing the rewards and punishments of a particular behavior.

To calculate possible rewards and punishments a person will consider the profits or benefits of a particular behavior after subtracting the cost of the behavior from the rewards of the behavior. If a reward exceeds punishment and elicits approval from another person then the behavior is more likely to be continued. A few basic assumptions of this theory include; people involved in interaction are looking to maximize benefits, people are goal oriented in a competitive system, exchange happens within cultural norms and the more deprived an individual feels in an act they assign value to it. The rewards and punishment aspect of the theory as well as the basic assumptions can be applied to a college population to explain their behavior of other substance abuse; including non-medical prescription drug abuse.

Although some may argue that people who misuse drugs are not rationally capable of weighing out the costs and benefits of their actions this has not been proven. It is very likely that students who are involved in substance misuse do make decisions regarding their behavior based on a belief system of benefits and costs. Although it may not mirror the majority of people's belief system, the nonusers, it is the user's belief system and this may explain substance abuse among college students. The college environment is very competitive and goal oriented and students feel that this is a transitional period in their life that will ultimately determine their future success; therefore it is the cultural homogenous norm for student's to do whatever it takes to accomplish their means, reinforcing why non-medical prescription drug use has become socially acceptable in the collegiate environment.

A student's rewards related to their academic success may include: recognition, scholarships, graduate school admissions, Greek affiliations, sport's participation, sense of accomplishment, positive reinforcement and parents emotional and financial support. A student's punishments for academic failure may include: being dropped from a sports team, failing class and having to retake it, not meeting graduation requirements, denied graduate school admission, loss of scholarships, financial aid or parent's financial support, humiliation, disappointment, sense of failure and hopelessness. After students place a significant value on all factors involved and calculate the degrees of their rewards and punishments then they are more apt to excuse or justify their substance abuse and exclude any negative connotations associated with it allowing it to be socially acceptable. This research will apply the Social Exchange Theory to the college population to explain student's substance abuse.

RESEARCH QUESTION

Do symptoms of anxiety, depression, Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD) contribute to students self-medicating via marijuana or non-medical prescription drugs?

Hypotheses

- Hypothesis 1: Students who are experiencing higher symptoms of anxiety will be more likely to report NMPD use than those who do not report such symptoms.
- Hypothesis 2: Students who are experiencing higher symptoms of depression will be more likely to report NMPD use than those who do not report such symptoms.
- Hypothesis 3: Students who are experiencing higher symptoms of ADD or ADHD (impulsivity) will be more likely to report NMPD use than those who do not report such symptoms.
- Hypothesis 4: Students who report other substance abuse will be more apt to report NMPD use.
- Hypothesis 5: A small group of students will report NMPD use since they started college and only while classes are in session to improve academic performance.

- Hypothesis 6: Students who report NMPD use will report satisfaction with its overall intended effects and that they believe their use is not a problem.

METHODS

Data from this survey originated from an anonymous self-administered online web survey provided to students to measure their NMPD use and other substance misuse against reported symptoms of anxiety, depression, ADD or ADHD. Prior research (Yi-Ching Wang et al. 2005) found that self-administered online web questionnaires leads to increased reporting for commonly used substances among adolescent respondents compared to paper self-administered questionnaires or face-to-face interviews. Ensuring respondents' anonymity via an online survey increases their willingness to report sensitive information and risky behaviors.

The voluntary survey was given to 278 students via Qualtrics and the link to the online survey was given to students on campus and to friends in Facebook who were willing to participate in the study. To advertise the study, professors posted links on their web courses page for students to access the survey. Emails were sent to personal contacts who met the criteria of being a college student encouraging them to participate in the survey and to also forward the survey to their personal contacts who met the participation requirements as well, creating a snowball sample. All of the data from Qualtrics was automatically transferred into SPSS for testing and statistical analysis.

There is little theoretical information that exists regarding substance abuse or the use of NMPD for self-medicating purposes among the college population; the overall goal of this study is to determine the factors or underlying symptoms that will help predict the likelihood for a student to become a potential user. The study will also examine student's perception of their abusing habits and of the outcomes associated with this practice.

MEASUREMENTS

Dependent and Independent Variables

The independent variable in this research compares the user group (students who report NMPD use or other substance abuse) versus the non-user group (students who report no NMPD use or other substance abuse). The dependent variables in this research are measured according to students reported levels of anxiety, depression, ADHD or ADD symptoms if present.

Control Variable

Control variables are included to account for any intervening circumstances such as other substance abuse, student's perception of the outcomes and safety of NMPD use, previous childhood symptoms and current academic standing or Greek affiliation.

