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Increased Risk Factors for Substance Abuse and Attitudes Regarding Substance Use Among Nursing and Non-Nursing Students

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
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Abstract

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MS, Indiana University, Indianapolis, 2004

BS, Indiana University, East, 2001

Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Nonmedical prescription drug (NMPD) use is a well-documented problem among college students, but few studies have examined nursing students' attitudes regarding NMPD. The purpose of this study was to compare nursing and non-nursing students' attitudes, risk factors, and current substance use. This descriptive, comparative design utilized a convenience sampling and social media to reach students over 18 years of age and enrolled in a Midwestern university. Twenty-nine students, 14 non-nursing and 15 nursing students, participated in this online survey. Substance use attitudes were measured using the Drug Attitude Scale (DAS). Risk factors for substance use were used as demographic questions and current drug use was measured using the Drug Abuse Screening Tool (DAST). Logistic regression (Chi-Square/Fisher's Exact) analyses were used to observe the association between risk factors for substance abuse and nursing/non-nursing students. Additionally, a Simple Linear Regression (Two-Sample T-tests) was used to assess the relationship between DAS and DAST scores between nursing/non-nursing students. Prior to discussing the results of the statistical tests, descriptive statistics of the demographic variables of the participants are presented. Data analysis revealed no significant difference in attitude, risk factors, and substance use among nursing students and non-nursing students. Limitations included the low number of participants and access to students via social media only. The fact that nursing students receive additional training in pharmacology, we presume these students know the risks of drug use, therefore nursing students would have a lower rate of substance use; however, this study revealed no significant difference in attitudes or current substance use among nursing and non-nursing students.

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Dedication

I dedicate this project to my son Adam, who lost his battle with substance abuse three years ago.

Acknowledgments

I would like to acknowledge my son Andrew, who listened to me complain about APA and homework for the past three years. To Kathleen, who has been a surrogate Mother to me for 35 years and laughs whenever I say ’this is my last degree’.

I would like to thank my co-workers/friends, Dr. Kim DeSantis and Diane Stanforth, for the constant support and encouragement to complete this degree.

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Section 1: Nature of the Project

The rising incidence of prescription drug abuse in this country, especially opiate pain relievers, has reached epidemic levels. Substance abuse is an avoidable health problem in America with annual use increasing quickly (Gilson & Kreis, 2009). The misuse/abuse of prescription medication among college students is well-documented, with stimulants and narcotic pain medication being the most common drugs of choice in young adults. Jones (2013) and Hernanez and Nelson (2010) compared different age groups and drug use. The results revealed the highest rate of prescription drug misuse/abuse was in adults 18-25 years old. Jones also reported an increase in heroin abuse in students who initially abused opiate pain medication. The National Survey on Drug Use and Health (NSDUH; Substance Abuse and Mental Health Administration, 2014)) combined data collected in 2011 and 2012 to obtain a daily average of first time use of nonmedical prescription drugs. In the age group 18-25 years, 1754 tried pain medication and 850 used stimulants for the first time.

In 2009, 1.2 million visits to the emergency room for prescription misuse and/or overdose exceeded the number of visits due to heroin and cocaine combined (Centers for Disease Control, 2011). The number of deaths from opiate overdose now exceeds overdose from all other drugs combined. Opiate abuse costs society 55.7 billion dollars annually (Birnbaum et al., 2011). Murphy-Parker (2013) reported that the cost to insurance companies is $72 billion per year for emergency room visits, rehabilitation, and drug related health problems.

The belief that prescription medication is legal and less dangerous than illicit substances, when added to the younger generation's attitude towards drug use, creates a rampant disease that threatens the health and well-being of younger adults. The belief that prescription medication is safe and student participation in risky behaviors contributed to increased risk of prescription stimulant and analgesic use in college students (Cutler, 2014). Nonmedical prescription drug use should be considered an epidemic, and more research is needed in risk factor analyses and early intervention to prevent future students from this abusing prescription drugs. While researchers believe there is no single cause for substance misuse, there are similar risk factors identified in individuals who report substance abuse.

Purpose of the Study

The purpose of this study was to analyze existing risk factors and attitudes towards drug use among students currently enrolled in a nursing program compared to students enrolled in other non-nursing programs. Many young adults are stressed while in college; however, nursing students have the added stress of patient care. If students with higher risk factors could be identified early, appropriate interventions may help prevent future drug abuse and dependence.

Research Questions

1. Do nursing students possess a greater number of risk factors for substance abuse then non-nursing students?
2. Do non-nursing students exhibit an increased pro-substance attitude towards nonmedical prescription drug use compared to nursing students?

3. Do nursing students or non-nursing students score higher on substance use in the past year?

Assumptions, Limitations, and Delimitations

This project provided demographic data, attitudes towards drug use, and risk factors associated with substance abuse in nursing and non-nursing students. The first limitation of the study was the use of self-report instruments, which may be inaccurate as they rely on the participant's memory of use and willingness to divulge illegal activities. The second limitation was the ability to generalize the results from a satellite campus in a city of 30,000 to the larger, urban campus. The third limitation may be a small response rate due to the personal nature of substance use. There is a lack of research on nonmedical prescription drug use in nursing students; this study attempted to fill the gap. The assumptions include the known risk factors and attitudes that impact a student's impulse to use prescription drugs non-medically. The social implications of substance use are global and recognizing known risk factors for prescription drug use may lead to better interventions for prevention.

Definitions

Nursing student: A student who is currently enrolled as a sophomore, junior, or senior in a Bachelor's of Science in nursing program.

Nonmedical prescription drug use (NMPD): Medication taken for reasons or in amounts not intended by a doctor, or taken by someone other than the person for whom they are prescribed (McGabe & Boyd, 2012).

Non-nursing student: A student who is enrolled in a college education program other than nursing. Student will be at the sophomore, junior, or senior level.

Substance Abuse: Recurrent substance use resulting in failure to fulfill major role obligations and that may lead to legal problems and use in hazardous situations, such as drunk driving (American Psychological Association [APA], 2013).

Substance Dependence: The maladaptive pattern of substance use despite negative consequences in addition to increased tolerance and withdrawal symptoms (APA, 2013).

The purpose of this section is to describe the wide-spread problem of NMPD use in the general population, especially in young adults attending college. College is a time of self-discovery and pushing boundaries with risky behavior, which includes experimenting with drugs and alcohol. The brain does not fully develop until the late teens to early twenties (Hutchinson, 2012), which can impact the student's ability to perceive the dangers of substance use, especially prescription medication.

Section 2: Review of Literature and Theoretical and Conceptual Framework

Introduction

The rising incidence of prescription drug abuse in this country, especially opiate pain relievers, has reached epidemic levels. Substance abuse is an avoidable health problem in America with annual use increasing quickly (Gilson & Kreis, 2009). The purpose of this study was to analyze existing risk factors and attitudes towards non-medical drug use among students currently enrolled in a nursing program compared to students not enrolled in a nursing program.

Search Strategy

A literature search of CINAHL and Medline returned 2659 articles world-wide between 2010 and 2014. The terms used were *substance abuse* and *college students*, *substance abuse* and *nursing students*. There were 3687 articles from the United States with three full-text articles addressing nurses and other healthcare students. There are numerous studies of substance use and misuse among college students; however, there is limited research addressing substance use among nursing students.

General Literature

The drug class frequently studied among college students is simulant medication. Researchers have linked misuse of prescription stimulants to future substance use (Supuveda et al., 2011) depression (Zullig & Divin, 2012), and distress tolerance (Kaiser, Milich, Lynam, & Charnigo, 2012). Descriptive studies include gender (Javier, Belgrave, Vatalaro Hill, & Richardson, 2014), patterns of use and misuse (Brandt, Traverna, & Hallock, 2014), mental health (Mason, Zaharakis, & Benotsch, 2014), flourishing (Graff,

2011), sexual orientation (Kerr, Ding, & Chaya, 2014), self-determination (Wong & Rowland, 2013), temperament (Unseld et al., 2012), living arrangements (Sidani, Shensa, & Primack, 2013), and history of trauma (Avant, Davis, & Cranston,2011).

There were five studies on motives, and four studies looked at perceptions and attitudes. Fewer researchers have addressed substance abuse among nursing students; they include peer performance enhancement, stress, and attitudes. Murphy-Parker (2013) and Monroe (2009) discussed the need for policies to address substance abuse in nursing programs. McCabe conducted several studies of drug use in college students; however, the researchers did not differentiate general education students from nursing students. Data were obtained using the Drug Abuse Screening Test (DAST), a screening test created in 1981 by Skinner (1982), with confirmed reliability in detecting substance abuse and dependence problems other than alcohol. Holloway and Bennett (2012) completed an e-mail survey to determine the extent of inappropriate prescription drug use in 1614 students and 489 staff members in a South Wales university. Findings showed that one-third of the students and one-fourth of the staff had used drugs not prescribed to them.

