

DRUG USE IN COLLEGE STUDENTS:
THE IMPLICATION OF THE SOCIAL LEARNING MODEL

A Thesis

Presented to

the Faculty of the Caudill College of Arts, Humanities, and Social Sciences

Morehead State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

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June 28, 2021

Accepted by the faculty of the Caudill College of Arts, Humanities, and Social Sciences,
Morehead State University, in partial fulfillment of the requirements for the Master of Arts
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Drug usage and addiction is on the rise in the United States and college students are one of the most vulnerable groups. College students are exposed to a new environment with a lack of supervision and a desire to fit in. During this transition, they are exposed to the use of substances. The research on college drug use is expansive, however there is a lack of research on preventative and risk factors for college students who use substances.

The intention of this research project is to determine preventive and risk factors for drug usage. The secondary data was collected on Morehead State University's campus. Students registered for the Fall 2020 semester were invited to take a socio-cultural background and health habits survey. Students remained anonymous and were able to skip any question or opt out at any time. The data were collected by Dr.'s Elizabeth Perkins and Suzanne Tallichet. The data set was used in order to answer research questions designed to analyze an individual's risk and preventative factors to determine if there is an association with their own reports of illicit drug use. Thus, this author hypothesized that a respondent's exposure to friend's and parent's drug

use, religious background, and self-esteem (with peers, parents, and teachers) will have a causal influence on drug use during college.

The primary purpose of the current study was to examine the relationship among gender, social class identification, self-esteem (on three different subscales: parent, peer, teacher), religiosity, and peer/parental exposure to drug usage and the participants reports of illegal drug use. Social learning and control theory were used as the theoretical framework for understanding how college students partake in illicit drug and substance use. Using the secondary data set, the current study utilizes frequencies, bivariate correlations, and three binary logistic regression models to test study hypotheses. Results show that the risk and protective factors of friend use, parent use, and religious connection are significant predictors of drug use in college students. The exposure to friend or peer use of illicit drugs was by far the most significant predictor in every model. The variables of gender, social class identification, and area-specific self-esteem differences were found to have no effect on reports of using illicit drugs.

These results indicate the importance of prevention and intervention programs for college students. Findings show that exposure to peers using drugs is a significant indicator of drug use. This aligns with the social learning theory because one's social relationships are a predictor of behavior. It is hoped that this research will increase awareness about the issue of increased American drug use. Further, the understandings of the construct and findings can then be explored and addressed.

Accepted by: _____, Chair
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Acknowledgements

I would like to thank my thesis committee for making this thesis possible. Dr. Perkins has been a valuable source of support and dedicated to my thesis, by providing invaluable feedback on my writing. Dr. Tallichet has been with me all through my time in the master's program and was always ready to answer any questions I had. They both have carved out times in their schedule to see me and support me through the process, which can be stressful. I would not have chosen this route if it were not for them both empowering me with confidence and inspiration. They also have been great encouragers and companions. I would also like to thank my last thesis committee member, Dr. Atkins, for taking the time to serve on my committee and provide feedback on my defense. You all are wonderful professors, and amazing individuals. I know you have touched many students lives through your positions of authority as professors at Morehead State University. I thank you all from the bottom of my heart for giving me the opportunities, skillset, and confidence to complete my thesis and obtain my educational goals. Morehead State University is fortunate to have you three.

I would also like to thank my family for enabling me to pursue my education to the best of my ability. They have been my strongest supporters and have always had more confidence in myself than anyone else. They have had to help manage my stress and worries throughout my academic career, but I am always met with faith and assurance in my own abilities. I would not have been able to achieve my academic and other life goals without their help.

Lastly, I would like to thank my husband, Second Lieutenant Jacob Cook, for reassuring me through my time in this program and our time together. In the times I was most stressed, you forced me to take, much needed, study breaks. I am overjoyed that you have been the one to stand next to me in my achievements and even my failures. You have pushed me to acknowledge

the importance of contentment and having other priorities in life outside of the academic world.

Because of you, I have other primacies and do not define myself by my academic success anymore. But most importantly, you are the reason my life has come to full fruition. I look forward to sharing my future dreams and hopes with you, while helping you achieve yours. I love you, thank you.

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CHAPTER 1

INTRODUCTION

Drug use is on the rise in America. In fact, American drug use- whether that be prescription, marijuana, or synthetic drugs- has reached alarming levels. The results of a handful of studies suggest that American drug use may actually be reaching historic levels (Centers for Disease Control and Prevention 2021; Madison 2016; Unity Behavioral Health 2020; World Drug Report 2016). In addition to leading to other criminal offenses, it also leads to overdose deaths. The Center for Disease Control and Prevention has noted that the number of deaths caused from overdose has increased about 5% from 2018 to 2019. This number has even quadrupled since the year 1999 (Center for Disease Control and Prevention, 2021). In addition, from 2002 to 2013, the rate of heroin among women increased to 100 percent (Centers for Disease Control and Prevention, 2021).

Historically, drug use and crime in general is assumed to be a problem for just the poor and disadvantaged in society. Over the years, recent studies have found evidence to suggest otherwise. For instance, a study found that higher parental education is linked to higher rates of cocaine use, drinking, and marijuana in early adulthood (Humensky 2010). It was also determined that higher parental income is associated with higher rates of marijuana use and binge drinking (Humensky 2010). Additionally, Patrick et al. (2012) found that alcohol and marijuana use was associated with higher socioeconomic status for young adults. Drug usage and addiction does not discriminate among people groups; almost everyone is at risk.

Drug-Related Crimes

Drug or substance use can be seen as a gateway to other criminal offenses. Consequently, drug abuse is related to crime in many ways. In addition to illegal use of drugs, many offenses

are committed in order to obtain money for drugs or committed when the offender was under the influence of drugs. In the Survey of Inmates in State and Federal Correctional Facilities in 2004, they found that 32% of state prisoners reported committing their offense while under the influence of drugs (Drug Use and Dependence, State and Federal Prisoners 2004). The percentage for federal prisoners was only slightly lower at 26% (Drug Use and Dependence, State and Federal Prisoners 2004). In addition, the Bureau of Justice statistics reported that about 2 in 5 of all rape and/or sexual assaults against college students were committed under the influence of drugs (Violent Victimization of College Students n.d.). Alike, a quarter of robberies were committed against college students (Violent Victimization of College Students n.d.). Also, 55.6% of DWI offenders reported using drugs regularly, while 64.2% of other offenders (robberies, assault, etc.) reported using drugs regularly (DWI Offenders under Correctional Supervision 1999). Drug use also can become part of a pattern of risky behavior. Individuals who use drugs are more likely to partake in unsafe sex, unsupervised activities, and drive while intoxicated (Institute of Medicine (US) and National Research Council (US) Committee on the Science of Adolescence 2011).

Health-Risks

If drugs are used repeatedly, serious health risks can surface. For example, it is well-known to the public that tobacco smoke can cause numerous types of cancers and opioid use can lead to overdose and death. Some inhalants may destroy or damage nerve cells in the nervous system or the brain (NIDA 2020). Interestingly, drug use can also increase the risk of contracting and/or spreading of certain infections like hepatitis C or HIV from sharing injection needles and/or engaging in unsafe practices (El-Bassel et al. 2014; Zibbell et al. 2018). Repeated use of drugs may also lead to mental health problems. However, some mental illnesses co-exist with

drug usage. In some cases, mental health disorders such as schizophrenia develop before an addiction. Moreover, drug usage can trigger or aggravate mental health symptoms (Kelly and Daley 2013). In other cases, individuals partake in drug use to alleviate their symptoms of mental illness (Kelly and Daley 2013).

Drug Use in College Students

An individual's time in college is when they first learn to live independently and make decisions without the direct supervision of parents. As youth enter adulthood, the use of substances become more common. A student will undergo changes in their lifestyle, safety, and security when they arrive at college. During this time, they gain knowledge, independence, and skills that will help them after graduating. Alongside new opportunities, students lose their social support when moving to campus as they face more responsibility. They become vulnerable to risk-taking behaviors. Undergraduate students may partake in substance use because of their desire to fit in and/or to feel better about the new pressures they are facing socially and academically. Substances that are commonly abused by college students include alcohol, prescription drugs, marijuana, ecstasy, heroin, and cocaine.

In other words, college students have an increased risk for substance use as they face unique and exciting situations that expose them to the opportunity (Arria et al. 2008). According to the Center for Behavioral Health Statistics and Quality (2015), about 1 in 5 college students have used an illicit drug within the past month. Though most surveys of college students have indicated the rates of drug use is on the rise, little research has focused on the negative consequences and interests of drug use/abuse. In fact, it has been supported that the use of drugs in college students is also associated with personal safety risks (Arria, et al. 2017).

In a survey of 262 college students who reported a lifetime of illicit drug use, Palmer and colleagues (2012) found that 69% of respondents reported at least one negative consequence currently and 63% of them reported a negative consequence in past years. Interestingly, 76% of those students reported being interested in some type of intervention (Palmer et al. 2012). The trend of vaping marijuana has also risen sharply in the past three years for undergraduate students (National Institute on Drug Abuse 2020). Overall, substance use in the United States is one of the most serious problems for college students (Cranford et al. 2009; Jones et al. 2001).

Brain Structure and Influence

It is known that individuals can be highly influenced from their associations with others. Since crime peaks during adolescence, research points to brain development. The adolescent years are considered a window of opportunity and one of vulnerability to substance use. The brain at this age is still developing, causing it to be quite malleable. While the part of the brain that processes feelings of pain and pleasure (or rewards) is developed in childhood, the part of the brain responsible for decision-making skills and self-control are not fully mature until an individual's mid 20's (Arain et al. 2013). This is termed the prefrontal cortex. With this in mind, most teens are susceptible to substance use because youth are more motivated to pursue pleasure, and to make poor decisions because of their underdeveloped prefrontal cortex (Arain et al. 2013).