NMPD Use

Respondents are asked if they ever used NMPD and if so to indicate which drugs they used within the past 12 months (without a doctor's prescription) and how often including; painkillers, stimulants, antidepressants and sedatives. To ensure reporting accuracy of NMPD use street names of each drug are provided when possible to avoid underreporting due to students not being familiar with the pharmaceutical name of certain drugs.

Other Substance Abuse

Respondents are asked if they used any of the following in the past six months; cocaine, ecstasy, heroin, crystal meth, LSD or any other hallucinogens or inhalants, marijuana or alcohol.

Anxiety

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) from the American Psychiatric Association (2012) was used to determine diagnostic criteria to indicate the presence of Generalized Anxiety in students. The measure of anxiety includes the following four items: anxious; worried or nervous; heart racing, sweaty, trouble breathing or upset stomach; muscle tension; on edge, restless or trouble relaxing or sleeping; procrastinate on decision making due to worry. Each item will be rated on a four point Likert scale ranging from never to always.

Depression

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) from the American Psychiatric Association (2012) was used to determine criteria to indicate the presence of depression in students. The measure of depression includes the following seven items: felt things were hopeless; very lonely; very sad; depressed to the point it is difficult to function; considered suicide; attempted suicide; not enjoying activities. Each item will be rated on a four point Likert scale ranging from never to always.

ADD/ADHD

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) from the American Psychiatric Association (2012) was used to determine criteria to indicate the presence of ADD/ADHD inattention and impulsivity symptoms in students. The measure of ADD/ADHD includes the following: difficulties paying attention during class; difficult to concentrate on academic work; difficult keeping track of school assignments; difficult to retain information;

need to read the same information more than once; feel restless and fidgety; impulsive; talk excessively, out of turn or interrupt others. Each item will be rated on a four point Likert scale ranging from never to always.

Motives for Use

To measure student's motives for using NMPD or other substances respondents are asked a closed ended question and given the options ranging from never to another reason for the following: to be able to concentrate better in class; concentrate while studying; to study longer; feel less restless studying; produce better work quicker; keep track of assignments; get better grades; feel better; get high; prolong effects of other substances.

Childhood Symptoms

History of childhood symptoms is measured dichotomously as either yes or no and respondents are asked the following questions: have you been previously diagnosed with a learning disability; evaluated for academic problems; behavioral problems; history of academic underachievement.

Students Perception of NMPD Use

Respondents are asked to rate their expected outcomes of their intended use of NMPD regarding how it makes them feel and if it helps their performance academically on a 4 point Likert scale ranging from never to always. Students perceived safety of NMPD use consists of three questions and are measured dichotomously as either yes or no.

Demographics

Sex consists of the dichotomous discrete options of male or female. Age is measured by a fill in the blank to provide reporting accuracy. Race or ethnicity is measured by respondents choosing all that apply: white, black, Latin, Asian, Native American, multi-racial or other. Respondents are provided with the options freshman, sophomore, junior, senior or graduate student to measure class standing. Greek affiliation is dichotomously measured as either yes or no. Academic success is measured by asking respondents to report their current GPA.

Data Analysis

Data is collected and downloaded into SPSS for statistical analysis. Frequencies are utilized to identify sample characteristics. Indices are created to measure anxiety, depression and impulsivity and the Cronbach Alpha is used to test scale reliability. A Bivariate analysis is used to compare the means between the NMPD user group and nonuser group and includes their reported levels of anxiety, depression, ADD or ADHD symptoms according to the indices, in addition to demographic variables. Cross tabulation and T-test analysis are used to allow for the inclusion of the control variables of other substance abuse, students perceptions of intended effects of their NMPD use and their perceived risks, previous childhood symptoms and current academic status or Greek affiliation; which may account for other observed relationships.

RESULTS

Sample characteristics are shown in Table 1. The sample size is 278 (n=278). Results indicate that 18.5% of the sample population reported using non-medical prescription stimulants within the past year. Within the past six months 39.9% reported using marijuana and 14.5% reported using at least one or more hard street drug.