Atwoli, Mungla, Ndung, Kinoti, and Ogot (2011) conducted a survey of college students in Kenya to see if known risk factors, such as low grades, low self-esteem, lack of social conformity, sensation-seeking, and peer use of substances had the same impact on students in a low-income country. Atwoli et al. recruited 500 students from four schools of higher learning, including a private college, two technical colleges, and a law school. The design was a cross-sectional descriptive survey using the World Health

Organization's Model Core questionnaire to elicit information on drug use such as tobacco, alcohol, marijuana and heroin. Study results showed a 69.8% rate of lifetime use of substances, up from the 41% reported use in high school students. This suggests that drug use increases with age and demonstrates the need for earlier intervention.

Substance use is also a problem on campuses in Canada, according to Arbour-Nicitopoulos, Kwan, Lowe, Taman, and Faulker (2010). The purpose of their study was to compare actual drug use to perceived drug use in Canadian students and to compare those rates with American counterparts. Five thousand students were invited to participate, with a response rate of 24%, making the final number of participants 1203. The results showed an increase rate of substance use in students who perceived their peers as using substances. There was a positive link between increased drinking and students who were in a relationship and lived away from home. White students were twice as likely to use alcohol and cigarettes and three times more likely to use marijuana than students of non-White ethnicity. This study, which was limited to a high majority of white students, may not be generalizable to larger, more diverse universities, and the responses were self-reported, which may be under-reported.

Researchers have examined peer influence (Judson & Langdon, 2009; Lookatch, Moore, & Katz 2014; Varela & Pritchard,2011), motives (McCabe & Boyd, 2012), and perceptions (Arria & Dupont,2010; Cutler, 2014; Mackert, Mabry, Hubbard, Grahovac, & Steiker, 2014). Two sets of researchers looked at attitudes of college students toward nonmedical prescription drug use (Heckman, Dykstra, & Collins, 2010; Lewis & Mobley, 2010). Lookatch et al. (2014) used the social learning theory to examined motives for

NMPD of stimulants among college students. This study had 695 participants from two universities; each student was given six vignettes of substance use to determine the motives and acceptability by peers. Data obtained showed students are more likely to use prescription drugs if they perceive that the benefits outweigh the risks and peers find it acceptable. The hypothesis that females would find NMPD for weight loss more acceptable than males was not verified. Both genders viewed weight loss as an acceptable motive for nonmedical use of stimulants.

Brandt, Travena, and Hallock (2014) surveyed 303 college students for lifetime non-medical use of opiates, stimulants, and anti-anxiety medication. Data collected showed that 36.8% reported use of prescriptions drugs, 48% used opiate pain medication, and 72.8% acknowledged the use of stimulants. Results reported lesser use in first-year students and peak use in junior level students. The limitations were the small sample size, and the setting was a small liberal arts college in a northeastern location. This may impact the generalizability.

Cutler (2014) analyzed justification for NMPD use in 76 college students. Data were collected via personal interviews, which may affect a student's admission of actual drug use. Results showed that students frequently blamed others, such as doctors, law enforcement, and parents, for NMPD use. Cutler was the first to view NMPD use as a deviant behavior. Limitations to the study were the small number of participants and personal interviews, which may have shewed results.

To examine the impact of additional education on students' attitudes towards substance use, Heckman et al. (2010) surveyed students at a Midwestern college.

Heckman et al. used a pretest/posttest method in students enrolled in one of three psychology classes. Two hundred ninety-nine students completed the pretest while only 211 completed the posttest. A variety of demographics were examined, including family history of substance use. The classes surveyed were: Drugs and Behavior, Abnormal Psychology, and Normal Personality Theories. The students attending the Drugs and Behavior class showed significant increase in the posttest scores. Students enrolled in the other two courses had post-test scores lower than their pretest scores. Researchers also believed that students who view substance use as a negative behavior may decrease a student's use of those substances.

Currell and Jeglic (2010) looked at university students in New York City to compare substance use, as well as depression, anxiety, and delinquent behaviors. The sample was chosen from a psychology class and included 372 students. The demographics for the sample were 69% female, 41% Hispanic, 50% Catholic, and 60% freshmen students. The study results reaffirmed the need for prevention and treatment for at-risk students; however, the needs of an urban-based campus are different given the added stress of higher living expenses; commuting to campus means less time spent in campus activities. The limitations of this study included the small sample size, and all participants were recruited from the same psychology class.

Specific Literature

The literature search on substance use among nursing students produced three full-text articles that confirmed a growing trend of illicit and prescription medication use among students enrolled in nursing (Baldwin, Bartek, Scott, Davis-Hall, & DeSimone,

2009) and physical therapy, as well as physicians' assistants (Bidal, Ip, Shah, & Serino, 2014). Baldwin et al. (2009) surveyed 589 students enrolled in one of three programs: doctorate in pharmacy, doctorate in osteopathic medicine, and physician assistant. Survey results indicated that drug use in graduate students was consistent with the percentage of undergraduate students using prescription drugs. The study also included risk factors of physical and sexual abuse and family members who abused drugs or alcohol. While the percentage of drug use in graduate students mirrored undergraduate drug use, the perceived stress scores were twice as high in graduate students.

Herman et al. (2011) reported that students in healthcare programs are increasingly using stimulants to increase academic accomplishment. Herman et al. reported that students at the New York Institute of Technology from six healthcare programs were screened for substance abuse and dependence. The 308 students were enrolled in programs, which included doctorate of osteopathic medicine (DO), physician assistant, physical therapy (PT), occupational therapy, counseling, and nursing. The nursing students had the second highest number of alcohol dependence, 16.7%, and the highest percentage of drug abuse at 33.3%. The number of students enrolled in the nursing program was six, which represented 1.9% of the total number of students. This makes generalization difficult and supports the need for equal numbers of students in the upcoming project.

Baldwin et al. (2009) examined attitudes and behaviors associated with drug and alcohol use. Nine hundred twenty-nine students completed the survey for a response rate of 46%. This study of nursing students included three types of programs: Bachelor of

Science in nursing (BSN), Associate degree in nursing (ADN), and Practical nursing. The total number of students reporting past-year drug use was 8.6%, with 10% of those students enrolled in the BSN program. The substance list included alcohol, marijuana, and prescription medication, such as stimulants, sedatives, and opioids. Fifty-one percent of respondents reported having a family history of drug and alcohol problems. One limitation to this study was the use of students in one Midwestern state, and the data was collected in 1999, which may be different today.

The purpose of the present study was to analyze existing risk factors and attitudes towards drug use among students currently enrolled in a nursing program compared to students not enrolled in a nursing program. These factors alone may or may not lead to addiction; however, adding the stress of a nursing career increases the risk in those persons who are already vulnerable.

Theoretical Framework

The theoretical framework for examining attitudes is Bandura's (1977) social learning theory, which is used to examine and modify human behaviors and environmental influences. The modern version of this theory is the social cognitive theory, which looks at how a person interacts with environmental stimuli (Bandura, 1986). In addition to forming opinions based on environment, human beings are capable of forming opinions based on the perception of consequences versus benefits. Giovazolias and Themeli (2014) reported the social learning theory is appropriate for studies investigating substance abuse. Judson and Langdon (2009) also reported that a

student who believes prescription medication is a safe and acceptable behavior will be less resistant to experimenting with stimulants and opiates.

Summary

The rising incidence of prescription drug abuse in this country, especially opiate pain relievers, has reached epidemic levels. Substance abuse is an avoidable health problem in America with annual use increasing quickly (Gilson & Kreis, 2009). The belief that prescription medication is safe and student participation in risky behaviors has contributed to increased risk of prescription stimulant and analgesic use in college students (Cutler, 2014). The purpose of this project was to analyze existing risk factors and attitudes towards non-medical drug use among students currently enrolled in a nursing program compared to students not enrolled in a nursing program. Section 3 is an explanation of the methodology that will be used to gather and interpret the data.

Section 3: Methodology

Population

Numerous studies have been focused on NMPD use in college students, but few have differentiated nursing and non-nursing students. Nursing students are not immune to substance use, and many have increased stress while progressing through a nursing program. The purpose of this project was to determine if risk factors and attitudes towards non-medical drug use are different among students enrolled in a nursing program or non-nursing program.