Using substances can also lead to addiction. Depending on the drug, each affects the brain differently. However, drugs raise the level of dopamine in the brain (Volkow et al. 2008). Dopamine is released into the body in moderate amounts when engaging in healthy or life-sustaining activities. It is released in order to reinforce these behaviors that contribute to health, well-being, strengthening social bonds, and learning. Unfortunately, drugs hijack this process.

The “high” that is produced by drugs rewires the brain circuits by releasing more dopamine than it naturally should. In turn, the behavior is reinforced due to the pleasurable experience.

For an adolescent brain that already struggles with impulse control, teens are even more likely to take drugs again without considering the health and social consequences. The more times a drug is used, the stronger the reinforcement and association (between the drug and pleasure). That being said, drug use has compromised parts of the brain that are responsible for making it possible to say no. This is how individuals may be led to substance use disorders or addiction. The brain is a key component in addiction. That is why determination and self-discipline alone is typically not enough to overcome an addiction. Psychologist Aaron White suggests, “...adolescents often fail to fully consider the consequences of their actions until it’s too late. They are all gas and no brakes!” (White 2005:6).

The Present Study

The present study was conducted using data from a survey conducted at Morehead State University on socio-cultural background and health habits in undergraduate students enrolled in the Fall semester (2020). The data were collected by Dr.’s Elizabeth Perkins and Suzanne Tallichet. Respondents answered questions about demographics, health habits, drug usage, religiosity, and self-esteem. In this study, the concept of exposure, religiosity, and self-esteem were measured by the dependent variable of the respondents’ report of personal drug use. The independent variables used were gender, perception of social class status, self-esteem (HARE home, school, and peer self-esteem scale), preventative factors (religiosity- religious connection to church), and risk factors (exposure to friends and parental illegal use of drugs). Several analyses were performed. Specifically, frequencies and bivariate correlations, as well as a three binary logistic regression models were analyzed.

The Purpose of the Study

The purpose of the current study was to examine the relationship among self-reports of drug usage and preventative and risk factors (religiosity, exposure, self-esteem) in college students. The study will also address gender and perception of social class differences found in respondents who reported illegal use of drugs. The study aims to provide insight on drug usage in college students and add to the existing literature on the inquiry. Thus, the current analysis will explore links that may or may not exist among protective/preventative or risk factors affecting drug usage in undergraduate or graduate students enrolled in the Fall semester of 2020.

Research Questions

Based on existing literature, the current study seeks to answer the following research questions:

- Are reports of exposure, religiosity, and self-esteem linked to higher reports of personal drug usage?
- What is the most important factor of the three main independent variables measured?

By addressing these research questions, it is hoped that the findings will provide a better understanding and additional knowledge of drug usage in college students. Specifically, those students with a high or low self-esteem, religious connectedness, and who are exposed to friend and parental use of illegal drugs.

Crime tends to surface during adolescent and young adulthood. Illegal use of substances at this phase is a significant portion of crime. The next chapter presents a review of academic literature related to the use of drugs. Chapter 2 will also provide a discussion of two theories applied to drug usage: social learning theory and control/social bond theory. This will be followed by the hypotheses and prediction of the findings. The following, chapter 3, will provide

a detail description of the methodology used for the study. The results will be reported in Chapter 4, and Chapter 5 will conclude with an explanation and discussion of the results. In addition, the limitations of current the research study will be addressed, as well as suggestions and implications for future research.

CHAPTER 2

LITERATURE REVIEW/ THEORETICAL FRAMEWORK/ HYPOTHESES

This chapter presents a literature review of related articles and academia on drug usage. Additionally, the social learning theory was applied on college students and important research questions and hypotheses are discussed. Four hypotheses were generated concerning the protective and risk factors of drug usage. In addition, demographic characteristics are included on undergraduate and graduate college students that participated in the survey.

Literature Review

Research shows that the use of substances is among the more serious problems in America today. In fact, college students are considered prime targets for drug abuse and binge drinking. And, it is well known that college students are more likely to engage in risky behavior. For example, some students will mix the use of drugs and other substances. According to Snipes & Benotsch (2012), students who mix alcohol with energy drinks were more likely to report the use of cocaine, ecstasy, and marijuana which was associated with engaging in high-risk sexual behaviors. These behaviors include drunk sex, unprotected sex, or sex while under the influence of drugs (Snipes and Benotsch 2012). Individuals who are transitioning into adulthood go through a period of instability, and identity exploration (Arnett 2005/2011). This is a vulnerable stage of life for individuals to begin their history of drug usage. In fact, 26% of males, and 19.2% of females that are full-time college students report current use of illicit drugs (Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings 2014).

Specifically, there have been several large-scale studies that have researched the prevalence of drug use in college students. For instance, Core Institute (2010) found that the prevalence of the use of drugs in the past 30 days was about 21.4-22% for any drug, while 18.1-20.3% for

marijuana use. One study conducted on college freshman found that 9.4% of students met the conditions for a cannabis use disorder (Caldeira et al. 2008).

There is scant inquiry on the drug use patterns of college students and their continuous enrollment. Arria et al. (2013) found that frequent illicit drug use and marijuana use are both linked to college students less likely staying enrolled in college. Since drug and substance use impairs cognitive functioning, it is also associated with disrupting academic progression (King et al. 2006). Indeed, college student substance use is linked to health problems and poor academics (Jones et al. 2001; Arria et al. 2008).

Lifestyle factors and demographics

Demographics and lifestyle choices are important factors when considering the use of illicit drugs. Research has indicated that substance use (Akers and Lee 1999, Johnston et al. 2007) as well as experimentation (Mohler-Jue et al. 2003; Johnston et al. 2007) is most prevalent during adolescence and peaks in young adulthood at the college age. Regarding age, Williams et al. (2006) discovered that the use of cocaine increases, and the use of marijuana decreases as individuals get older. Many research studies have concluded that college men have higher rates of drug usage than women (Johnston et al. 2012; McCabe et al. 2007). Conversely, Palmer et al. (2012) conducted a survey with college student drug use and found that there was little difference in gender.

However, there are some conflicting findings regarding college athletes when it comes to substance use. Although some studies have found that college athletes have reported using some drugs (Druckman 2015), other studies have found that being involved with an athletic team on campus was a protective factor in preventing drug use (Ford 2007; Yusko et al. 2008). However, further research needs to be conducted and university policy needs to be evaluated. Some

universities may enforce stricter guidelines for college athletes than others, which is why more research needs to be done. Or some universities may simply have a different athletic team environment that encourages the use of drugs. For instance, Christian universities will most likely have stricter rules for drugs and alcohol, and drug use may be less prevalent due to a religious background that encourages strong morals.

In a comparison study of undergraduate student athlete's vs nonathletes, the findings suggested that male athletes were more likely to report heavy-drinking behaviors than male nonathletes (Yusko et al. 2008). Conversely, it was the opposite for females (Yusko et al. 2008). Female student athletes reported drinking alcohol significantly less than female nonathletes (Yusko et al. 2008). Although, another cross-sectional survey found that substance use was greater among sexual minority students, regardless of being an athlete or not (Kroshus and Davoren 2016). This indicates that the participation in athletics made no difference in the use of substances (Kroshus and Davoren 2016). Because of the controversy in findings, future studies need to investigate athletic groups before conclusions can be made and consider multiple universities' policies.

Moreover, students who belong to a sorority or fraternity (McCabe et al. 2005), or identify as bisexual, lesbian, or gay (Reed et al. 2010) are more likely to use drugs. In support, a survey conducted by Shadick et al. (2016) given to gay, bisexual, heterosexual, lesbian, and those in questioning found that students reported a higher rate of usage in nonmedical prescription drugs in bisexual and questioning students. In addition, lesbian, bisexual, and questioning females were engaging in nonmedical use of prescription drugs more than heterosexual women (Shadick et al. 2016). It is also suggested that single young adults use

substances more than those who are currently married (Carroll et al. 2007; Leonard and Homish 2005).

Alcohol

Alcohol is the most prevalent substance consumed among college students. It has impacts on both a student's physical and mental health. It is a major public health concern because of its negative outcomes and increasing rates of usage. It is normative to participate in heavy drinking during a student's college years. First year students essentially drink at levels that are almost double the threshold for acceptable alcohol consumption (White et al. 2006). Campus life encourages binge drinking and going out every week. Binge drinking results in a dangerous blood alcohol count (BAC) which leads to many alcohol-related incidents. In fact, it is the greater contributor to death rates of college students (Borsari et al. 2007; Jones et al. 2001;), including motor vehicle crashes or due to consumption of alcohol. Unfortunately, the more time a student engages in drinking, the higher the odds for them to eventually use other substances (Jones et al. 2001). Additionally, evidence suggests that consuming alcohol in college is a predictive component in suffering from problematic drinking after they graduate (O'Neill et al. 2001).

Protective and Promotive Factors for Substance Use

The present study proposes a model to investigate protective and promotive factors for college students in association with drug usage. Protective and promotive factors serve as conditions or attributes for individuals or groups that eliminate a risk for certain behaviors and promote a sense of well-being. Additionally, a protective factor is a variable that predicts the low probability of a negative behavior (Farrington and Ttofi 2012). Similarly, promotive factors are associated with positive development (Zimmerman et al. 2014). There are a handful of protective

factors for substance use. The two factors, religiosity and self-esteem described in this section are what the present study measured. In a longitudinal analysis of predictive, protective, and promotive factors, Walters (2020), found that individuals who associate with prosocial peers served as both a promotive and risk factor. In addition, associating with prosocial peers led to a meaningful reduction in drug use (Walters 2020).