Table 1 Sample Characteristics (n=278)

<i>Characteristic</i>	<i>Percentage</i>
<i>Sex (male)</i>	31
<i>Race/Ethnicity</i>	
<i>White</i>	57.8
<i>Black</i>	9.4
<i>Hispanic</i>	16.8
<i>Asian</i>	5.9
<i>Native American</i>	0.4
<i>Multi-Racial</i>	9
<i>Other</i>	0.08
<i>Age*</i>	21.46
<i>GPA*</i>	3.31
<i>Class standing</i>	
<i>Freshman</i>	34
<i>Sophomore</i>	28.5
<i>Junior</i>	18.4
<i>Senior</i>	14.5
<i>Graduate Student</i>	4.7
<i>Fraternity/Sorority</i>	13.6
<i>Substance use</i>	
<i>NMPD use in the past year.</i>	18.5
<i>Marijuana in the past 6 mos.</i>	39.9
<i>Hard street drug use in past 6 mos., at least one</i>	14.5

The sample is 31% male, 69% female, 57.8% white, 9.4% black, 16.8% Hispanic, 5.9% Asian, .4% Native American, 9.0% multi-racial and .08% other. Freshman and sophomores are

overrepresented totaling 62.5% and the average age of respondents is 21.46. Approximately 13.6% respondents reported being a part of a Greek organization, such as a fraternity or sorority.

To determine NMPD user’s students who reported use of Oxy Contin, Vicoden or Codeine, Ritalin, Adderall, Concerta, Celexa, Lexapro, Prozac, Zoloft or Paxil, Ambien, Klonopin, Valium, Xanax, or Fiorinal were considered to be users. The sample size of NPMD users is (n=50) or 18.5% of the sample population. The most frequently used NMPD of choice is Adderall 9%, Vicoden or Codeine 5% and Xanax 4.7%.

NMPD Users and Non-Users Reported Symptoms of Anxiety, Depression and Impulsivity

In order to measure respondent’s levels of anxiety a series of four questions were asked and an anxiety index variable was created. To measure scale reliability, the Cronbach Alpha Coefficient was calculated and this scale has a Cronbach Alpha Coefficient of .834, indicating strong scale reliability. The results for the measurement model are shown in Table 2. Students rated their anxiety on a 1 (never) to 5 (always).

Table 2 Variable Statistics-Anxiety Index

Measure	Median	Mean	St. dev.	Range *
I feel anxious, worried or nervous.	3.00	2.58	1.213	1-5
I feel my heart racing, sweaty or I have trouble breathing.	2.00	1.83	1.008	1-5
I feel muscle tension, on edge, restless or trouble relaxing or sleeping.	2.00	2.21	1.283	1-5
I procrastinate on decision making due to worries.	2.00	2.49	1.410	1-5

*1=Never; 2= Rarely; 3=Sometimes; 4=Often; 5=Always.
Cronbach’s Alpha Coefficient (.834)

The second step of the data analysis involved comparing non-medical prescription drug users versus non-users and their reported levels of anxiety. Table 3 indicates these results. To test this relationship an independent samples T-test was conducted to compare the mean scores between the two groups. The mean score reported by NMPD users is 10.521 and for non-users it is 8.805. NMPD users when compared respectively to the non-user group indicate higher levels of overall anxiety ($t = (3.952), p < .01$).

Table 3 T-test Comparing Mean Scores on Indices Between NMPD Users and Nonusers

Index	NMPD Users	Non-Users	df	T
Depression Index	18.803	14.796	227	2.561*
Anxiety Index	10.521	08.805	233	3.952**
Impulse Index	21.915	17.705	244	2.687**

Significance T-tests indicate test for Non-Medical Prescription Drug Users Asym. Sig. (2-sided) * $p < .05$; ** $p < .01$.

Table 4 Variable Descriptive Statistics- Depression Index

Measure	Median	Mean	St. dev.	Range*
Have you ever felt things were hopeless?	2.00	2.32	1.599	1-7
Have you ever felt lonely?	2.00	2.99	1.837	1-7
Have you ever felt very sad?	3.00	2.99	1.716	1-7
Have you ever felt so depressed it was difficult to function?	1.00	2.07	1.539	1-7
Have you ever considered suicide?	1.00	1.37	.847	1-7
Have you ever attempted suicide?	1.00	1.14	.533	1-7
Have you ever felt you have not been enjoying activities that you used to?	2.00	2.41	1.697	1-7

* 1=Never; 2=Less than once a month; 3=Once a month; 4=2-3 times a month; 5=Once a week; 6=2-3 times a week; 7=Daily. Cronbach Alpha Coefficient (.895)

In order to measure respondent's levels of depression a series of seven questions were asked and a depression variable index was created. The Cronbach Alpha Coefficient= .895. The results for the measurement model are shown in Table 4. Students rated their depression on a 1 (Never) to 7 (daily) scale. The second step of the data analysis involved comparing non-medical prescription drug users versus non-users and their reported levels of depression. Table 3 indicates these results. To test this relationship an independent T-test was conducted to compare the mean scores between the two groups. The mean score reported by NMPD users is 18.803 and for non-users it is 14.796. The mean difference in overall depression level is significant ($t= (2.561)$, $p < .05$). NMPD users when compared respectively to the non-user group indicate higher levels of overall depression.