The sampling was a convenience sample of students currently enrolled at a satellite campus in a Midwestern city. According to the nursing database, there were 95 sophomores, 98 juniors, and 72 seniors--a total of 265 students--enrolled in the nursing program. Participants were recruited through social media, including Facebook. Information regarding the study, including informed consent, risks, and benefits was posted on Facebook three days prior to opening the survey link. A link to the survey, which had been created on SurveyMonkey, was posted on Facebook. The survey started with the informed consent and the assurance of confidentiality, followed by demographic questions and the two assessment tools: the DAS and DAST. There were no questions that contained identifying information, and the survey company does not track the Internet Protocol (IP) address. The first page of the survey included the informed consent and the assurance of confidentiality. Responding to the survey served as consent to participate. Utilizing an outside company to store the data ensured confidentiality and

allowed the student to access the survey from any Wi-Fi location with a computer or tablet. This allowed participants to complete the survey in a private area.

Data Collection

The first research question of this project was to determine if nursing students, when compared to non-nursing students, scored higher on the Drug Abuse Screening Test (Harvey, 1982; Appendix B). The second research question was used to determine what attitudes students have towards substance use. Attitudes will be assessed using the Drug Attitude Scale (Campbell & Chang, 2006; Appendix A). Risky behavior happens more frequently when the risks outweigh the consequences. Demographic information (Appendix C) will answer Research Question 1: do nursing students possess a greater number of risk factors for substance abuse than non-nursing students? Comparison of the DAS scores will be used to answer Research Question 2: do non-nursing students exhibit an increased pro-substance attitude towards nonmedical prescription drug use as compared to nursing students? Comparison of DAST scores was used to answer Research Question 3: do nursing students score higher on substance use in the past year when compared to non-nursing students?

A comparative, descriptive design was used to determine risk factors for substance abuse and attitude differences between nursing and non-nursing students. The assumption is that knowing early risks factors will determine what interventions or additional education is needed for students pursuing nursing as a career. The demographics assessed were gender, age, ethnicity, and marital status, family history of

substance abuse, personal use of prescription medication, and nursing or non-nursing program.

Instruments

The following instruments were used in the survey:

1. Drug Attitude Scale (DAS).
2. Drug Abuse Screening Tool (DAST)
3. Demographic data.

The DAS (Appendix A) is a 25-item, self-report questionnaire that has proven effective in measuring attitudes related to increased risk of substance and alcohol abuse in 535 subjects in the initial study (Campbell & Siroki, 1989). The DAS tool has been used in clinical settings and was tested for reliability by Campbell and Chang (2006) with 128 patients who were patients at a residential treatment facility. The internal consistency for that study was .87.

The DAST (Appendix B) was created and copyrighted by Skinner in 1982. The original instrument consisted of 28-items in a dichotomous format designed to detect substance abuse or dependence problems. Modeled on the Michigan Alcohol Screening Tool, the DAST was designed to quantify substance abuse problems. The 28-point scale uses a cut-off of 5/6 to detect problems from substance use, with scores of 16-20 indicating severe problems. Skinner (1982) tested reliability in a study of 256 volunteers who were seeking treatment at an addiction foundation. The internal consistency and reliability was significant at .92. Factor analysis determined which questions had the highest predictive value, and eight questions were deleted to create the DAST-20. Gavin,

Ross, and Skinner (1989) used the Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria for substance abuse to validate the DAST-20. The DAST-20 correlated with current and lifetime use of substances. The DAST-20 correctly identified 85% of cases; however, the sensitivity dropped when specificity increased.

Similar results were obtained by Staley and El-Guebaly (1990) and McCann, Simpson, Ries, and Roy-Byrne (2000). Each used the DSM-III and DSM-IV as a reference tool to measure accuracy; results with Chronbach's alpha for internal consistency were .94 and .92, respectively. Sensitivity ranged from 96% to 85%, and specificity ranged 81-91% to 71%. The DAST-20 has been tested in American patients suffering a first psychotic break (Cassidy, Schmitz, & Malla, 2007) to burn victims in Iran (Salehi et al., 2012). Findings support the use of the DAST as a reliable tool to use in psychotic patients and burn patients. The third adaptation of the DAST contains ten questions determined to be the most important questions to identify substance use problems. Researchers in Turkey used the DAST-10 as a screening tool with 123 heroin-dependent adults, 100 adolescents with drug use problems, and 35 alcohol dependent patients (Evren et al., 2013).

A second study, located in Turkey, used 202 prisoners with and without drug-use problems. These researchers reported the DAST-10 as a reliable screening tool with Chronbach's alpha at .92 and .93 in each population. The DAST-10 was determined to be an effective screening tool in general hospital wards (Mdege & Lang, 2011) and among college students from a large Midwestern university (McCabe et al., 2006). Validity and reliability were similar to previous studies. Martino, Grilo, and Fehon (2000) adapted the

DAST by exchanging questions regarding job and spouse for questions regarding school and parents in order to make the screening tool appropriate for adolescents. The "sensitivity specificity and positive predictive power was, 78.6%, 84.5% and 82.3% respectfully" (p. 57). The DAST has been tested in numerous studies and is considered to have internal consistency and reliability (Yudko, Lozhkina, & Fouts, 2007). Permission to utilize the DAS and DAST was received electronically from each creator.

Ethical Considerations

There were no physical risks to participants and the benefits will increase knowledge relevant to all college students. Some students may feel uncomfortable answering personal questions and were free to leave those questions unanswered. Students who participated in this project were not given extra credit nor punished for not participating. The right to privacy and confidentiality was maintained by using a web-based survey, created through SurveyMonkey, which is accessible only to the primary researcher. The data is located on a secure, encrypted server with password protection. Access to the survey was available to the participants on or off campus to ensure privacy. The surveys contained no identifying information such as name, social security numbers, or student identification numbers. A signed consent form would be the only link to the survey so a request to waive signature was requested. The informed consent appeared on the first page of the survey and completion of the survey served as consent to participate (Appendix D).

Data Analysis

The Statistical Package for Social Sciences (SPSS) was used for data storage, tabulation, and calculation of statistics. To answer Research Question 1, demographic information was analyzed for each group of students using chi-square and independent *t* tests. This determined whether there were differences in nursing students and non-nursing students. The demographic information includes known risk factors for substance use and includes gender, ethnicity, family history of substance use and history of physical/emotional abuse. These questions were analyzed for frequency distribution and percentages. The demographic information also included three questions regarding NMPD use of narcotics, stimulants, and anti-anxiety medication in lifetime use, past month use, and past year use. Bivariate descriptive statistics will be used to analyze the three questions on past drug use of narcotics, stimulants, and anti-anxiety medication in lifetime use, past month use, and past year use.

The DAST is a 20-question survey of Yes/No responses with a total score ranging from 0-20. The DAST interpretation is divided into categories of no drug use with four categories of low, intermediate, substantial, and severe drug use in the past year. The scores obtained from the DAST were the independent variable in a two-way ANOVA of nursing students and non-nursing students. The DAS is an instrument designed to measure attitudes towards drug use and also required an ANOVA test.

Summary

The purpose of this study was to analyze existing risk factors, attitudes, and potential problems with substance use in the past year. Students currently enrolled in a nursing program were compared to students not enrolled in a nursing program. There is evidence of increased use of nonmedical prescription medication in universities world-wide and a growing epidemic of substance abuse in society. The goal is to prevent substance use before it begins, and through effective interventions, students will be identified early enough to make a difference. The ability to recognize and refer students for assistance is the responsibility of all faculty and staff.

Section 4: Findings, Discussion, and Implications

Summary of the Findings

Introduction

The purpose of this project was to analyze existing risk factors and attitudes regarding nonmedical prescription drug use among students currently enrolled in a nursing program compared to students not enrolled in a nursing program. The researcher's aim was to determine if nursing students possess a greater number of risk factors for substance abuse than non-nursing students, if non-nursing students exhibit an increased pro-substance attitude towards NMPD use, and if nursing students score higher on NMPD use in the past year. This descriptive study was targeted at full-time students over 18 years of age who were enrolled as a sophomore, junior, or senior on a Midwestern satellite campus. Participants completed a confidential, web-based survey consisting of demographic questions, the Drug Abuse Screening Tool (DAST), and the Drug Attitude Scale (DAS).

This section presents the results of the data analysis methods following the collection and organization of the data. Data was analyzed using the Statistical Package for the Social Sciences (SPSS). Logistic regression (Chi-Square/Fisher's Exact) analyses were used to observe the association between risk factors for substance abuse and nursing/non-nursing students. Additionally, a Simple Linear Regression (Two-Sample T-tests) was used to assess the relationship between DAS and DAST scores between nursing/non-nursing students. Prior to discussing the results of the statistical tests,

descriptive statistics of the demographic variables of the participants were presented, followed by a report of the study variables.

Research Questions

This section will address the research questions and hypotheses, analyzing existing risk factors and attitudes regarding NMPD use among students currently enrolled in a nursing program compared to students not enrolled in a nursing program. Demographic questions were chosen based on previous research which supported risk factors such as ethnicity and past year use of NMPD (Lord et al., 2009), age (SAMSHA, 2012), family history of substance use (Kenna and Wood,2005;Baldwin et al.,2009).