Religiosity

One interesting protective factor for drug use is religiosity. Religiosity can be viewed as an individual's religious affiliation, frequency of prayer, frequency of religious service attendance, belief in God, and importance of religiosity (Pearce 2017). A religious upbringing, a childhood protective factor, was negatively associated with drug use in youth (Jang and Johnson 2011). Helm et al. (2002) demonstrated that college students who identified as religious was a protective factor when it came to using drugs. This was also supported in an analysis where a negative relationship was found; those who scored high on religious well-being had low drug rates (Hammermeister 2001). Researchers who analyzed a three-wave panel data from the National Survey of Children found that the participants reported that those who were raised by religious parents and considered religious attendance for their children to be important were less likely to use drugs than those who were not raised by religious parents (Jang et al. 2008).

Interestingly, a study conducted at a Christian university found that attendance to a Christian school was associated with greater rejection of drug use (Francis et al. 2014). Thus, it can be assumed that religion is an important protective factor against substance and drug abuse. With this in mind, it is no shock that spirituality has a negative association on drug use. That is, as an individual's spirituality increases, the use of drugs decreases. Although, one study on participants in a long-term substance abuse treatment program found no statistically significant

correlation between spirituality and drug use (Webster 2015). The limitation with this study is that a lack of correlation does not necessarily mean there is no relationship. In fact, the relationship could be non-linear among the level of spirituality and drug use.

Self-Esteem

The self-concepts of self-esteem and self-efficacy have been found to be a promotive and protective factor for certain outcomes. Self-esteem refers to a general level of self-confidence and perception of adequacy, but self-efficacy refers to the person's belief that they can successfully accomplish something (Gist, Schwoener and Rosen 1989:5). Relevant research on self-esteem and drug usage in college students is understudied. It is believed that low self-esteem may be associated with greater substance use. However, some of the research that does exist has been unable to show findings that support this relationship (Moore et al. 1996; Laflin et al. 1994). One study with a sample of 1,775 participants found that self-esteem and their perceived control of a substance was highly correlated with drug use (Wills 1994). After concurrent multiple analyses, it was found that self-derogation was positively related to substance use (Wills 1994).

However, more recent findings suggest a link between self-esteem and substance/drug usage. In fact, in one study that conducted a mediation model with nonmedical use of prescription drugs on self-esteem and coping among 1,052 undergraduate students found that high self-esteem is a protective factor for the use of nonmedical prescription drugs (Tam et al. 2020). Self-esteem can also be influenced by past experiences and child maltreatment.

For instance, Oshri et al. (2017) investigated child neglect with young adult's substance use and abuse. They discovered that a compromised development self-esteem was linked to child neglect and substance use and abuse (Oshri 2017). Furthermore, another study indicated that low

self-esteem was linked to reasons for using alcohol (Backer-Fulghum et al. 2012). In turn, high self-esteem is linked to reasons for fewer drinking occurrences and fewer alcohol-related problems (Backer-Fulgham et al. 2012). A comparative study on the responses of 271 students from independent Christian schools found that attendance at these schools was linked to high self-esteem and greater rejection of drug usage (Francis et al. 2014). Another study examining Hispanic American cultural orientations and ethnic identities found that self-esteem was the most consistent predictor for the likelihood and extent of substance usage (Zamboanga et al. 2009). It was also the most important protective factor against substance use (Zamboanga et al. 2009).

Predictive/Risk Factors of Substance Use

This study also intends to examine the predictive or risk factors associated with drug usage. Risk factors for all ages vary. A predictive factor is a condition or characteristic that increases an individual's risk of developing a condition or negative behavior. In other words, they are significantly associated with a particular outcome (whether that be beneficial or not). Thus, a risk factor is a circumstance or characteristic that is common in someone who behaves or commits a certain act (ex: drug abuse). At-risk college students are more likely to engage in negative behaviors like drug use and abuse. Therefore, the exposure to risk and/or predictive factors during the transition into adulthood is due to instability (Arnett 2011), and vulnerability (Dutra-Thomé 2019).

The Influence of Others

Peers are a key influence in all kinds of behaviors, but specifically substance use behaviors. Peer relationships are consistently linked to alcohol use in college students (Borsari and Carey 2006). Much research has determined that such attitudes and behaviors of peers influence the use of substances on an individual. In fact, drug-using peers is a key predictor of

drug use among college students. This may be due to the desire to fit in and be accepted in a community, especially since college is an opportunity to make new friends and experience new things. Research indicates that the type of peer relationships one has in college can influence the use of alcohol in three ways: “the lack or breakdown of quality peer relationships, alcohol use being an integral part of peer interactions, and if peers disapprove of alcohol use or do not drink” (Borsari and Carey 2006: 361). The risk factor of drug-using peers has a causal effect on drug use in youth (Jang and Johnson 2011). In a survey conducted by Taylor (2006), the participants completed assessments on substance use issues, and life events among their friends. Alcohol and drug use problems in peers were found to be significantly associated with their own personal drug use problems (Taylor 2006).

Additional research has found that parent use or sibling use of drugs also increases the risk of drug use in individuals (Brook et al. 1999). Another study conducting a longitudinal assessment on friend’s substance use and the influence of parents found that the most consistent predictor of substance use was their friend’s substance using behavior (Branstetter et al. 2010). Moreover, Brook et al. (2011) discovered that peer delinquency was a direct pathway to the participant’s use of illicit drugs. Illicit drug use that began in late adolescent and continued into early adulthood was even linked to violent behavior in adulthood (Brook et al. 2011). Another study suggests that family history of drinking and illicit substance use represents a high risk and association for alcohol use during the transition from high school into undergraduate studies (Brown et al. 2020).

Studies have shown that the perception of a friend or family’s approval plays a central role in shaping college student’s behavior in substance and drug usage. A longitudinal study focused on a sample of college students (N=433) had students report their perceptions of friend’s

approval of their alcohol use and alcohol use behavior (Graupensperger et al. 2020). They found that there was a significant association in the way one perceived their friends' approval with 1) number of drinks in a week, 2) their precarious drinking behaviors, and 3) their BAC levels (Graupensperger et al. 2020). They also discovered that at the times when their reports of alcohol consumption were highest, they viewed their friends as more approving of their behavior (Graupensperger et al. 2020).

Further, there has also been research on specific drug usage. For example, Norman (2015) utilized data from a national sample of adolescents. It was determined that participants whose peers and parents condoned drug usage were more likely to use ecstasy (Norman 2015). In addition, having a larger percentage of friends who use alcohol and cannabis is associated with a higher likelihood of using both substances at the same time (Meisel et al. 2021). One study on co-morbidity discovered that adolescents that reported a greater degree of comorbidity, tobacco, marijuana, and binge drinking, were also more likely to engage in substance use more frequently (White et al. 2015).

Co-Occurring Disorders

Drug use has been studied in relation to co-morbid disorders (Back and Brady 2008; Back et al. 2006; Brook et al., 1998; Falk et al. 2008; Flynn and Brown 2008; Gregorowski et al. 2013; Luo and Levin 2017; McHugh 2015; Smith and Book 2008; Teesson and Proudfoot 2003; Torres et al. 2011; Watkins et al. 2001;). Some theories for this suggest the notion of “self-medication.” This occurs when individuals with other disorders who may be more vulnerable to the use of drugs and substances because they want to lessen the symptoms of their mental health disorders. Plus, many individuals do report using substances in order to relieve negative feelings. Spencer et al. (2002) found that the most common reason for using drugs was to avoid a negative

effect, such as anxiety or boredom. Indeed, it is likely that individuals with mental health disorders may abuse substances in order to help with their symptoms as well as emotional problems associated with their illness (Green et al. 2004; Wade et al. 2009). These can include financial problems, social isolation, lack of opportunities, trauma, and family conflict (Green et al. 2004; Wade et al. 2009). Nevertheless, the high rate of drug use suggests there may be a common underlying biological or environmental factor that has increased susceptibility (Lubman et al. 2010).

The use of alcohol and drugs are predominant among individuals that have been diagnosed with schizophrenia (Regier et al. 1990). In fact, epidemiological studies suggest that 40-60% of individuals diagnosed with schizophrenia abuse illicit drugs or alcohol (Buckley 2006; Regier et al. 1990). College students who are already diagnosed with a psychiatric disorder (anxiety, depression, etc.) are also at a greater risk for drug use (Goldstein et al. 2009; Rooney et al. 2011). Studies have shown that the use of cannabis is negatively related to personality disorders (Buckner et al. 2007; Buckner et al. 2010). College students who have an eating disorder, such as bulimia or anorexia, are also more likely to use drugs in order to aid in their weight loss desired (Dunn et al. 2009). Those that struggle with post-traumatic stress disorder or trauma in general has been found to be another risk factor for drug use and abuse, specifically in college students (Taylor 2006). Adolescents with co-occurring problems were also more likely to have used tobacco, marijuana, alcohol, and any other drug or substances compared to individuals without any symptoms (Stone et al. 2016).

Prevention and Intervention

Drug use puts college students at risk for adverse social, behavioral, and health consequences. Colleges and universities are critical settings for prevention and early

intervention, as it is an entryway to adulthood where many initiate drug use (Johnston, et al., 2012). Prevention and intervention treatment are vital for university students. In fact, more attention needs to be placed on preventative measures to increase academic success, good health, and safety (Arria et al. 2017).