In order to measure respondent's levels of impulsivity, which are symptoms of Attention Deficit Disorder (ADD) and Attention Hyperactivity Disorder, a series of eight questions were asked and an impulsive variable index was created. To measure scale reliability the Cronbach Alpha Coefficient statistic is used and yields an output of .89, indicating strong scale reliability. The results for the measurement model are shown in Table 5. Students rated their impulsivity on a 1 (never) to 5 (always) scale. The second step of the data analysis involves comparing non-medical prescription drug users versus non-users and their reported levels of impulsivity. Table 3 above indicates these results. To test this relationship a 2-sided significance T-test is conducted to compare the mean scores between the two groups. The mean score reported by NMPD users is 21.915 and for non-users it is 17.705. The mean difference in students reported overall impulsivity level is significant ($t= (2.687)$, $p < .01$). NMPD users when compared respectively to the non-user group indicate higher levels of overall impulsiveness.

Table 5 Variable Descriptive Statistics- Impulse Index

Measure	Median	Mean	Std. dev.	Range *
It is difficult for me to pay attention during class.	3.00	2.64	1.376	1-5
It is difficult for me to concentrate on my academic work.	3.00	2.65	1.482	1-5
I have difficulties keeping track of my different school assignments.	2.00	2.26	1.336	1-5
It is difficult for me to retain information.	2.00	2.71	1.709	1-5
I feel restless and fidgety during my class.	2.00	2.27	1.237	1-5
I fell restless and fidgety when completing homework.	2.00	2.34	1.440	1-5
I am an impulsive person.	2.00	2.33	1.341	1-5
I talk excessively out of turn or interrupt others.	2.00	1.94	1.333	1-5

*1= Never; 2=Rarely; 3=Sometimes; 4=Often; 5=Always.
Cronbach Alpha Coefficient (.890)

When looking at students most popular reported NMPD Adderall, Vicoden or Codeine and Xanax a T-test reveals that a relationship exists between students who report Adderall use when compared only to the impulsivity index; ($t= (2.727)$, $p < .01$) and Vicoden or Codeine users when compared to the impulse index ($t= (2.483)$, $p < .01$) and the depression index ($t= (2.280)$, $p < .05$). No significant relationship was found between Xanax users when compared to any of the three indices. Also, there was no significant relationship between NMPD users and their respective race, GPA or class standing.

NMPD Users Other Substance Misuse

As Table 6 shows, a bivariate cross tabulation analysis indicates marijuana use and hard street drug use was more common among non-medical prescription drug users than nonusers

(70% vs 33.5%; $p < .01$) and (40% vs 9.4%; $p < .01$). Reported street drug use and there percentage of use by students are as follows; cocaine 5.8%, ecstasy 3.2%, heroin .7%, crystal

Table 6 Cross Tabulation NMPD Users and Their Reported Marijuana and Street Drug Use

Measures	NMPD User	Non User	χ^2
Marijuana Use	70.0%	33.5%	.000*
Street Drug	40.0%	9.4%	.000*

Note: Marijuana reported drug use is within the past 6 months; street drug use is reporting at least one street drug or more within the past year.

* $p < .01$

meth 1.1%, LSD 1.8% and Molly's 9%. Molly's, named shortened for molecule, are considered by students to be an upgraded version of ecstasy pills; since ecstasy pills are laced with everything from caffeine to methamphetamine (MDA) and molly's are pure (MDA). Both drugs are typically taken in pill form.

Motives for Non-Medical Prescription Drug Use and Marijuana Use

Students most frequently reported motives for using NMPD's is related to academic reasons including; to concentrate better while studying 8.6% and to concentrate better in class, to feel less restless while studying and to get better grades are each individually reported at 4.7%. Nonacademic motives include; to feel better 5%, getting high 3.2%, to intensify intoxicating effects of other substances .7% and to feel less anxious 2.9%.

Although a T-test indicates there is no significant relationship between marijuana users and their reported levels of anxiety, to feel less anxious is the third leading motive for smoking

reported by marijuana users at 12.6%. The two motives proceeding to feel less anxious are to relax 30.6% and to get high 19.4%.