Research Question 1: Do nursing students possess a greater number of risk factors for substance abuse then non-nursing students?

Research Question 2: Do non-nursing students exhibit an increased pro-substance attitude towards nonmedical prescription drug use compared to nursing students?

Research Question 3: Do nursing students or non-nursing students score higher on substance use in the past year?

Participants

This section presents the demographic information of the data used for analysis, followed by the descriptive statistics of the study variables.

Demographic Information

This project contained information for 29 students, 51.7% (n = 15) of whom were nursing students and 48.3% (n = 14) who were not. Additionally, 75.9% (n = 22) were female, and 24.1% (n = 7) were males. Age categories were 20-22, 23-26, and 27 years or

older, where 27.6% (*n* = 8) of the students were 20-22, 34.5% (*n* = 10) were 20-26, and 37.9% (*n* = 11) were 27 years or older. For Race/Ethnicity, all students were categorized as either White or Other Than White. White students were the majority with 96.6% (*n* = 28), and there was one Other Than White student (3.5%). When asked if they live locally, 75.9% (*n* = 22) stated they live locally, with 24.1% (*n* = 7) stating they do not live locally. For Marital Status, most students were single (55.2%, *n* = 16), where 34.5% (*n* = 10) were married, and 10.3% (*n* = 3) were divorced. When asked if they have a family history of substance abuse, 55.6% (*n* = 15) stated they do have a history, with 44.4% (*n* = 12) stating they do not. This answer was missing for two participants. For those who had a family history of substance abuse, most stated that their parent was the person with the history (73.3%, *n* = 11). Following the parent was a sibling (20.0%, *n* = 3) and grandparent (6.7%, *n* = 1). Table 1 shows a summary of each demographic variable, overall and by nursing/non-nursing students.

Table 1

Summary of Demographic Variable, by Nursing and Overall

	Non-Nursing		*Nursing*		*Total*	
	N	*Percent*	*N*	*Percent*	*N*	*Percent*
Gender						
Female	10	71.4	12	80.0	22	75.9
Male	4	28.6	3	20.0	7	24.1
Age Groups						
20 – 22 years	2	14.3	6	40.0	8	27.6
23 – 26 years	6	42.9	4	26.7	10	34.5
Over 27 years	6	42.9	5	33.3	11	37.9
Race/Ethnicity						
White	13	92.9	15	100.00	28	96.6

Table 1

Summary of Demographic Variable, by Nursing and Overall

	Non-Nursing		*Nursing*		*Total*	
	N	*Percent*	*N*	*Percent*	*N*	*Percent*
Other Than White	1	7.1	0	0.0	1	3.5
Live Locally?						
No	2	14.3	5	33.3	7	24.1
Yes	12	85.7	10	66.7	22	75.9
Marital Status						
Divorced	2	14.3	1	6.7	3	10.3
Married	6	42.9	4	26.7	10	35.5
Single	6	42.9	10	66.7	16	55.2
Family History of Substance Abuse?						
No	5	35.7	7	53.9	12	44.4
Yes	9	64.3	6	46.2	15	55.7
If Yes, Which Family Member?						
Grandparent	0	0.0	1	16.7	1	6.7
Parent	6	66.7	5	83.3	11	73.3
Sibling	3	33.3	0	0.0	3	20.0

Description of Study Variables

As described in previous sections, the outcomes/dependent variables that were compared by the nursing and non-nursing groups were risk factors for substance abuse, attitudes towards drug use, and drug use within the past year. To further assess known risk factors for substance abuse, participants' responses to three questions regarding nonmedical prescription drug (NMPD) use of narcotics, stimulants, and antianxiety medication in lifetime use, past year use, and past month were used. For attitudes towards drug use, responses to the DAS, represented as a total score, were used. For problems

related to substance use within the past year, responses to DAST, represented as a total score, were used. Tables 2 and 3 show a summary of all NMPD questions, as well as DAS and DAST scores. For the all NMPD questions, there were 11-12 participants who did not answer each question. Regarding the questions about NMPD use in the past month, none of the participants stated they have used any NMPD's; therefore, these three questions cannot be used for analysis.

Table 2

Summary of NMPD Questions

	N	*Percent*
In Your Lifetime, Have You Ever Used the Following Without a Prescription?		
Narcotics		
No	11	61.1
Yes	7	38.9
Anti-Anxiety Meds		
No	15	88.2
Yes	2	11.8
Stimulants		
No	14	77.8
Yes	4	22.2
In The Past Year, Have You Ever Used the Following Without a Prescription?		
Narcotics		
No	16	88.9
Yes	2	11.1
Anti-Anxiety Meds		
No	17	94.4
Yes	1	5.6
Stimulants		
No	15	83.3
Yes	3	16.7
In The Past Month, Have You Ever Used the Following Without a Prescription?		
Narcotics		
No	18	100.0

Table 2

Summary of NMPD Questions

	N	*Percent*
Yes	0	0.0
Anti-Anxiety Meds		
No	18	100.0
Yes	0	0.0
Stimulants		
No	18	100.0
Yes	0	0.0

The average DAS score was 29.0 (*SD* = 25.2), ranging from 0 to 70, where data was missing for one participant. For DAST, the average score was 1.2 (*SD* = 2.0), ranging from 0 to 8, where data was missing for eleven participants.

Table 3

Summary of DAS and DAST Scores

	N	*Mean*	*SD*	*Min*	*Max*
DAS	28	29.0	25.2	0.0	70.0
DAST	18	1.2	2.0	0.0	8.0

Statistical Results

For research question one, logistic regression analyses were used to observe the association between NMPD questions and nursing/non-nursing students. For research questions two and three, simple linear regression models were run to assess the relationship between DAS and DAST scores between nursing/non-nursing groups.

Research Question One

Research question one is “do nursing students possess a greater number of risk factors for substance abuse then non-nursing students?” To assess this question, a logistic

regression model was observed to explore the association between NMPD questions and nursing/non-nursing groups. Table 4 shows the results of the models for each NMPD question. Results show that nursing/non-nursing groups are not significantly associated with any of the NMPD questions. Data supports the conclusion that nursing students do not possess a greater number of risk factors for substance abuse than non-nursing students.

Table 4

Summary of Logistic Regression Analysis for NMPD Questions

	B	*SE(B)*	e^{β}	*Wald*	Sig. (*p*)
Lifetime Narcotics					
Nursing vs. Non-Nursing	1.10	1.03	3.0	1.13	0.288
Lifetime Anti-Anxiety					
Nursing vs. Non-Nursing	-0.13	1.51	0.88	0.01	0.929
Lifetime Stimulants					
Nursing vs. Non-Nursing	-0.29	1.14	0.75	0.06	0.800
Past Year Narcotics					
Nursing vs. Non-Nursing	-0.25	1.50	0.78	0.03	0.867
Past Year Anti-Anxiety					
Nursing vs. Non-Nursing	-10.98	202.5	<0.01	0.003	0.957
Past Year Stimulants					
Nursing vs. Non-Nursing	0.56	1.33	1.75	0.18	0.674

Research Question Two

Research question two is “do non-nursing students exhibit an increased pro-substance attitude towards nonmedical prescription drug use compared to nursing students?” To assess this question, a simple linear regression model was observed to

explore the association between DAS score and nursing/non-nursing groups. Table 5 presents the results of the analysis. Results show that nursing/non-nursing groups are not significantly associated with DAS score. Leading to the conclusion that non-nursing students do not exhibit an increased pro-substance attitude towards nonmedical prescription drug use compared to nursing students. It is note-worthy that two of the three students who exhibited an extremely positive attitude towards substance use were nursing students.

Table 5

Summary of Simple Linear Regression for DAS Score

	B	*SE(B)*	*β*	*t*	Sig. (*p*)
Nursing vs. Non-Nursing	2.44	9.72	0.05	0.25	0.804

R^2=0.002

Research Question Three

Research question three is “do nursing students or non-nursing students score higher on substance use in the past year?” To assess this question, a simple linear regression model was observed to explore the association between DAST score and nursing/non-nursing groups.

Table 6 presents the results of the analysis. Results show that nursing/non-nursing groups are not significantly associated with DAST score. Interventions for substance use based on the DAST index are based on a score from 0-20. The DAST scores for seven students (three non-nursing and four nursing) fall into the low category, 1-5. One nursing student scored an eight on the DAST, which ranks in the intermediate level of severity, 6-10. Recommended action for participants who fall into the low category is brief

counseling with outpatient intensive treatment recommended for the intermediate level, (Skinner, 1982). This student presents as an outlier in analysis. Data supports the conclusion that DAST scores on substance use in the past year do not differ between nursing and non-nursing students.