A fascinating quasi-experimental field study conducted by Fournier et al. (2004) assessed drinking among college students. They wanted to assess whether an incentive could change the level of intoxication among college students that attend fraternity parties. For one party, they told the students they would receive a cash incentive if they had a blood alcohol concentration (BAC) of .05 or below (Fournier et al. 2004). After monitoring and recording the levels, they discovered that students were significantly less intoxicated at the parties that provided cash prizes, compared to parties that were used as a baseline (Fournier et al. 2004). Another group-randomized trial of 702 participants conducted a similar study with fraternity parties (Glindemann et al. 2007). They measured BAC levels at multiple parties, but during their intervention party students were entered into a \$100 lottery if their levels were below 0.05 (Glindemann et al. 2007). The BAC levels were significantly lower at the intervention party where the prize was given (Glindemann et al. 2007). Both these studies findings reveal the efficacy of differential reinforcement in controlling student intoxication at fraternity parties on or off campus.

It appears that one of the most effective treatments or intervention practices is the use of cognitive behavioral therapy (CBT). In fact, individual-level intervention with CBT skills is very effective. Some of these therapies focus on alcohol-related skills, but others incorporate life skills as well (Larimer and Crounce 2002). Cognitive behavioral skills-based treatment is also great for co-occurring disorders that sometimes are present with substance use. CBT is effective because it helps individuals identify their negative, automatic thoughts. These thoughts are

usually based on impulse and surface from misconceptions about the self. This is why some people choose to use drugs or substances, as a way to self-medicate these thoughts that can be painful or upsetting.

Theoretical Framework: Social Development Model

Crime is learned through associations with others. For instance, a major cause of crime is interacting with other deviant peers. Criminal behavior will tend to repeat and become chronic overtime when being reinforced. When a subculture of crime exists, individuals can learn to commit crime- sometimes a very specific one. Unfortunately, crime is inexorable and can never truly be abolished. That being said, it will forever transpire because of biological, psychological, and sociological factors.

The theories used to ground the inquiry must be congruent with the assumptions of factors of crime. Indeed, there are two dominant ideologies about deviant behavior (drug use) in adolescents and young adults. Social learning theories and control/social bond theory will be discussed to identify the theoretical framework. The social development model includes empirical predictors- risk and protective factors- for criminal or negative behavior. A sample of 590 participants examined from the Seattle Social Development Project found that a social development model (which includes the components of social learning theory, differential association theory, and control theory) is a predictor of drug use from ages 17-18 (Catalano et al. 1996).

Recently, studies have applied social network theories in order to explain and better understand how drug use occurs in college students. Thus, an explanation for nonmedical prescription drug abuse in undergraduates is the social learning theory (Akers 1998; Sutherland and Cressey 1960). Access and exposure to drugs is elevated on college campuses, which is why rates of prevalence in drug and substance use is so high in undergraduate students who currently live on campus. Indeed, prior academic literature has demonstrated that students, in their first

year, are highly vulnerable to modeling behavior of older peers (Armeli et al. 2010; Maggs et al. 2011).

Social Learning Theories

The social learning theory and control/social bond theory both provide a theoretical framework for understanding drug use in college students. Each suggests that behavior is learned through one's experiences in society. For instance, the use of substances or drugs is learned through one's culture, exposure, and associations with others. Most of our behavior is learned based on our associations, experiences, and beliefs. Social learning theory indicates the importance of drug and substance usage being learned. In fact, there are many reinforcements or results that predict drug use in college students. The reinforcements each receives when partaking in drugs (social approval, etc.) demonstrates why drug usage is higher in college. In some instances, drug use in a social group is not considered wrong, even if it is breaking the law like underage drinking. Therefore, a group mindset can essentially influence one to behave and have the same beliefs as the group. While other theories like social learning theory are focused on the micro-level, social learning theory applies on the mezzo-level, which is considered on a larger scale rather than the individual level.

Further, social learning theory is composed of four central mechanisms that include differential association, definitions, imitation, and differential reinforcement (Peralta & Steele, 2010). A definition can be described as the values and attitudes an individual has regarding morals and the law. Imitation can be defined as the extent to which a person mimics or emulates the behavior of someone they respect (ex: role model). In turn, differential reinforcement is the perceived reward/gain/benefit that results that accompanies the behavior. That is, the alleged reward of drinking/drug usage (fun, social interaction) is an indicator of alcohol use (Brooks-

Russel et al. 2014). Given the strength of the social learning model, it is surprising that it has not been applied to the use of substances and drugs as much as other areas of study (Andes 1994). Therefore, social learning theories argue that deviant behavior is prevalent because the justification for the behavior is learned in certain social groups (Peralta and Steele 2010). A thematic approach conducted by Willis et al. (2019) indicated that alcohol and drug use in college students were attributed to perception of college culture. Another study found that both perception of peer approval and perceived availability were associated with the use of nonmedical prescription opioids, nonmedical prescription stimulants, alcohol, and marijuana (Kollath-Cattano et al. 2020). Accordingly, studies using social learning theory have demonstrated to be valuable in illicit drug use.

For example, Ford (2008) found that the social learning theory was supported in their study of nonmedical prescription drug use. Triplett and Payne (2004) also reported that social learning theory was relevant in explaining nonmedical use of prescription drugs in adolescents. In support, college students that perceive norms of the campus environment will consume alcohol based on the observation and comparison of their peer's consumption levels (Fournier et al. 2013; Stappenbeck et al. 2010). That is, the perception of campus drinking norms was a strong predictor of personal consumption and this was stronger than what the actual campus drinking norm is (Perkins et al. 2005).

Macro Level

Social learning theory focuses on variables that both motivate and control criminal behavior in order to promote or undermine conformity (Cullen et al. 2018:81). Thus, individuals learn through their experiences how to conform in society. They can learn conforming behavior through association or exposure with others. This exposure could be from the media or

television. Individuals can view a scenario where it is interpreted as “cool” or acceptable and become more likely to repeat that behavior. For example, many movies and television shows portray college drinking in an acceptable or desirable way. Consequently, adolescence and young adults are encouraged to follow that same behavior and partake in substance use. Equally, individuals also learn to engage in criminal behavior in order to conform with what they are exposed to.

The most primary influencer on a person is their family or peers. In fact, a person is more likely to copy a behavior of someone else if they respect or think highly of them. This is one reason why individuals may partake in drug use because they see their parent or friends do the same. When seeing an individual use and abuse drugs, the person has come into direct contact with an activity that may influence their beliefs to view it as favorable or justifiable based on the reinforcement (Cullen, et al. 2018:82). This can be a removal of something bad, negative reinforcement, or a result of something good, positive reinforcement (Cullen et al. 2018:82-83). One is more likely to use drugs if there is a better chance they will be rewarded. For instance, this could be the “high” feeling of pleasure, or a way to self-medicate due to sadness, anxiety, or stress. This is prevalent in college student drinking, as a way to relax and de-stress from the pressures of class and new responsibilities.

Control/Social Bond Theory

Unlike most theories of crime, social bonding theory attempts to explain why individuals obey rules and prevent themselves from engaging in criminal conduct or negative behaviors. In fact, most criminology theories aim to explain why people offend and commit negative behaviors. However, people learn from an early age how to interact and obey relevant norms. (Cullen et al. 2018:161). Individuals who learn this have a sense of power over them from

society's standards and norms. In fact, they feel inclined to follow the rules. Instead of describing why an individual commits an act, control theories aim to rationalize why individuals are prevented and stop themselves from doing so.

Intrinsic to Hirschi's (1969/1977) theory of control is the assumption that someone will engage in a negative behavior when their social bond is weakened. Hirschi (1969/1977) suggests that an individual's attachment, commitment, involvement, and belief are all tied to social components that have control over their conduct. That is, individuals with a strong attachment to others or components in society are presumed to be less likely to violate societal norms or behave in negative ways (Alston et al. 1995). For example, if one is attached to a community institution, like a church, one is less motivated to engage in a behavior that would harm this social link (Alston et al. 1995). Therefore, Hirschi predicted that these individuals, with strong social bonds, will contemplate their actions and avoid negative behavior so their social bonds are not threatened.

Additionally, there is also a commitment component to behavior. For example, an individual that has a strong commitment to something, or sees hope for their future will be more likely to use self-control and avoid negative behavior that could affect this. In contrast, someone may partake in drug use because they do not see hope for their future or have goals or commitments. In fact, they may be struggling in their academics and have an unstable life. This is why an individual involved in conventional activities, such as religious or social groups on campus, will have more control over their behavior and be more likely to obey norms (Cullen et al. 2018:169). For instance, having a strong involvement in campus activities may take up a lot of free time and encourage a social bond.

If a student believes rules should be followed, they are more likely to do so. A college student who is using drugs may have beliefs that align more with their own self-interests, rather than the community as a whole. This could be temporary, or permanent if a social bond was severed. Once a social bond is weakened, the individual is more likely to use drugs. In addition, they may do so after a stressor event has occurred, such as a death of a parent. Oddly, this control theory suggest that all individuals have the urge to do such acts, but only some act out on these impulses (Cullen et al. 2018:176).

Parental Supervision and Peer Behaviors

A national sample of adolescents were utilized in order to test social learning theory and social control (Norman 2015). The researcher found that the findings supported both theories: adolescents with strong bonds (to family and school) were less likely to use ecstasy, and adolescents whose parents or peers condone the use of drug are more likely to use ecstasy (Norman 2015). Similarly, Halhlbeck and Vito (2021) findings indicated that adolescents with stronger parental bonds and negative definitions of substance use were at a lower chance of being dependent on marijuana, while adolescence who associated with peers that used substances were more likely to be dependent on marijuana. It was also discovered that there is a negative correlation among reduced social bonds and greater drug use, however, this correlation was relatively weak (Dull, 1984).