Students Onset of NMPD Use and Peak Times of Use

Students were asked two questions pertaining to the onset of their use and their peak time of use. In response to the question, “Did you ever use NMPD before beginning college?” the majority of users (56.9%) answered no. In response to the question, “When classes are not in session do you use NMPD’s?” the majority of users (62.7%) answered no. This data strongly suggests that students may be self-medicating for academic purposes to relieve specific symptoms that are interfering with their performance. Of particular interest is NMPD users reported that as a child they had previously been diagnosed with a learning disability ($\chi^2 .002, p <.01$), were evaluated for academic problems; ($\chi^2 .031, p <.05$), were evaluated for behavioral problems and have had a history of academic underachievement; ($\chi^2 .010, p < .05$). As Shown in Table 7 below a cross tabulation test supports a significant relationship exists between NMPD users and all of the above variables, except previously evaluated for behavioral problems.

Table 7 Cross Tabulation NMPD Users and Their Reported Previous Academic Problems

Measures	NMP User	Non User	χ^2
Previously diagnosed with learning disability.	20.8%	6.6%	.002*
Previously evaluated for academic problems.	14.6%	5.6%	.031*
Previous academic underachievement.	16.7%	5.7%	.010*

Bivariate Cross Tabulation indicates chi-square tests for Non-Medical Prescription Drug Users Asym. Sig. (2-sided) * p <.05.

Risks and Perceived Effects of Nonmedical Prescription Drug Use

The user groups overall perceptions of the negative risks associated with NMPD use when compared to the nonuser group is substantially lower. Specifically, when asked if they considered NMPD to be a hard drug (70.8% vs 45%) responded no. When asked if they considered NMPD to be safer than street drugs (56.2% vs 80.7%) responded no. When asked if they believed NMPD are less addictive than street drugs (60.4% vs 84.9) responded no. However, when the control variable is removed from the analysis and only the percentages of the user group is analyzed; the majority of users do not consider NMPD to be safer or less addictive than street drugs, yet 70.8% still do not label NMPD as a hard drug.

Table 8 Students Reporting Their Perceptions of the Effects of Their NMPD Use

Measure	Never	Rarely	Sometimes	Often	Always	S, O, A
How often does it give you the effect you desire?	6.3	12.5	14.6	39.6	27.1	81.3
How often has it helped you focus?	12.5	14.6	18.8	31.3	22.9	73
How often has it made you feel better?	6.3	10.4	22.9	43.8	16.7	83.4
Do you notice a difference in your grades?	28.3	13.0	15.2	26.1	17.4	58.7
Do you notice a difference your quality of work when you use NMPD?	27.1	10.4	18.8	29.2	14.6	62.6
Do you notice a difference in your GPA?	37.5	14.6	16.7	20.8	10.4	47.9

Note: S, O, A = percentage totals of columns Sometimes, Often and Always.

To examine student's perceptions of their intended effects of their NMPD use they were asked a series of six questions. To measure the scale reliability and to ensure the questions relate to students perceptions of NMPD use the Cronbach's Alpha Coefficient is used and the output reveals an alpha of .878, indicating strong scale reliability. For each question, Table 8 reflects

the percentage of students who reported never, rarely, sometimes, often or always noticed a difference after their NMPD use. The final column in Table 8 shows the total percentages of students combined who reported that their desired effect were sometimes, often and always what they intended when using the drug. Overall, a sufficient percentage of students reported experiencing the intended effects of their NMPD use. The S, O, A, column showing the sometimes, often and always combined numbers reflect extremely high percentages. The highest percentages of student's perceptions of their intended use appear in the upper half of the table and are related to questions geared towards if they notice a difference from a physical or emotional aspect after using NMPD. The lowest percentages appear to fall in the bottom half of the table in the areas where questions are affiliated with academics.

Reasons for Not Seeking Help

Table 9 reflects the most frequently reported reasons for students not seeking professional help who are experiencing symptoms of anxiety or depression. The two most frequent identifiable reasons reported is students think they have their symptoms under control (47.6%), followed by 7.4% who report they are not sure where to seek help. Other identifiable reasons given by students include afraid of being ridiculed, afraid of others reactions, embarrassed or ashamed; none of these responses were greater than 5.2%. However, a large number of students (26.6%) reported "other" reasons for not seeking help.