Table 6

Summary of Simple Linear Regression for DAST Score

	B	*SE(B)*	*β*	*t*	Sig. (*p*)
Nursing vs. Non-Nursing	0.53	0.97	0.13	0.54	0.597

R^2= 0.02

Additional Analyses

Given the small dataset used for analysis, and the low *R-squared* values obtained for the linear regression models, further analysis methods were used to explore research questions one, two, and three. For research question one, observing the association between NMPD questions and nursing/non-nursing students, Chi-square/Fisher's exact tests were used to test for an overall association between the variables. Fisher's exact tests were used when the expected cell size for the Chi-Square test was less than five. Results of these tests are shown in Table 7, where none of the NMPD questions were significantly associated with nursing and non-nursing groups.

Table 7

Summary of Chi-Square/Fisher's Exact Tests vs. Nursing/Non-Nursing

	Chi-Square	*df*	Sig. (*p*)
Lifetime Narcotics	1.17	1	0.367
Lifetime Anti-Anxiety	0.01	1	0.999
Lifetime Stimulants	0.06	1	0.999
Past Year Narcotics	0.03	1	0.999

Past Year Anti-Anxiety	1.32	1	0.444
Past Year Stimulants	0.18	1	0.999

For research questions two and three, examining DAS and DAST scores between nursing/non-nursing groups, a comparison of means test was used. Shapiro-Wilk tests were first used to determine if the DAS and DAST scores were normally distributed within the nursing/non-nursing groups. Results of these tests showed that DAS was not normally distributed within the nursing/non-nursing groups (*p-values* = 0.02 and 0.007, respectively). Results also showed that DAST was not normally distributed within the nursing/non-nursing groups (*p-values* = 0.0001 and 0.001 respectively). Because DAS and DAST scores were not normally distributed within the nursing/non-nursing groups, a non-parametric Wilcoxon Rank-Sum test was used to assess DAS and DAST between the nursing/non-nursing groups. Table 8 shows the result of these tests, where DAS and DAST scores were not significantly different between the nursing and non-nursing groups.

Table 8

Summary of Wilcoxon Rank-Sum Tests

	Non-Nursing		*Nursing*			
	Median	*IQR*	*Median*	*IQR*	*Statistic*	Sig. (*p*)
DAS Score	41.0	0 – 48.0	37.0	0 – 52.0	183.0	0.797
DAST Score	0.0	0 – 2.0	0.5	0 – 2.0	72.5	0.732

Discussion of the Findings in the Context of Literature

The purpose of this project was to analyze existing risk factors and attitudes towards nonmedical drug use among students currently enrolled in a nursing program compared to students not enrolled in a nursing program. The current project utilized full-time students over 18 years of age who were enrolled as a sophomore, junior, or senior in a Midwestern satellite campus. Participants completed a web-based survey consisting of demographic questions, the Drug Abuse Screening Tool (DAST), and the Drug Attitude Scale (DAS). The data collected were statistically analyzed using the SPSS.

Results show that nursing students do not possess a greater number of risk factors for substance abuse than non-nursing students. This finding is not aligned with the study conducted by Lookatchet al. (2014), showing that students are more likely to use prescription drugs if they perceive that the benefits outweigh the risks and that peers find it acceptable. While substance abuse is an avoidable health problem in the United States, with annual use increasing quickly (Gilson & Kreis, 2009), the finding of the current project supports the study conducted by Cutler (2014), which shows that (1) students' belief that prescription medication is safe and (2) students' participation in risky behaviors both contributed to increased risk of prescription stimulant and analgesic use in college students.

Another finding is that non-nursing students do not exhibit an increased pro-substance attitude towards nonmedical prescription drug use as compared to nursing students. This finding does not confirm the hypothesis that being in the nursing profession decreased the pro-substance attitude. For instance, Baldwin et al. (2009) found

that 51% of nursing students who participated in the study reported having a family history of drug/alcohol problems. Moreover, Heckman et al. (2010) found that students attending the Drugs and Behavior class showed significant increase in the posttest scores about substance use. However, Heckman et al. (2010) argued that students who view substance use as a negative behavior may decrease their use of those substances. Finally, it was also found that DAST scores on substance use in the past year do not differ between nursing and non-nursing students. This finding is not aligned with the findings of the study conducted by Holloway and Bennett (2012). The researchers utilized the DAST survey to determine the extent of inappropriate prescription drug use among 1614 students and 489 staff members in a South Wales university. Findings showed that one-third of the students and one-fourth of the staff had used drugs not prescribed to them.

Implications

The findings of the current project may have an impact for policy makers. The findings of the current project show that nursing and non-nursing students are not significantly different when it comes to their risk-taking behaviors regarding substance use and their pro-substance attitudes. Thus, this finding suggests that policy regarding substance abuse should be prioritized in the general population and not only for those with the knowledge and exposure to drugs and other substances, such as the participants of the current project. Moreover, the findings may also influence those in the clinical practice, especially those who focus on substance abuse. Specifically, psychologists developing interventions for those who engage in substance abuse may consider the

findings of the study. Through the findings of the project, psychologists should consider creating an intervention suited for both non-nursing and nursing students.

Moreover, the current project may be used by researchers as a guide for future studies. It is then essential to note that the findings of the current project in general are not aligned with previous literature. Thus, the findings may lead to a new line of research that can contribute to the existing knowledge about risk taking and pro-substance abuse. Finally, the current study may have implications for social change. Through these findings, the awareness about the current statistics on substance abuse may influence the general public about their actions. Furthermore, it is also possible that through the findings of the current project, people in the community would be more cautious about taking and using drugs and other substances that can lead to dependency.

Project Strengths and Limitations

The strength of the current project was the new line of research that emerged from the findings. The quantitative nature of the project has determined the significance differences between nursing and non-nursing students when it comes to their attitudes to substance abuse. The first limitation was the use of self-report instruments, which may be inaccurate as they rely on the participant's memory of use and willingness to divulge illegal activities. The second limitation was the ability to generalize the results from a satellite campus in a city of 30,000 to the larger, urban campus. The third limitation may be a small response rate due to the personal nature of substance use and access to the student population. There is a lack of research on nonmedical prescription drug use in nursing students; the aim of this study was to begin filling the gap.

Recommendations for Remediation of Limitations in Future Work

The researcher recommendation is to widen the scope of the study by gathering quantitative data from other campuses of nursing students. This could be accomplished by involving the six campuses of the state university system. Access to student email accounts would increase knowledge of and the importance of such a project. The schools each have a Facebook page which would also increase awareness of the project. Financial resources would allow for printing flyers and posters to be placed in areas frequented by students, such as the cafeteria and the activity center. In this manner, the limitation on representativeness, as well as the lack of response rate, will be addressed.

Analysis of Self

As a scholar focused on the field of nursing, I learned a significant amount through the course of the research. My previous belief that “the more exposed you are to substance and drugs, the more likely you will abuse it” has been changed. Based on the findings of my study, I learned that the non-nursing students are also at risk for substance abuse as much as nursing students. The current study contributes to the existing knowledge on attitudes towards substance use because the comparison between non-nursing and nursing students is relatively neglected.

As a practitioner, I also realized that substance abuse is a serious problem in the field of healthcare today. With this realization, somehow, I became more responsible for myself regarding substance use. As a project developer, I realized that my knowledge is minimal compared to how large the field of nursing is. I also found out that there is much to learn in the field that I have chosen. Finally, the current study that I have conducted

may be used by medical practitioners as a guide in developing intervention on substance abuse. The current study emerged as a new line of findings regarding the risk factors and attitudes towards substance abuse.

Summary and Conclusions

The purpose of this project was to analyze existing risk factors and attitudes towards nonmedical drug use among students currently enrolled in a nursing program compared to students not enrolled in a nursing program. The current study utilized full-time students over 18 years of age who were enrolled as a sophomore, junior, or senior in a Midwestern satellite campus. Participants completed a web-based survey consisting of demographic questions, the DAST, and the DAS. The data collected were statistically analyzed using the SPSS.

In this section, the summary of the results was presented along with the reiteration of the research questions, as well as the description of the participants. It was found that there is no significant difference between non-nursing and nursing students when it comes to their attitude towards substance abuse. The summary of results was followed by the discussion of the findings, which also included the presentation of the implication of the current study, the strength and limitation, and the recommendation of the researcher of the current study. Section 4 also includes an analysis of the self as scholar, practitioner, and project developer. Finally, this section was concluded by a section summary that presented the key points discussed in the section.