According to social bond theory, if an adolescent or young adult's attachment to their parent is strong, then the parent still has indirect control over them (Cullen et al. 2018: 169). So, even when the parent is no longer around (or when their child goes to college), the individual may still behave as if they are, and not engage in disapproving behavior. Likewise, an individual

that does the opposite may do so because they have a weak attachment to their parent. A weak attachment may be due to bad parents, neglect, abuse, or absence in the person's life.

One of the most important predictors of behavior and personality, is parenting style. As a matter of fact, Hoeve et al. (2009) found that the strongest links for parenting and delinquency were "parental monitoring, psychological control, and negative aspects of support such as rejection and hostility, accounting for up to 11% of the variance in delinquency (p. 749)." Thus, parenting is linked to delinquency in youth (Hoeve et al. 2009). While the social bond theory suggests that a parent must have indirect control, other theories suggest that it is the parent's direct control that determines their child's behavior (Cullen et al. 2018: 178). In fact, the connection between social control and self-control is more direct, like parental supervision (Cullen et al. 2018:188). This involves close monitoring by the parent and responsiveness to their child's actions and needs (punishment, reinforcement, etc.). For instance, a person doing bad behavior most likely had a lack of supervision from their parents. They were free to do whatever they want with little parental constraints.

A study that applied a longitudinal assessment on associations between friend substance use, friendship-quality, and parent-adolescent relationship quality and substance use found that the quality of a friendship never influenced the use of substances (Branstetter et al. 2010). But, an adolescent's relationship with their mother was an important indicator of concurrent substance use (Branstetter et al. 2010). The study found that a supportive relationship among the two was association with lower levels of substance use (Branstetter et al. 2010). Interestingly, these findings help indicate the importance of both the parent-adolescent relationship and peer behavior on substance use (Branstetter et al. 2010). Other studies conclude that comorbid

substance use was significantly predicted by parental monitoring and rule enforcement (White et al. 2015).

In summary, control theories aim to explain what prevents one from, essentially, being a criminal. This involves the aspect of control by the community, society, and relationships. One vital relationship to a youth is with their parents. However, one will engage in criminal conduct if they do not have as much control over them. If they do commit the act, they almost certainly will believe it was wrong, but they had important reasons for doing so. These reasons can be rationalized as the techniques of neutralization. It may also have been done because of a weakened or severed social bond.

Micro Level

Specifically, the social learning theory focuses on the interactions one has, and how the influence of attitudes, definitions, and certain exposure to these behaviors may be impactful on those who interact with these individuals. Therefore, the theory assumes that behavior is learned through contact with others who are committing that same behavior. This behavior is criminal, but adopting criminal behavior also follows the same processes of learning other behaviors as well (Akers 1998; Sutherland and Cressey 1960). Usually this is through networking, peer socialization, friendships, and romantic relationships (Peralta and Steele 2010). Furthermore, individuals will learn to adopt the motives, rationalizations, and attitudes others possess to commit the same behavior (Peralta and Steele 2010).

In simpler terms, having contact with peers that use drugs leads to that individual committing drug use by learning the behavior through a model manner. Individuals base their behaviors by connection and involvement with others. Groups or others that spend time with an individual may teach them to assume certain behaviors are fine. For instance, many individuals

think underage drinking and the use of soft drugs like marijuana are acceptable. In fact, some criminal acts are justified in certain situations (ex: self-defense). Or some may engage in these acts due to the thrill of breaking the law. Thus, a person learns through the involvement with others new values, attitudes, and motives for committing a specific behavior. For this present study, we are focusing on the behavior of alcohol and drug use.

Overall, one's associations with others and their exposure to the behavior has a huge impact on how they too will behave. If one's friends use drugs, an individual will feel reinforced or encouraged to do the same. In turn, this reinforcement and encouragement is more powerful when the individual has a close association and relationship to the other (peer, sibling, or parent). Distinctively, this theory works to explain more than just one area of crime. It can be applied to all areas, as well as other behaviors that result in negative consequences.

Peer and Family Influence

Based on this perspective, drug use and abuse are more likely to be committed when associating with a peer or family member that does the same. This interaction with deviant peers also can result in cognitive changes that make the act more attractive to the individual (Hochstetler et al. 2002). Plus, a person is more likely to find themselves in the presence of drugs if they interact with peers that are using drugs (Hochstetler et al. 2002). In a similar study, War (1993) discovered that current peer associations were better predictors of offending than relationships that have been longstanding. In other words, relationships that have lasted over the years are not a strong indicator of behavior in comparison to a current relationship that may have just started. Thus, the current friendships one has are more effectful than relationships they have had for a long period of time. Therefore, college students begin their use of drugs after they have

been exposed to new friends and circumstances that influence them more than their old friends from back home.

It is known that peer drinking and drug use have been linked to personal drug and substance use. For example, a study suggests that the social learning theory of differential association and negative definitions is a significant theoretical predictor for marijuana use and dependence in adolescents (Halhbeck and Vito 2021). The present study proposes that the potency of peer influences is explained by the social learning theory. There are many constructs of the social learning theory that can be applied to peer influence on drug usage. First, the quality of peer relationships reveals that they provide stability, intimacy, and support (Borsari and Carey 2006). Meanwhile, past and current research guided by social learning theories have repeatedly revealed that associating with peers that use substances is a significant predictor of drug use and misuse.

Overall, there is sufficient anecdotal evidence to support Hirschi's (1969/1977) and Akers (1998) theories for social components. The theory adopts a different stance to the criminogenic issues and appears to be a useful theory for the explanation of drug and substance use (and nonuse) in undergraduate students. As such, this present study will attempt to investigate this issue by applying and testing the social learning theory to drug use among a college student population.

The Present Study

In addition to the predictions set in place related to the role of social learning processes, the current study also seeks to understand outside factors that are linked to personal rates of drug use on campus. In addition, demographic variables of gender and perception of social class were measured as control variables. By concentrating on illicit drug use, this study will attempt to

identify and explain the strongest predictors of drug use in undergraduates and graduate students taking classes in the Fall 2020 semester.

Hypotheses

To measure the association and predictability of drug use in college students, the following independent variables will be utilized in the present analysis: gender, perceived social class identification, connection to church (religiosity), peer and parental drug use (exposure), and three subscales of self-esteem (home, peer, school). Based on the review of previous literature on the subject, it is believed that exposure to peer drug use will be the most important predictor of personal drug use and abuse. Thus, the current analysis aims to explore any other relationships between independent variables that could exist among drug usage in college students.

The theoretical framework used for the present study consisted of social learning theory and social bond theory which has been applied in previous research on the subject. Close interactions with others (peers, parents) have been suggested as one of the strongest influential factors for behavior in adolescents and young adults. Additionally, strong social ties help prevent negative or juvenile behavior (ex: church attendance). Therefore, the social learning model explains why drug use in college students is prevalent in relation to their exposure to peer use, self-esteem, parental use, and religiosity. Other demographics of gender and perception of social class were also analyzed as control variables.

The review of academic literature and the theoretical framework used in this study suggests that there are indeed risk/predictors and protective/promotive factors attributed to reports of drug use. Specifically, hypotheses for the present study are:

- There will be significant differences in gender and social class identification in predicting drug abuse.
- Those that have parents that engage in drug use will be more likely to report drug use.
- Those that have a strong indicator of religiosity will be less likely to report drug use.

- Self-esteem will be a predictive factor in reports of drug use; those that have higher scores in the area-specific scales will be less likely to report engaging in illegal drug use.
- The respondent's exposure to these risk and protective/promotive factors will have a causal influence on drug use, but primarily through drug-using peer association.
- A college students' exposure to friend's drug use will be the strongest predictor in their self-reports of drug use.

An extensive review of the previous academic literature on the social learning model and illicit drug use in college students has been analyzed and reviewed. These findings from previous literature support the hypotheses above. However, the relationship between self-esteem and drug use needs further research. It is hoped that this study will add to the literature on this social issue. The next chapter will describe those statistical methods, procedures, and techniques used for the present study, examine the effects of the independent variables on drug usage, with an emphasis on peer drug usage.

CHAPTER 3

METHODOLOGY

This chapter presents information about the methods used in obtaining data for the current analysis. It provides a description of the variables and techniques utilized in coding, interpreting, and analyzing information. The data analysis used in the study is described in-depth, including an explanation of the data source, the process used in variables to represent theories of deviance (social learning theory and control/social bond theory) and the specific method of analysis chosen according to the type of data.

Data Source

The present analyses drew data from the survey on Re-Evaluating Socio-Cultural Backgrounds and Health Habits at a University Level: A Survey of MSU Undergraduate Students (2020). This survey at Morehead State University, which is in the Appalachian region, was conducted by Dr. Elizabeth Perkins and Dr. Suzanne Tallichet, both professors at Morehead State University. The 70-item survey obtained demographics, various involvements, and life choices the respondent experienced. The survey was approved by the Institutional Review Board (IRB) of Morehead State University. The questionnaire was distributed via online link for students enrolled in the Fall 2020 semester to participate. A total of 465 college students completed the survey. However, there were some missing responses in the study, but it was not a significant number compared with the original sample.

Participants personal information that could identify them was protected, and their responses were submitted anonymously. Each respondent was made aware that the survey would take approximately 15 minutes to complete. Respondents were informed participation in the survey was voluntary, and they were also able to skip questions or quit the survey at any time.