Table 9 Percentage of Students Who Experience Symptoms of Anxiety, Depression or Impulsivity Reporting Reasons for Not Seeking Help

Measure	Frequency	Percent
Afraid of being ridiculed.	11	4.8
Afraid of others reactions.	12	5.2
Embarrassed.	12	5.2
Ashamed.	7	3.1
Not sure where to seek help.	17	7.4
You think you have it under control.	109	47.6
Other	61	26.6

DISCUSSION

Consistent with other research, this study found that compared to non-users, non-medical prescription drug users self-report higher symptoms of anxiety, depression and impulsivity. Although, NMPD users score substantially higher on all three indices, than nonusers, the index they score highest on is the impulsivity index. As shown in Table 5, the impulsivity index is where students report how often they find it difficult to pay attention in class, to keep track of their assignments, to concentrate on academics, to retain information, to not feel fidgety and restless while in class and to complete homework assignments. Not surprisingly, the largest percentage of NMPD users reported motive for using NMPD is for academic purposes, as opposed to any other reason.

This study builds on current knowledge by contributing important new information in regards to the specific types of NMPD students are using for academic enhancement purposes and how they relate to symptoms of anxiety, depression and impulsivity. Adderall, also known amongst students as the “smart drug” is the most popular NMPD used by college students. Similar to previous research in 2010 demonstrating a relationship between reported levels of impulsivity and Adderall use (Arria et al.), the current study found a strong relationship that exists between NMPD users reported signs of impulsiveness and their Adderall use; ($t = (2.27)$, $p < .01$). The second most frequently used NMPD is Vicoden or Codeine and its users also score very high on the impulsivity and depression index. Impulsivity appears to be a very prominent issue reported by NMPD users which appears to be causing them to self-medicate in order to alleviate symptoms and improve their academic performance or at least make it more

manageable. Another factor that supports the theory that students are using NMPD to self-medicate for academic purposes is that the data reveals the majority of users did not use prior to college (56.9%) and the majority do not use NMPD when classes are not in session (62.7%). The current study also reveals new information that discloses student's primary identifiable reasons for not seeking professional help to be that they believe they have their issues under control or they do not know where to go to seek help. This information implies that students who are experiencing signs of anxiety, depression ADD or ADHD need to be informed of all risks associated with their NMPD use and resources that are readily available and attainable to them within their college or in the community.

Results from this study support previous findings (Rabiner et al., 2009 ; Rabiner et al., 2010) that NMPD users report higher frequencies of illicit street drug use than nonusers. When comparisons were made only among the NMPD users a higher majority of users smoked marijuana than used illicit street drugs. NMPD users number one reported motive for smoking marijuana is "getting high" at 19.4% there second motive is "to relax" at 30.6%. A T-test was used to measure if there was a significant relationship between marijuana users and their reported symptoms of impulsivity and the results fell on the cutoff threshold at .05; some would argue this is not a significant relationship. The fact that many students reported "to relax" as their second primary motive for smoking marijuana raises concerns that should further question what exactly is meant by "to relax". Do students feel on edge, do they feel tense or do they find it difficult to unwind or to be still. If students are having these difficulties it is possible they are experiencing inattention and impulsivity symptoms which are preventing them from being able to relax and

focus on their studies. Students may be using marijuana to self-medicate to subdue these symptoms.

The findings of Quintero et al. (2009) study revealed students did not believe NMPD use to be dangerous, in contrast data from current study implies that despite the fact that the majority of students do associate serious risks with their NMPD use such as, their belief that NMPD are not safer than street drugs and they are addictive; high percentages of students are reporting overall satisfaction with the intended effects of their drug use. As indicated in Table 8, students who use NMPD report it makes them feel better emotionally or physically often, if not always and many students report academic improvement as well. Since students are aware of some of the risks associated with their NMPD use this data suggests and supports George Homans's Social Exchange Theory in that students may perceive that the benefits of their NMPD use outweigh the risks associated with their use. These students who are overall experiencing positive intended effects would most likely have little motivation to discontinue use of NMPD, which in the long haul could lead to more serious risks that students are oblivious to. Another reason that students may not be very concerned with their overall NMPD use could be contributed to the answers given when asked how many other students used NMPD that they were aware of. The majority of students reported knowing 1-3 other students (16%), followed by 4-6 other students (7.3%) and 7+ other students (7%) who also used NMPD. Other student's approval of NMPD use elicits continued behavior. The fact that NMPD use appears to be prevalent among the college population and students know numerous other students, who are using, the risks associated with their use may easily be ignored.

Prior literature (Heiligenstien and Keeling, 2005) supports the findings of the current study in that many of the symptoms that students are experiencing which are interfering with their academic performance initially surfaced during their childhood. A significant relationship is shown between NMPD users who reported that as a child they had previously been diagnosed with a learning disability ($\chi^2 .002, p < .01$), evaluated for academic problems ($\chi^2 .031, p < .05$) and have had a history of academic underachievement ($\chi^2 .010, p < .05$). These issues that initially appeared during their childhood years may not have been affectively addressed or symptoms were tolerable until academic demands increased causing a strain on the individuals coping mechanisms.