Section 5: Scholarly Product

Introduction

The rising incidence of prescription drug abuse in this country, especially opiate pain relievers, has reached epidemic levels. The misuse/abuse of prescription medication among college students is well-documented, with stimulants and narcotic pain medication being the most common drugs of choice in young adults. Jones (2013) and Hernandez and Nelson (2010) compared different age groups and drug use. The results revealed that the highest rate of prescription drug misuse/abuse was in adults 18-25 years old. Jones also reported an increase in heroin abuse by students who initially abused opiate pain medication. The National Survey on Drug Use and Health (NSDUH; Substance Abuse and Mental Health Administration, 2013) combined data collected in 2011 and 2012 to obtain a daily average of first time use of nonmedical prescription drugs. In the age group 18-25 years, 1754 tried pain medication, and 850 used stimulants for the first time.

In 2009, 1.2 million visits to the emergency room for prescription misuse and/or overdose exceeded the number of visits due to heroin and cocaine combined (Centers for Disease Control, 2011). The number of deaths from opiate overdose now exceeds overdose from all other drugs combined, with annual costs reaching $55.7 billion (Birnbaum et al., 2011). The belief that prescription medication is legal and less dangerous than illicit substances, coupled with the younger generation’s attitude towards drug use, has created an alarming trend that threatens the health and well-being of younger adults. Moreover, the belief that prescription medication is safe, along with student participation in risky behaviors, has contributed to increased risk of prescription

stimulant and analgesic use in college students (Cutler, 2014). Nonmedical prescription drug use should be considered an epidemic, and more research is needed in risk factor analyses and early intervention to prevent future students from abusing prescription medications. While researchers believe there is no single cause for substance misuse, individuals who report substance abuse share similar risk factors.

Purpose of the Study

The purpose of this study was to analyze existing risk factors and attitudes towards drug use among students currently enrolled in a nursing program compared to students enrolled in non-nursing programs. Many young adults are stressed while in college; however, nursing students have the added stress of patient care. If students with higher risk factors could be identified early, appropriate intervention may help prevent future drug abuse and dependence.

Research Questions

1. Do nursing students possess a greater number of risk factors for substance abuse then non-nursing students?
2. Do non-nursing students exhibit an increased pro-substance attitude towards nonmedical prescription drug use compared to nursing students?
3. Do nursing students or non-nursing students score higher on substance use in the past year?

Guiding Theory

The theoretical framework for examining the attitudes of nursing students is Bandura's (1977) social learning theory, which has been used to study and modify human

behaviors and environmental influences. The modern version of this theory is the social cognitive theory, which looks at how a person interacts with environmental stimuli (Bandura, 1986). In addition to forming their opinions based on environmental factors, human beings are capable of forming opinions based on their perceptions of consequences versus benefits. Giovazolias and Themeli (2014) described the social learning theory as appropriate for studies investigating substance abuse. Judson and Langdon (2009) also reported that a student who believes prescription medication is safe and acceptable to take will be less resistant to experimenting with stimulants and opiates.

Methods

A comparative, descriptive design was used to determine risk factors for substance abuse and attitude differences between nursing and non-nursing students. The assumption is that knowing early risks factors will determine what interventions or additional education is needed for students pursuing nursing as a career. The demographics assessed were gender, age, ethnicity, and marital status, family history of substance abuse, personal use of prescription medication, and whether the student was in a nursing or non-nursing program. The following instruments were used in the survey: (1) Drug Attitude Scale (DAS); (2) Drug Abuse Screening Tool (DAST); and (3) demographic data.

The DAS (Appendix A) is a 25-item, self-report questionnaire that has proven effective in measuring attitudes related to increased risk of substance and alcohol abuse in 535 subjects in the initial study (Campbell & Siroki, 1989). The DAS tool has been used in clinical settings and was tested for reliability by Campbell and Chang (2006) with

128 patients at a residential treatment facility. The internal consistency for that study was .87.

The DAST (Appendix B) was created and copyrighted by Skinner in 1982. The original instrument consisted of 28 items in a dichotomous format designed to detect substance abuse or dependence problems. The 28-point scale uses a cut-off of 5/6 to detect problems from substance use and scores of 16-20 indicating severe problems. Demographic questions were chosen based on documented risk factors for increased risk of substance use (Kenna & Wood, 2005).

Findings and Discussion

Demographic Information

This project contained information for 29 students, 51.7% (*n* = 15) of whom were nursing students, and 48.3% (*n* = 14) who were not. Additionally, 75.9% (*n* = 22) were female, and 24.1% (*n* = 7) were males. Age categories were 20-22, 23-26, and 27 years or older, where 27.6% (*n* = 8) of the students were 20-22, 34.5% (*n* = 10) were 20-26, and 37.9% (*n* = 11) were 27 years or older. For Race/Ethnicity, all students were categorized as either White or Other Than White. White students were the majority with 96.6% (*n* = 28), and there was one Other Than White student (3.5%). When asked if they live locally, 75.9% (*n* = 22) stated they live locally, with 24.1% (*n* = 7) stating they do not live locally. For Marital Status, most students were single (55.2%, *n* = 16), where 34.5% (*n* = 10) were married, and 10.3% (*n* = 3) were divorced. When asked if they have a family history of substance abuse, 55.6% (*n* = 15) stated they do have a history, with 44.4% (*n* = 12) stating they do not. This answer was missing for two participants. For those who had

a family history of substance abuse, most stated that their parent was the person with the history (73.3%, *n* = 11). Following the parent was a sibling (20.0%, *n* = 3) and grandparent (6.7%, *n* = 1). Table 1 shows a summary of each demographic variable, overall and by nursing/non-nursing students.

Table 1

Summary of Demographic Variable by Nursing and Overall

	Non-Nursing		*Nursing*		*Total*	
	N	*Percent*	*N*	*Percent*	*N*	*Percent*
Gender						
Female	10	71.4	12	80.0	22	75.9
Male	4	28.6	3	20.0	7	24.1
Age Groups						
20 – 22 years	2	14.3	6	40.0	8	27.6
23 – 26 years	6	42.9	4	26.7	10	34.5
Over 27 years	6	42.9	5	33.3	11	37.9
Race/Ethnicity						
White	13	92.9	15	100.00	28	96.6
Other Than White	1	7.1	0	0.0	1	3.5
Live Locally?						
No	2	14.3	5	33.3	7	24.1
Yes	12	85.7	10	66.7	22	75.9
Marital Status						
Divorced	2	14.3	1	6.7	3	10.3
Married	6	42.9	4	26.7	10	35.5
Single	6	42.9	10	66.7	16	55.2
Family History of Substance Abuse?						
No	5	35.7	7	53.9	12	44.4
Yes	9	64.3	6	46.2	15	55.7
If Yes, Which Family Member?						
Grandparent	0	0.0	1	16.7	1	6.7
Parent	6	66.7	5	83.3	11	73.3
Sibling	3	33.3	0	0.0	3	20.0

Description of Study Variables

As described in previous sections, the outcomes/dependent variables that were compared by the nursing and non-nursing groups were risk factors for substance abuse, attitudes towards drug use, and drug use within the past year. To further assess known risk factors for substance abuse, participants' responses to three questions regarding nonmedical prescription drug (NMPD) use of narcotics, stimulants, and antianxiety medication in lifetime use, past year use, and past month were used. For attitudes towards drug use, responses to the DAS, represented as a total score, were used. For problems related to substance use within the past year, responses to DAST, represented as a total score, were used. Tables 2 and 3 show a summary of all NMPD questions, as well as DAS and DAST scores. For the all NMPD questions, there were 11-12 participants who did not answer each question. Regarding the questions about NMPD use in the past month, none of the participants stated they have used any NMPDs; therefore, these three questions cannot be used for analysis.

Table 2

Summary of NMPD Questions

	N	*Percent*
In Your Lifetime, Have You Ever Used the Following Without a Prescription?		
Narcotics		
No	11	61.1
Yes	7	38.9
Anti-Anxiety Meds		
No	15	88.2
Yes	2	11.8
Stimulants		

Table 2

Summary of NMPD Questions

	N	*Percent*
No	14	77.8
Yes	4	22.2
In The Past Year, Have You Ever Used the Following Without a Prescription?		
Narcotics		
No	16	88.9
Yes	2	11.1
Anti-Anxiety Meds		
No	17	94.4
Yes	1	5.6
Stimulants		
No	15	83.3
Yes	3	16.7
In The Past Month, Have You Ever Used the Following Without a Prescription?		
Narcotics		
No	18	100.0
Yes	0	0.0
Anti-Anxiety Meds		
No	18	100.0
Yes	0	0.0
Stimulants		
No	18	100.0
Yes	0	0.0

The average DAS score was 29.0 (*SD* = 25.2), ranging from 0 to 70, where data was missing for one participant. For DAST, the average score was 1.2 (*SD* = 2.0), ranging from 0 to 8, where data was missing for eleven participants.