Sample Characteristics

The sample consisted of 465 college students enrolled in the Fall 2020 semester at MSU. Although students could be from anywhere in the world, most Morehead students were from the Appalachian region. That being said, 55.5 percent of the sample identified themselves as being Appalachian. The participants ranged in age from an 18 to 81 years old. Although, 33.3 percent were 18, and 20.0 percent were 19 years old. Females accounted for 40.9 percent of the sample, while men made up the remaining of 59.1 percent. Regarding race, most respondents were white American, which was 89.4 percent of the population sample. The remaining respondents by race were: African American (4.1%), Hispanic American (2.8%), Other (2.4%), Asian American (.6%), Native American (.4%), and Latin American (.2 %). Education levels of each participant were not recorded as each student was currently enrolled at Morehead State University.

Variable Measures

The following variables were measured in the present analysis. Variable names will be labeled the same throughout the study, as well as in all corresponding tables and charts in the results. Information about the coding and/or recoding (such as for reverse coding) of each variable is also provided in the appendices section. Missing cases were not included in the results.

Dependent Variable

The survey had two measures of drug use in college students. The first was a dichotomous variable where participants replied yes/no to the use of illegal drugs. The second was an open-ended response where participants were able to label what illicit drugs or substances, they engaged in. The present study used the dichotomous variable as the dependent

measure. For the replies, each response was coded to indicate drug use in the respondent (0= no, 1= yes).

Independent Variables

The following variables were utilized to measure significance and prediction of reports of personal drug use in each participant. These include demographics, measurements for social learning model, and the HARE self-esteem three subscales with parents, with peers, and with teachers (Hare, 1985).

Demographics

Demographics and personal characteristics can be vital in understanding the dependent variable. Research indicates there are many differences among gender, social class, income, parental occupation and marital status, etc. Race was ruled out as an important factor because there was a lack of diversity among participants from Morehead State University. Thus, the following demographic independent variables were utilized in the present analysis.

Gender Past research has suggested there is gender differences in drug use. In this study, this variable was used to indicate whether the respondent was male or female. Responses were coded as follows: 0= male, 1= female.

Social Class Identification There has been little research dedicated to social class identification and drug use. Specifically, this study measures the participants perception of social class. It does not cover what social class they are truly in. The measurement was used to indicate what social class group participants perceived they were in. Thus, participants were asked to indicate what social class they assumed they were in. Responses were coded as follows: 0= lower class, 1= working class, 2= middle class, 3= upper class.

Social Learning Model Variables

Variables that could be applied as measurements for the social learning model were used in the current study. These included exposure, religiosity, and self-esteem. Exposure was measured using two variables: friend(s) use of drugs and parent(s) use of drugs (**Social Learning Theory**). Religiosity was measured using the variable of the respondent's connection to church (**Control/Social Bond Theory**). Self-esteem is established based on one's connection and relationship with others. Thus, three area-specific assessments of the student's self-esteem with parents, peers, and teachers were recorded. These are the three main types of interaction in society and sources of self-esteem. These variables are described below.

Exposure

Exposure has been shown to be a risk factor for illicit drug misuse. A substantial amount of research has supported the idea that peer drug usage is a predictor of drug use and misuse. The following variables measured exposure for the respondent based on their peer and parental drug usage.

Have you ever seen your friend(s) use illegal drugs? Peers using illicit drugs is the strongest predictor of illegal drug usage. This supports the social learning theory, as strong attachments with others promote the same behaviors. The survey had two measurements of drug use by the respondent's friends. First was a dichotomous variable where they answered yes or no to exposure to peer illegal drug use. The second measurement was an open-ended response where participants could respond with what type of drug their peers used. Only the first measurement was used for the present analysis. For the replies, each response was coded to indicate drug use in the respondent (0= no, 1= yes).

Have you ever seen your parent(s) use illegal drugs? Parents are also one of the most influential people in a child's life. They raise them, determine rules, and provide supervision and care. Children usually have a strong attachment to their parents. In fact, often times children will mimic the behaviors of their parents if they respect or look up to them. The survey had two measurements of drug use in the respondent's parents. First was a dichotomous variable where they answered yes or no to exposure to parent illegal drug use. The second measurement was an open-ended response where participants could respond with what type of drug their parents used. Only the first measurement was used for the present analysis, with responses coded to indicate drug use in the respondent (0= no, 1= yes).

Religiosity

Church Connectedness This variable was used to show whether a respondent had a strong connection to their church. Originally, there were six measurements for religiosity. Due to multicollinearity in independent variables and after reviewing responses, church connectedness was selected to represent the strength of religiosity in respondents. All other measurements were not included. Respondents were asked to indicate how strong their connection to church was. The responses of each participant were coded as follows: 0= nonexistent, 1= mild, 2= moderate, 3= strong, 4= very strong.

Hare Self-Esteem Scale

Self-esteem has also shown to impact the use of illegal drugs in college students. Using this self-esteem index, The HARE General and Area-Specific (Parent, Peer, Teacher) Self-Esteem index proposed by Bruce Hare (1975), college students enrolled in the Fall 2020 semester were asked to rate their responses on a Likert Scale by determining how applicable each statement was (strongly agree, agree, disagree, strongly disagree). Unlike other self-esteem

measurements, this scale offers a more detailed analysis and includes a general measurement of self-esteem, as well as three separate assessments of self-esteem regarding the most important areas of interaction. These three areas are the major points of interaction for an individual where self-esteem is most developed. This is a thirty-item measurement that consists of three ten-item subscales to measure each area-specific self-esteem. The HARE scale has been proven to be valid, reliable, and significant in measuring self-esteem (Hare, 1975). In fact, the test-retest reliability indicates good stability ($r = .56$ to $.65$) for the three scales ($r = .74$) and for the general (Hare, 1975). Questions possessed the characteristic of self-evaluative and other evaluative items. Therefore, the “I” items are considered self-evaluated and the “my parents,” “my teachers,” or “my friends” were considered over-evaluated statements (Hare, 1975). In doing this, respondents can determine how they perceive themselves versus their perception of how others view them (Hare, 1975). Additionally, it may postulate a theoretical safeguard against the reports on self-evaluations (Hare 1975).

The three area-specific subscales will be utilized in the present study. These three-subscale variables indicate the respondent’s self-esteem score in the home, with friends, and at school. Every other response was recoded as reverse coding for data analysis purposes. That is, negatively worded items were reverse coded. Further, the participants responses for the HARE self-esteem scale were scored. A student’s HARE self-esteem subscale scores are defined as: *Lowest*, participants who had a score of 8; *highest*, participants who had a score of 32.

Home Self-esteem in the home was measured through the HARE area-specific subscale.

Participants were asked to respond to the following:

1. My parents are proud of the kind of person I am.
2. No one pays much attention to me at home.
3. My parents feel that I can be depended on.
4. I often feel that if they could, my parents would trade me in for another child.

5. My parents try to understand me.
 6. My parents expect too much of me.
 7. I am an important person to my family.
 8. I often feel unwanted at home.
 9. My parents believe that I will be a success in the future.
 10. I often wish that I had been born into another family.
- (Hare, 1975)

Each response for questions 1, 3, 5, 7, 9 were reverse coded as follows: 4= strongly agree, 3= agree, 2= disagree, 1= strongly disagree. These items were reverse coded in order to transform each into the corresponding low score on the scale. Each response for questions 2, 4, 6, 8, 10 were coded as follows: 1= strongly agree, 2= agree, 3= disagree, 4= strongly disagree.

Peer Self-esteem among peers was measured through the HARE area-specific subscale.

Participants for this assessment were asked to respond to the following:

1. I have at least as many friends as other people my age.
 2. I am not as popular as other people my age.
 3. In the kinds of things that people my age like to do, I am at least good as most other people.
 4. People my age often pick on me.
 5. Other people think I am a lot of fun to be with.
 6. I usually keep to myself because I am not like other people my age.
 7. Other people wish that they were like me.
 8. I wish I were a different kind of person because I'd have more friends.
 9. If my group of friends decided to vote for leaders of their group, I'd be elected to a high position.
 10. When things get tough, I am not a person that other people my age would turn to for help.
- (Hare, 1975)

Each response for questions 1, 3, 5, 7, 9 were reverse coded as follows: 4= strongly agree, 3= agree, 2= disagree, 1= strongly disagree. These items were reverse coded in order to transform each into the corresponding low score on the scale. Each response for questions 2, 4, 6, 8, 10 were coded as follows: 1= strongly agree, 2= agree, 3= disagree, 4= strongly disagree.

School Self-esteem among peers was measure through the HARE area-specific subscale assessment. Participants for the school assessment were asked to respond to the following:

1. My teachers expect too much of me.
 2. In the kinds of things, we do in school, I am at least as good as other people in my classes.
 3. I often feel worthless in school.
 4. I am usually proud of my report card.
 5. School is harder for me than most other people.
 6. My teachers are usually happy with the kind of work I do.
 7. Most of my teachers do not understand me.
 8. I am an important person in my classes.
 9. It seems that no matter how hard I try, I never get the grades I deserve.
 10. All and all, I feel I've been very fortunate to have the kinds of teachers I've had since I started school.
- (Hare, 1975)

Each response for questions 1, 3, 5, 7, 9 were reverse coded as follows: 1= strongly agree, 2= agree, 3= disagree, 4= strongly disagree. These items were reverse coded in order to transform each into the corresponding low score on the scale. Each response for questions 2, 4, 6, 8, 10 were coded as follows: 1= strongly agree, 2= agree, 3= disagree, 4= strongly disagree.