LIMITATIONS

A few limitations of this study should be noted. First, the sample population was largely overrepresented by freshmen and even though no significant relationship was found between NMPD users when compared to class standing, the ratio of students who reported NMPD use was higher in the upperclassman. This limitation may have caused bias in the research data and the percentage of NMPD users possibly could be higher than reflected. Second, although NMPD users do report higher symptoms of anxiety, depression and impulsivity on all three indices they also report higher illicit drug and marijuana use making it difficult to distinguish if their symptoms are a result of their drug use or is their drug use a result of their symptoms. Third, although the anxiety, depression and impulsivity indices are reliable and valid a clinical psychological assessment would be highly beneficial in order to more accurately research each individual's history of prior symptoms. Specifically, since data revealed that many NMPD users self-reported having academic difficulties since childhood. This could be an indication that their NMPD use is a result of an untreated mental illness or learning disability.

Further research should examine if students are aware of the specific side effects or risks associated with short and long term use of NMPD. This study reveals that students believe that NMPD are addictive and not safer than street drugs, but specific known risks are not measured. Determining this could help identify what information students need to be provided with in order to further educate them and inform them of the serious risks that NMPD use may cause if not properly supervised by a professional. Further research should also explore, more in depth the reasons that students do not seek professional help. A large percentage of students reported

“other” unidentifiable reasons for not seeking help. Other reasons may include; some families or students do not have health insurance, religious reasons, students are afraid of being labeled or students may fear that if symptoms of anxiety or depression are detected and documented it may affect future job opportunities depending on their career goals. Understanding student’s reasons for not seeking help is crucial in order to accurately address their concerns and educate them in order for them to feel safe enough or able to seek help.

APPENDIX A: IRB APPROVAL LETTER



University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1
FWA00000351, IRB00001138**

To: **Amy M. Donley and Co-PI: Maria A. Thomas**

Date: **December 21, 2012**

Dear Researcher:

On 12/21/2012, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review: Exempt Determination
Project Title: Students Who Report Symptoms of Anxiety, Depression, ADD and ADHD and Their Reported Non-medical Prescription Drug Abuse and Other Substance Abuse
Investigator: Amy M Donley
IRB Number: SBE-12-08944
Funding Agency:
Grant Title:
Research ID: N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 12/21/2012 03:29:46 PM EST

A handwritten signature in black ink that reads 'Joanne Muratori'.

IRB Coordinator

APPENDIX B: SURVEY QUESTIONS

Students Non-medical Prescription Drug Use and Other Substance Use

Q1 Participants in the survey requires that the participant must be 18 years or older. This is a voluntary survey that is entirely anonymous.

Agree (1)

Q2 Have you used any of the following within the past 6 months: (choose all that apply)

- Cocaine (1)
- Ecstasy (2)
- Heroin (3)
- Crystal Meth (4)
- LSD (5)
- Molly's (6)
- Other hallucinogens (7)
- None (8)

Q3 Have you drank alcohol in the past 6 months?

- yes (1)
- No (2)

Q4 Have you smoked marijuana in the past 6 months?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To In the past many students have report...

Q5 What are your reasons for smoking marijuana?

- To be able to concentrate better in class. (1)
- To be able to concentrate better while studying. (2)
- To feel less restless while studying. (3)
- To feel better. (4)
- To get high. (5)
- To feel less anxious. (6)
- To relax (7)
- Other (8)

Q6 In the past many students have reported using non-medical prescription drugs (NMPD) without a prescription for various reasons. (These questions DO NOT apply to medicine used under a doctor's order). Within the last 12 months have you ever taken any prescription drugs that were NOT prescribed to you?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To Have you ever felt very lonely?

Q7 Have you used any of the following in the past 12 months (choose all that apply)

- Oxy Contin(Oxy's or Oxy 80's) (1)
- Vicoden or Codeine (Vike's or Hydro's) (2)
- Ritalin (Vitamin R) (3)
- Adderall (Addy's or Smart Drug) (4)
- Concerta (5)
- Celexa (6)
- Lexapro (7)
- Prozac (8)
- Zoloft or Paxil (9)
- Ambien (A-minus or zombie's) (10)
- Klonopin (Benzo's or Kpins) (11)
- Valium (12)
- Xanax (bar's, zanies, French fries, Blue's or Tranq's) (13)
- Fiorinal (14)
- Other (15)

Q8 Did you ever use NMPD WITHOUT a prescription before beginning college?