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Summary of DAS and DAST Scores

	N	*Mean*	*SD*	*Min*	*Max*
DAS	28	29.0	25.2	0.0	70.0

Table 3

Summary of DAS and DAST Scores

	N	*Mean*	*SD*	*Min*	*Max*
DAST	18	1.2	2.0	0.0	8.0

Statistical Results

For research question one, logistic regression analyses were used to observe the association between NMPD questions and nursing/non-nursing students. For research questions two and three, simple linear regression models were run to assess the relationship between DAS and DAST scores between nursing/non-nursing groups.

Research Question One

Research question one is “do nursing students possess a greater number of risk factors for substance abuse then non-nursing students?” To assess this question, a logistic regression model was observed to explore the association between NMPD questions and nursing/non-nursing groups. Table 4 shows the results of the models for each NMPD question. Results show that nursing/non-nursing groups are not significantly associated with any of the NMPD questions. Data supports the conclusion that nursing students do not possess a greater number of risk factors for substance abuse than non-nursing students.

Table 4

Summary of Logistic Regression Analysis for NMPD Questions

	B	*SE(B)*	e^{β}	*Wald*	Sig. (*p*)
Lifetime Narcotics					

Nursing vs. Non-Nursing	1.10	1.03	3.0	1.13	0.288
Lifetime Anti-Anxiety					
Nursing vs. Non-Nursing	-0.13	1.51	0.88	0.01	0.929
Lifetime Stimulants					
Nursing vs. Non-Nursing	-0.29	1.14	0.75	0.06	0.800
Past Year Narcotics					
Nursing vs. Non-Nursing	-0.25	1.50	0.78	0.03	0.867
Past Year Anti-Anxiety					
Nursing vs. Non-Nursing	-10.98	202.5	<0.01	0.003	0.957
Past Year Stimulants					
Nursing vs. Non-Nursing	0.56	1.33	1.75	0.18	0.674

Research Question Two

Research question two is "do non-nursing students exhibit an increased pro-substance attitude towards nonmedical prescription drug use compared to nursing students?" To assess this question, a simple linear regression model was observed to explore the association between DAS score and nursing/non-nursing groups. Table 5 presents the results of the analysis. Results show that nursing/non-nursing groups are not significantly associated with DAS score, leading to the conclusion that non-nursing students do not exhibit an increased pro-substance attitude towards nonmedical prescription drug use compared to nursing students. It is noteworthy that two of the three students who exhibited an extremely positive attitude towards substance use were nursing students.

Table 5

Summary of Simple Linear Regression for DAS Score

	B	*SE(B)*	*β*	*t*	Sig. (*p*)
Nursing vs. Non-Nursing	2.44	9.72	0.05	0.25	0.804

R^2=0.002

Research Question Three

Research question three is "do nursing students or non-nursing students score higher on substance use in the past year?" To assess this question, a simple linear regression model was observed to explore the association between DAST score and nursing/non-nursing groups.

Table 6 presents the results of the analysis. Results show that nursing/non-nursing groups are not significantly associated with DAST score. Interventions for substance use based on the DAST index are based on a score from 0-20. The DAST scores for seven students (three non-nursing and four nursing) fall into the low category, 1-5. One nursing student scored an eight on the DAST, which ranks in the intermediate level of severity, 6-10. Recommended action for participants who fall into the low category is brief counseling with outpatient intensive treatment recommended for the intermediate level (Skinner, 1982). This student is an outlier in the analysis. Data supports the conclusion that DAST scores on substance use in the past year do not differ between nursing and non-nursing students.

Table 6

Summary of Simple Linear Regression for DAST Score

	B	*SE(B)*	*β*	*t*	Sig. (*p*)
Nursing vs. Non-Nursing	0.53	0.97	0.13	0.54	0.597

R^2= 0.02

Additional Analyses

Given the small dataset used for analysis, and the low *R-squared* values obtained for the linear regression models, further analysis methods were used to explore research

questions one, two, and three. For research question one, observing the association between NMPD questions and nursing/non-nursing students, Chi-square/Fisher's exact tests were used to test for an overall association between the variables. Fisher's exact tests were used when the expected cell size for the Chi-Square test was less than five. Results of these tests are shown in Table 7, where none of the NMPD questions were significantly associated with nursing and non-nursing groups.

Table 7

Summary of Chi-Square/Fisher's Exact Tests vs. Nursing/Non-Nursing

	Chi-Square	*df*	Sig. (*p*)
Lifetime Narcotics	1.17	1	0.367
Lifetime Anti-Anxiety	0.01	1	0.999
Lifetime Stimulants	0.06	1	0.999
Past Year Narcotics	0.03	1	0.999
Past Year Anti-Anxiety	1.32	1	0.444
Past Year Stimulants	0.18	1	0.999

For research questions two and three, examining DAS and DAST scores between nursing/non-nursing groups, a comparison of means test was used. Shapiro-Wilk tests were first used to determine if the DAS and DAST scores were normally distributed within the nursing/non-nursing groups. Results of these tests showed that DAS was not normally distributed within the nursing/non-nursing groups (*p-values* = 0.02 and 0.007, respectively). Results also showed that DAST was not normally distributed within the nursing/non-nursing groups (*p-values* = 0.0001 and 0.001 respectively). Because DAS and DAST scores were not normally distributed within the nursing/non-nursing groups, a non-parametric Wilcoxon Rank-Sum test was used to assess DAS and DAST between the

nursing/non-nursing groups. Table 8 shows the result of these tests, where DAS and DAST scores were not significantly different between the nursing and non-nursing groups.

Table 8

Summary of Wilcoxon Rank-Sum Tests

	Non-Nursing		*Nursing*			
	Median	*IQR*	*Median*	*IQR*	*Statistic*	Sig. (*p*)
DAS Score	41.0	0 – 48.0	37.0	0 – 52.0	183.0	0.797
DAST Score	0.0	0 – 2.0	0.5	0 – 2.0	72.5	0.732

Discussion of the Findings in the Context of Literature

The purpose of this project was to analyze existing risk factors and attitudes towards nonmedical drug use among students currently enrolled in a nursing program compared to students not enrolled in a nursing program. The current project utilized full-time students over 18 years of age who were enrolled as a sophomore, junior, or senior in a Midwestern satellite campus. Participants completed a web-based survey consisting of demographic questions, the Drug Abuse Screening Tool (DAST), and the Drug Attitude Scale (DAS). The data collected were statistically analyzed using the SPSS. Results show that nursing students did not possess a greater number of risk factors for substance abuse than non-nursing students. This finding is not aligned with the study conducted by Lookatchet et al. (2014) showing that students are more likely to use prescription drugs if they perceive that the benefits outweigh the risks and that peers find it acceptable. While substance abuse is an avoidable health problem in the United States, with annual use increasing quickly (Gilson & Kreis, 2009), the finding of the current project supports the

study conducted by Cutler (2014), which shows that (1) students' belief that prescription medication is safe and (2) students' participation in risky behaviors both contributed to increased risk of prescription stimulant and analgesic use in college students.

Another finding was that non-nursing students do not exhibit an increased pro-substance attitude towards nonmedical prescription drug use as compared to nursing students. This finding does not confirm the hypothesis that being in the nursing profession decreased the pro-substance attitude. For instance, Baldwin et al. (2009) found that 51% of nursing students who participated in the study reported having a family history of drug/alcohol problems. Moreover, Heckman et al. (2010) found that students attending the Drugs and Behavior class showed significant increase in the post-test scores regarding substance use. However, Heckman et al. (2010) argued that students who view substance use as a negative behavior may decrease their use of those substances.

Finally, it was also found that DAST scores on substance use in the past year do not differ between nursing and non-nursing students. This finding is not aligned with the findings of the study conducted by Holloway and Bennett (2012). The researchers utilized the DAST survey to determine the extent of inappropriate prescription drug use among 1614 students and 489 staff members in a South Wales university. Findings showed that one-third of the students and one-fourth of the staff had used drugs not prescribed to them.

Implications

The findings of the current project may have an impact for policy makers. The findings showed that nursing and non-nursing students were not significantly different

when it comes to their risk-taking behaviors regarding substance use and their pro-substance attitudes. Thus, this finding suggests that policy regarding substance abuse should be prioritized in the general population and not only for those with the knowledge and exposure to drugs and other substances, such as the participants of the current project. Moreover, the findings may also influence those in the clinical practice, especially those who focus on substance abuse. Specifically, psychologists developing interventions for those who engage in substance abuse may consider the findings of the study. Through the findings of the project, psychologists should consider creating an intervention suited for both non-nursing and nursing students.

Moreover, the current project may be used by researchers as a guide for future studies. It is then essential to note that the findings of the current project in general are not aligned with previous literature. Thus, the findings may lead to a new line of research that can contribute to the existing knowledge about risk taking and pro-substance abuse. Finally, the current project may have implications for social change. Through these findings, the awareness about the current statistics on substance abuse may influence the general public about their actions. Furthermore, it is also possible that through the findings of the current project, people in the community would be more cautious about taking and using drugs and other substances that can lead to dependency.