Design of Present Analysis

As revealed in the next section, the current study evaluates the univariate statistics associated with each variable utilized. First, the data set had to be labeled, edited, and coded numerically before any statistical techniques could be implemented. The HARE self-esteem general and area-specific assessments were computed to determine each participant's general, with home, peers, and school self-esteem score. Following this, frequencies were computed to evaluate and understand the populations sample. A Spearman correlation matrix was then computed which included all variables (gender, social class, HARE self-esteem in home/peer/school, friend use, parent use, and religiosity measurements). All variables for religiosity were selected (religious service attendance, religious/spirituality importance, religious

activities, connection to church, existence of God) to determine the presence of multicollinearity in the matrix. Multicollinearity was present in variables for religiosity. After further investigation, it was determined that only connection to church would be used since all variables were highly correlated with one another. Subsequently, the study tests the five hypotheses by evaluating the bivariate relationships between variables and uses multivariate techniques, a binary logistic regression model, in an attempt to determine whether the bivariate relationships between the dependent variable and independent variables persist after controlling for confounding variables.

The binary logistic regression analyses were conducted in three models. For each of the three models the following variables were included: gender, social class identification, friend drug use, parent drug use, and church connectedness. However, in the first model the area-specific measurement for school was applied, the second was peer, and the third model had the area-specific measurement for home. Therefore, each HARE self-esteem subscale was separated in order to determine whether there were any relationships among the original independent variables and each self-esteem scale separately.

Methods of Analysis

Spearman Correlation Matrix

Correlations are among the most popular statistical tools that are utilized in data analysis. It is a common technique for describing a simple relationship. The sample correlation coefficient, r , quantifies the strength of the linear relationship and statistical significance. Their role is to analyze the degree of a relationship between two quantitative variables and determine significance between each. Outcomes range from +1 to -1. A correlation among two variables helps signify that information from one variable can give you information from another. That is,

a correlation is a statistical measure that expresses the extent to which two variables are linearly related, indicated the association between them. In other words, this means how well they change together at a constant rate. However, it is important to understand that a correlation does not infer causation. That is, it does not make a statement in explaining cause and effect.

Before testing the hypotheses, a bivariate correlation matrix was computed to estimate the relationship among all (predictor) variables selected. Since many of the variables being measured are binary, a Spearman correlation matrix was implemented because it is more applicable. This was done in order to examine the level of significance, determine multicollinearity, and see if there were any issues with the results that may cause limitations in using a regression model.

Logistic Regression

A regression analysis is a statistical technique used to investigate relationships among two or more variables. Unlike correlations, this technique is adept at findings causal effects in determining the strength of prediction between variables. That is, it shows the significance of one variable's impact on another. The predictors are the independent variables, and the predicted variable is the dependent variable. Like all regression analyses, the bivariate logistic regression is a predictive analysis. However, there are some types of dependent variables for which multiple regression tests are not appropriate in utilizing. For the present study, a dichotomous/binary, nominal variable was the dependent variable. In other words, the dependent variable was a yes/no survey response. For such variables, a bivariate logistic regression is a more suitable method of analysis because this design permits the testing of models attempting to predict scores on categorical dependent variables. In detail, it is used to describe data and shows the nature of

the relationship between one dependent binary variable and one or more ordinal, nominal, interval or ratio independent variables.

When selecting this model, the model fit was considered. For instance, adding independent variables to a bivariate logistic regression model will increase the amount of variance explained in the log odds. The log odds are expressed as β . In adding independent variables, the model can result in overfitting. This reduces the generalizability of the model beyond the data on which the model is fit to determine. That being said, it was determined five variables would be selected for the model. They were as follows: gender, social class identification, peer illicit drug use, parent illicit drug use, HARE self-esteem area-specific assessments in the home, at school, and among peers.

Since the dependent variable in the present analysis was coded as 0= no 1= yes (when answering whether they had participated in the use of illegal drugs), a bivariate linear logistic regression was the appropriate multivariate method to use. Thus, for each of hypotheses and nature, a bivariate linear regression model was computed to determine the nature of prediction in certain demographic, risk/predictive factors, and preventative/protective factors of drug use and misuse. Three models were computed, and each included the separate area-specific assessment of the HARE self-esteem subscales: teachers, parents, and peers. Each subscale was placed in different models.

Additionally, the Nagelkerke's R^2 was used to determine the percent of variation in each logistic regression model. Although the Cox and Snell's R^2 is offered in the logistic regression analysis, Nagelkerke is more often used (Walker and Maddan 2008). In fact, other pseudo- R^2 values should be interpreted with extreme caution, as they have computational issues. Instead,

the goodness of fit test was utilized called the Hosmer-Lemeshow that provides a Chi-square test.

Summary

This chapter reviewed the methodology of the current analysis, describing the data source, the population sample characteristics, variables measured, design of the present study, and the methods utilized for the analysis. The next chapter reports the findings of the data analyses that were computed.

CHAPTER 4

RESULTS

The present study examines the predictive relationship among demographics, risk, and protective/preventative factors of drug use. Using secondary data, risk and preventative factors were exposure, self-esteem, and religiosity. The secondary data used in the study gathered information on college students' demographics, life choices and experiences, and health habits. These students were enrolled in Morehead State University's Fall 2020 semester. For the purpose of this analysis, the demographic differences of gender, social class identification, risk factors (exposure- friend and parent illicit drug use), and protective/preventative factors (self-esteem, religiosity- church connection) were analyzed. Previous academic scholars have demonstrated the seriousness of these factors predicting illegal drug use in college students. That is, these factors have been shown to be associated with the misuse of illicit drugs.

The results of the data analysis will be discussed in this chapter and presented in the three following sections: the univariate analyses, bivariate analyses, and multivariate analyses (frequencies, correlations, and a binary logistic regression model). A binary logistic regression model was implemented to investigate the relationship between the independent variables (religiosity, friend's and parent's use of illicit drugs, and self-esteem with teachers, parents, and friends) and dependent variable (drug use).

Univariate Analyses

Frequencies

There was sufficient variation for all variables utilized in the study. Table 1 represents the percentage distributions of the variables used in the analysis.

Demographics

Gender Females made up more than half of the respondents (59.1 percent), while males accounted for 40.9 percent.

Social Class Identification The college student's perception of social class identification varied. About half reported they were in the middle class (52.6 percent) and about a third identified as being in the working class (32.7 percent). Only 1.1 percent of participants viewed themselves in the upper class and 13.5 percent in the lower class.

Exposure

Friend Use Variations in the percentage distribution of seeing peers use illicit drugs was evenly distributed. There were 44.8 percent of students that reported no and 55.2 percent of students that reported yes.

Parent Use Respondents, by and large, have appeared to not witness their parents use illegal drugs (84.1 percent). In turn, only 15.9 percent of participants reported witnessing their parent(s) use illicit drugs.

Religiosity

Church Connection The largest proportion of respondents reported their strength of connection to a church was nonexistent (36.9 percent), while 24 percent reported it was mild and 18.8 percent reported moderate. Thus, only 11.4 percent reported it was strong, while 8.9 percent of participants reported they had a very strong connection to church.

Drug Use

About one-third or 32.5 percent of participants reported yes when asked if they had engaged in the use of illegal drugs, while the rest (67.5 percent) indicated that they had not done so.

Self-Esteem

The HARE self-esteem scores were different for all subscales. A high score indicated a high self-esteem in the type of environment, while a low score indicated a low self-esteem. Peer had the highest percentage of participants with a moderate score of self-esteem (66.6 percent). Home had the highest percentage of participants with a high score of self-esteem (66 percent). School self-esteem scores were more evenly distributed, however the biggest percentage of scores were in the moderate range (59.9 percent).

Peer For self-esteem with peers, a relatively low proportion of respondents (8.4 percent) scored in the low range of 10-20. Increasingly, 66.6 percent of participants scored in the moderate range from 21-30. In addition, 25.3 percent of students scored in the high range of 31-40.

Home The lowest score in the home self-esteem subscale was 19. There was only 1 percent of participants in the low scoring range of 10-20. However, there was an increase for the moderate range from 21-30 (33.2 percent). The remaining 66 percent of participants had a high score of self-esteem (31-40).

School The low scoring range of 10-20 accounted for 3.9 percent of respondents. The moderate self-esteem score of 21-30 was 59.9 percent. Further, the high self-esteem score 31-40 was 36.3 percent of participants.

Following, the results of the correlation and regression models are presented.

**Table 1:
Frequencies in College Students**

	Frequency	Valid Percent
Gender	460	
Male	188	40.9
Female	272	59.1
Social Class Identification	462	
Lower Class	63	13.6
Working Class	151	32.7
Middle Class	243	52.6
Upper Class	5	1.1
Friend's Use	464	
No	208	44.8
Yes	256	55.2
Parent's Use	464	
No	390	84.1
Yes	74	15.9
Drug Use	464	
No	313	67.5
Yes	151	32.5
Religious Connection	463	
Nonexistent	171	36.9

Mild	111	24.9
Moderate	87	18.8
Strong	53	11.4
Very Strong	41	8.9
Peer Self-Esteem Score	457	
Low	38	
Moderate	304	8.4
High	115	66.6
		25.3
Home Self-Esteem Score	436	
Low	4	
Moderate	145	1
High	287	33.2
		66
School Self-Esteem Score	459	
Low	18	3.9
Moderate	274	59.9
High	167	36.3

Bivariate Analyses

Correlations Table 2 represents the correlation coefficients of the independent and dependent variables utilized in the data analysis; this table also reflects the statistically significant correlation coefficients that were examined in this analysis. As presented in Table 2, strong correlations were found among variables. While many of the independent variables were correlated with one another, there are some specific correlations that should be addressed. Interestingly, gender had no significant correlations except with the HARE peer self-esteem score (-.129**) and HARE school self-esteem score (-.139**).