- Yes (1)
- No (2)

Q9 When classes are NOT in session do you use non-medical prescription drugs?

- Yes (1)
- No (2)

Q10 What are your reasons for using non-medical prescription drugs? (choose all that apply)

- To be able to concentrate better in class. (1)
- To be able to concentrate better while studying (2)
- To feel less restless while studying. (3)
- To get better grades. (4)
- To produce better work quicker. (5)
- To feel better. (6)
- To get high. (7)
- To prolong intoxicating effects of alcohol or other substances. (8)
- To feel less anxious? (9)

Q11 In regards to your non-medical prescription drug use (NMPD)

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	All of the Time (5)
How often does it give you the effect you desire? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often has it helped you focus? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often has it made you feel better? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you notice a difference in your grades when you use NMPD? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you notice a difference in the quality of work you produce when you use NMPD? (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do you notice a difference in your GPA? (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q12 Click to write the question text

	Never (1)	Less than Once a Month (2)	Once a Month (3)	2-3 Times a Month (4)	Once a Week (5)	2-3 Times a Week (6)	Daily (7)
Have you ever felt things were hopeless? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you ever felt very lonely? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you ever felt very sad? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you ever felt so depressed it was difficult to function? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you ever considered suicide? (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you ever attempted suicide? (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you ever felt you have not been enjoying activities that you used to? (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q13

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
It is difficult for me to pay attention during class. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is difficult for me to concentrate on my academic work. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have difficulties keeping track of my different school assignments. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is difficult for me to retain information; often need to read things more than once. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel restless and fidgety during my classes. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel restless and fidgety when completing homework outside of class. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am an impulsive person. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I talk excessively out of turn or interrupt others. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14 Click to write the question text

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
I feel anxious, worried or nervous. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel my heart racing, sweaty or I have trouble breathing. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel muscle tension, on edge, restless or trouble relaxing or sleeping (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I procrastinate on decision-making due to worries. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q15 Click to write the question text

	Yes (1)	No (2)
Have you been previously diagnosed with a learning disability? (1)	<input type="radio"/>	<input type="radio"/>
Have you been previously evaluated as a child for academic problems? (2)	<input type="radio"/>	<input type="radio"/>
Have you been previously evaluated as a child for behavioral problems? (3)	<input type="radio"/>	<input type="radio"/>
Have you had a childhood history of academic underachievement? (4)	<input type="radio"/>	<input type="radio"/>

Q16 Click to write the question text

	Yes (1)	No (2)
Do you consider NMPD to be hard drugs? (1)	<input type="radio"/>	<input type="radio"/>
Do you consider NMPD to be safer than street drugs? (2)	<input type="radio"/>	<input type="radio"/>
Do you consider NMPD to be less addictive than street drugs such as cocaine, heroin, LSD, mushrooms and Crystal Meth? (3)	<input type="radio"/>	<input type="radio"/>

Q17 Do you know other students who use non-medical prescription drugs (NMPD) WITHOUT A PRESCRIPTION?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To If you have experienced symptoms of a...

Q18 Approximately how many?

Q19 Click to write the question text

	Afraid of being ridiculed. (1)	Afraid of others reactions. (2)	Embarrassed (3)	Ashamed (4)	Not sure where to go to seek help. (5)	You think you have it under control. (6)	Other (7)
<p>If you have experienced symptoms of anxiety or depression what has prevented you from seeking professional help? (Select all that apply) (1)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>If you have experienced symptoms of anxiety or depression what has prevented you from seeking professional help? (Select all that apply) (2)</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q20 What is your age?

Q21 What is your sex?

- Male (1)
- Female (2)

Q22 What is your class standing?

- Freshman (1)
- Sophomore (2)
- Junior (3)
- Senior (4)
- Graduate Student (5)

Q23 Are you a member of a fraternity or sorority?

- yes (1)
- No (2)

Q24 Do you play sports?

- Yes (1)
- No (2)

Q25 Are you involved in extra-curricular activities?

- Yes (1)
- No (2)

Q26 What is your employment status? (choose all that apply)

- Full time (1)
- Part time (2)
- Unemployed (3)
- Internship (4)
- Volunteer (5)

Q27 What is your current GPA?

Q28 What is your race/ethnicity? (Select all that apply)

- White/Caucasian (1)
- Black/African American (2)
- Latin/Hispanic (3)
- Asian/Pacific Islander (4)
- Native American/American Indian (5)
- Multi-Racial (6)
- Other (7)

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