Project Strengths and Limitations

The strength of the current project was the new line of research that emerged from the findings. The quantitative nature of the project has determined the significance differences between nursing and non-nursing students when it comes to their attitudes to substance abuse. The first limitation was the use of self-report instruments, which may be inaccurate as they rely on the participant's memory of use and willingness to divulge illegal activities. The second limitation was the ability to generalize the results from a satellite campus in a city of 30,000 to the larger, urban campus. The third limitation was the small response rate due to the personal nature of substance use and access to the student population. There is a lack of research on nonmedical prescription drug use in nursing students; the aim of this study was to begin filling the gap.

Summary and Conclusions

The purpose of this project was to analyze existing risk factors and attitudes towards nonmedical drug use among students currently enrolled in a nursing program compared to students not enrolled in a nursing program. The current project utilized full-time students over 18 years of age who were enrolled as a sophomore, junior, or senior in a Midwestern satellite campus. Participants completed a web-based survey consisting of demographic questions, the DAST, and the DAS. It was found that there is no significant difference between non-nursing and nursing students when it comes to their attitude towards substance abuse.

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Appendix A: Drug Attitude Scale

This scale is designed to measure your feelings and opinions relating to substance abuse. It is not a test, so there is no right or wrong answers. Answer each item as carefully and accurately as you can by placing a number which indicates your response in the space following each item. Use the following ratings to assign the numbers.

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

1. I feel that my use of drugs/alcohol is normal. ——
2. I believe that drugs/alcohol has the potential to be abused. ——
3. People use drugs/alcohol to block out unwanted thoughts and feelings. ——
4. Complaints by my family and friends about my drug/alcohol abuse upsets me.
5. I feel bad about my use of alcohol/drugs. ——
6. It is wrong to use alcohol/drugs to reduce anxiety and tension. ——
7. Social use of alcohol/drugs is safe for me. ——
8. If you are a stable person, it is safe to abuse illegal drugs or alcohol. ——
9. The abuse of marijuana and alcohol is equally dangerous. ——
10. I plan to use alcohol or drugs if I want to. ——
11. It’s OK for me to use illegal drugs if I want to. ——
12. I have a problem with drugs/alcohol. ——

13. The dangers associated with the use of drugs/alcohol are exaggerated. ——

14. I can stop using drugs/alcohol whenever I want to. ——

15. I can solve my alcohol/drugs problem by myself. ——

16. I use alcohol/drugs to calm my nerves. ——

17. I would use drugs/alcohol if it were given to me free of charge. ——

18. People who use drugs or abuse alcohol have psychological problems. ——

19. People that abuse drugs/alcohol will need help to stop. ——

20. A treatment program will help me with my drug/alcohol problem. ——

21. I do not feel good about myself when I use drugs/alcohol. ——

22. I feel that it is OK to get drunk or high if I am in a safe place. ——

23. I use drugs/alcohol because circumstances force me to do so. ——

24. Success in quitting the use of drugs/alcohol is based on luck. ——

25. I feel powerless to prevent myself from using drugs/alcohol. ——

TOTAL ——

Item Reversals:

2, 3, 4, 5, 6, 9, 12, 18, 19, 20, 21, 25

Scoring Key

Clinical	Attitude
1. ———	2. ———
4. ———	3. ———
5. ———	6. ———
7. ———	8. ———
10. ———	9. ———
11. ———	13. ———
12. ———	18. ———
14. ———	19. ———
15. ———	24. ———
16. ———	
17. ———	
20. ———	
21. ———	
22. ———	
23. ———	
25. ———	

Total clinical ——— Total attitude ———

Subtract 16 Subtract 9

Adjusted clinical——— Adjusted attitude———

Reverse scoring for items listed (5 = 1, 4 = 2, 3 = 3, 2 = 4, 1 = 5)

Appendix B: Drug Abuse Screening Tool (DAST-20)

1. Have you used drugs other than those required for medical reasons?	Yes	No
2. Have you abused prescription drugs?	Yes	No
3. Do you abuse more than one drug at a time?	Yes	No
4. Can you get through the week without using drugs?	Yes	No
5. Are you always able to stop using drugs when you want to?	Yes	No
6. Have you had “blackouts” or “flashbacks” as a result or drug use?	Yes	No
7. Do you every feel bad or guilty about your drug use?	Yes	No
8. Does your spouse (or parents) ever complain about your involvement with drugs?	Yes	No
9. Has drug abuse created problems between you and your spouse or your parents?	Yes	No
10. Have you lost friends because of your use of drugs?	Yes	No
11. Have you neglected your family because of your use of drugs?	Yes	No
12. Have you been in trouble at work (or school) because of drug abuse?	Yes	No
13. Have you lost your job because of drug abuse?	Yes	No
14. Have you gotten into fights when under the influence of drugs?	Yes	No
15. Have you engaged in illegal activities in order to obtain drugs?	Yes	No
16. Have you been arrested for possession of illegal drugs?	Yes	No
17. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?	Yes	No
18. Have you had medical problems as a result of your drug use (e.g. memory loss, hepatitis, convulsions, bleeding, etc.)?	Yes	No
19. Have you gone to anyone for help for drug problem?	Yes	No

20. Have you been involved in a treatment program specifically related to drug use? Yes No

Appendix C: Demographic Questions

Gender: Male_____ Female_____

Nursing program: Yes____ No_____

Age group: 17-19 years_____

20-22 years_____

23-26 years_____

27 and older_____

Ethnicity: White_____

Black_____

Hispanic_____

Asian_____

other _____

Live locally: Yes ___ No_____

How far do you commute?_____

Marital Status-Single____Married_____ Divorced_____

Family history of substance use: Yes_____ No_____

Parent_____Grandparent_____Sibling_____

In your lifetime, have you ever used the following medication without a prescription?

1. Narcotics pain medication (Percocet, Lortab, Vicodin, hydrocodone)

   Yes_____No_____

2. Anti-anxiety medication(Xanax, Valium, Ativan)

   Yes_____No_____

3. Stimulants(such as Adderal, Ritalin)

   Yes_____No_____

In the past year, have you used the following medication without a prescription?

1. Narcotics pain medication (Percocet, Lortab, Vicodin, hydrocodone)

   Yes_____No_____

2. Anti-anxiety medication(Xanax, Valium, Ativan)

   Yes_____No_____

3. Stimulants(such as Adderal, Ritalin)

   Yes_____No_____

In the past month, have you used the following medication without a prescription?

1. Narcotics pain medication (Percocet, Lortab, Vicodin, hydrocodone)

   Yes_____No_____

2. Anti-anxiety medication(Xanax, Valium, Ativan)

   Yes_____No_____

3. Stimulants(such as Adderal, Ritalin)

   Yes_____No_____

Appendix D: Informed Consent

If you agree to participate in this study you will complete the following tasks: Complete an on-line survey consisting of demographic questions and two reliable assessment tools designed to measure risk factors and attitudes regarding substance use. This survey should take no more than 20-30 minutes to complete.

The **risks** of taking part in this study are no greater than activities of daily living. If you feel uncomfortable answering any question, you may leave it blank.

The **benefits** of participation that are reasonable to expect is the personal satisfaction of contributing to the future well-being of college students. This survey may contribute to early recognition of students at risk and allow for early intervention.

Confidentiality- The web-based survey can be assessed only by the primary researcher and designer. There is no personal, identifying information on the survey and IP addresses are untraceable. The survey is located and stored on a secure, encrypted server.

You will receive no payment for taking part in this study. There is no penalty for not participating. Taking part in this study is **voluntary**; you may choose not to participate. Completion of the survey will serve as your consent to participate.

Appendix E: Permission to Existing Instruments

Stephen Campbell [stephcam@nova.edu]

Actions

To:

M

Britt, Carolyn Sue

permission, Inbox

Monday, February 10, 2014 8:36 AM

You replied on 2/23/2014 1:23 PM.

Hi Carolyn,

You have my permission to use the Drug Attitude Scale. Would you be so kind to share your results with me at the completion of your study?

Regards,

Dr. Campbell.

Harvey Skinner [hskinner@yorku.ca]
Britt%YORKU@yorku.ca; Britt, Carolyn Sue
Attachments:
(3)Download all attachments
DAST.pdf (1 MB)[Open as Web Page]; DRUG USE QUESTIONNAIRE DAS~1.doc (27 KB)[Open as Web Page]; DRUG USE QUESTIONNAIRE DAS~2.doc (38 KB)[Open as Web Page]

Inbox
Tuesday, February 11, 2014 12:51 PM

Carolyn Sue

You have my permission to use the DAST for your dissertation research. Attached is some info.

Regards
Harvey

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