The strength of one's connection to church was also correlated with social class identification (.194**), friend use (-.160**), parent use (-.168**), and all three subscales of self-esteem (peer: .159**, home: .239**, school: .165**). As connection with church increases, the exposure of seeing friends and parent's use drugs decreases. It also suggests that an increase in religiosity is associated with higher self-esteem with friends, in the home, and at school. However, it is worth noting that these relationships were relatively weak.

Furthermore, the dependent variable was significantly correlated with each independent variable apart from gender and peer self-esteem scores. They are as follows: religious connection (-.237**), social class identification (-.100*), friend use (.598**), parent use (.263**), home self-esteem score (.385**), and school self-esteem score (.462**). This suggests there will be significant findings in the regression models to be computed. The results of the correlation matrix also revealed that the peer use was by far the strongest independent variable correlated with the dependent variable. This finding was consistent with hypotheses, predicting that peer use would be the most important factor in determining drug use in college students. As reports of witnessing peers use illegal drugs increase, so do the reports of personal drug use in respondents.

Finally, there was no multicollinearity found among the independent variables used in the analysis.

Table 2: Correlation Coefficients between Independent and Dependent Variables

	Gender	Social Class ID	Church Connect ion	Friend Use	Parent Use	Peer Self-esteem	Home Self- esteem	School Self- esteem	Drug Use
Gender	1								
Social Class ID	-.059 459	1							
Church Connectio n	.050 460	.194** 462	1						
Friend Use	-.050 460	-.107* 462	-.160** 463	1					
Parent Use	.034 460	-.187** 462	-.168** 463	.227** 464	1				
Peer Self- esteem	-.129** 454	.149** 455	.159** 456	.037 457	-.044 457	1			
Home Self- Esteem	-.083 431	.190** 433	.239** 434	-.160** 435	-.134** 435	.385** 430	1		
School Self- Esteem	-.139** 454	.153** 456	.165** 457	-.088 458	-.091 458	.462** 452	.478** 431	1	
Drug Use	-.048	-.100*	-.237**	.598**	.263**	0.74	-.172**	-.102*	1

	460	462	463	464	464	457	435	458	
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** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Multivariate Analyses

The factors that were predicted to contribute to explaining college student drug use are explained. First, there has been substantial research regarding the social learning theory that has demonstrated that exposure to friend(s) and parent(s) using illegal drugs increases the likelihood that the individual will also engage in drug use. This supports the social learning theory, as it argues that strong attachments and connections with others determine our behaviors. The demographic difference in gender, as many studies have shown that males tend to engage in drug use more than females. The participants perception of social class was also examined. Each hypothesis was tested using a binary linear regression model in order to analyze the strength of prediction in independent variables on the binary dependent variable. A logistic regression is a multivariate extension of a bivariate chi-square analysis. This allows an understanding of the relationship among primary predictor variables and a dichotomous categorical outcome variable. Moreover, it provides a measure of strength of a relationship of a binary categorical outcome variable while controlling for other variables (N'Hamdi, 2013). Table 3, 4, and 5 summarize the regression model results.

Model I Logistic Regression

The purpose of using a binary logistic regression in the analysis was to determine the effect of the independent variables of gender, self-esteem with peers, perceived social class identification, exposure from friend and parental use of illicit drugs, and religiosity had on the respondents reports of personal drug usage. The model was significant (.000), indicating that it should be further interpreted as a model or block of variables. The Hosmer- Lemeshow test show the p value at .446 ($p > .05$) which shows the model fits the data. In all, the regression model classified 81.2 percent of cases to be correct. The likelihood ratio of the model was 348.823, and the Nagelkerke R square was .541.

Examining the variables in the equation table, friend use, parent use and religious connection to church were found to be statistically significant (See Table 3) in explaining the reports of drug use in college students. The odds ratio is related to unit changes in predictor variables (friend use, parent use, religious connection, self-esteem in peers, and gender). The odd ratios were low to moderate in size for each significant variable (.693 for religious connection; 2.263 for parent use). This indicates a moderate likelihood of change with a unit increase in the predictor variable. An exception to this was friend use, which was very high, at 77.974. Further, individuals who are exposed to their peers using illicit drugs were almost 78 times more likely to report personal drug use.

In this model, friend use was clearly the strongest predictor of reports of drug use in college students. Following this variable was religious connection to church and then exposure to parent(s) use of illicit drugs. The high odds ratio and significance of friend use is very noteworthy. The findings provide support for the social learning model and indicates how important the social component of campus is for college students. While parent use and religious

connection were also significant in the model for predicting drug use, they were not nearly as predictive as the exposure to peer use of illegal drugs. Clearly, this model shows the strength of prediction in risk (exposure) and protective factors (religiosity) of illegal drug use in college students.

Table 3:
Logistic Regression: Predictors of Drug Use in College Students
(Phase I: Self-esteem with peers)

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square	Hosmer and Lemeshow Test Chi-Square Sig	Classification
1	348.823 ^a	.388	.541	7.871 .446	81.2

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

Variables in the Equation

Step	Variable	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
1 ^a	Friend Use	4.356	.599	52.881	1	.000	77.974	24.100	252.276
	Parent Use	.817	.336	5.915	1	.015	2.263	1.172	4.371
	Religious Connection	-.367	.106	11.905	1	.001	.693	.562	.853
	Peer self-esteem	.033	.029	1.297	1	.255	1.033	.977	1.093
	Social Class Identification	-.011	.181	.004	1	.949	.989	.694	1.409
	Gender	-.163	.269	.368	1	.544	.850	.502	1.438
	Constant	-4.590	.996	21.246	1	.000	.010		

a. Variable(s) entered on step 1: Friend Use, Parent Use, Religious Connection, Peer self-esteem, Social Class Identification, Gender.

Model II Logistic Regression

The purpose of using this binary logistic regression model was to determine the effect of the independent variables of gender, self-esteem at home, exposure from friend and parental use of illicit drugs, and religiosity had on the respondents reports of illicit drug usage. Because of the differences in major interactions in life (at home, in school, and with peers) it was important to separate the main areas of self-esteem into different groups. That is, self-esteem in the home is assessed in this model in place of self-esteem with peers.

The omnibus tests of model coefficients indicate the model is significant ($p < .05$; .000). The Nagelkerke R square was .534. In all, the regression model classified 78.8 percent of cases to be correct. In addition, the log likelihood was 330.677. The Hosmer and Lemeshow test show the p value at .395 ($p > .05$) which shows the model fits the data. In addition, the following variables were statistically significant in explaining the reports of drug use in participants, friend use (.000), parent use (.014), and religious connection to church (.001). These variables were also significant in the previous model. However, gender, social class identification, and self-esteem in the home were not significant. The odds ratio showed a change in units for all variables. They are as follows: friend use (69.175), parent use (2.337), religious connection (.696), home self-esteem score (.966), social class identification (1.060), and gender (.802). This model demonstrates that the risk factor of exposure in parents and friends and the protective factor of religiosity are predictors in illicit drug use among college students.

Table 4:
Logistic Regression: Predictors of Drug Use in College Students
(Phase II: Self-esteem in home)

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square	Hosmer and Lemeshow Test Chi-Square Sig	Classification
1	330.677 ^a	.381	.534	8.407 .395	78.8

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1 ^a	Friend Use	4.237	.601	49.774	1	.000	69.175	21.320	224.443
	Parent Use	.849	.346	6.022	1	.014	2.337	1.186	4.605
	Religious Connection	-.362	.110	10.764	1	.001	.696	.561	.864
	Social Class ID	.059	.190	.096	1	.757	1.060	0.731	1.537
	Gender	-.221	.275	.643	1	.423	.802	.468	1.376
	Home self-esteem	-.035	.027	1.673	1	.196	.966	.916	1.018
	Constant	-2.566	1.082	5.624	1	.018	.077		

a. Variable(s) entered on step 1: Friend Use, Parent Use, Religious Connection, Social Class Identification, Gender, Home self-esteem.

Model III Logistic Regression

The logistic regression model in this analysis sought to determine the effect of gender, self-esteem at school, perceived social class identification, exposure from friend and parental use of illicit drugs, and religiosity had on the respondents reports of illicit drug usage. In this model, self-esteem in school was analyzed in place of the previous models that examined self-esteem with peers (Model I) and self-esteem at home (Model II). In all, this model classified as 79.2 percent of the cases correctly. The log likelihood was recorded as 346.097. According to the omnibus tests of model coefficients, the model was significant (.000). The Hosmer and Lemeshow test show the p value at .239 ($p > .05$) which shows the model fits the data.

Interestingly, this model's R square increased slightly to .546. And, the model only showed significance in three variables: friend use (.000), religious connection to church (.000), and parent use (.021). Gender (.388), social class identification (.793), and self- esteem in school (.976) were not significant. The odds ratio unit was high for friend use at 82.271, while religious connection to church was at its lowest (.682). From this model, it can be concluded that the risk factor of exposure in peer's and parent's use and the protective factor of religiosity are significant in predicting the use of illicit drugs in college students as in the previous two models.

**Table 5:
Logistic Regression Predictors of Drug Use in College Students
(Phase III: Self-esteem in school)**

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square	Hosmer and Lemeshow Test Chi-Square Sig	Classification
1	346.097 ^a	.391	.546	10.391 .239	79.2

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Step 1 ^a								
Friend Use	4.410	.600	54.065	1	.000	82.271	25.394	266.545
Parent Use	.773	.336	5.291	1	.021	2.166	1.121	4.184
Religious Connection	-.382	.106	12.949	1	.000	.682	.554	.840
Social Class ID	.032	.182	.031	1	.861	1.032	0.723	1.474
Gender	-.232	.269	.744	1	.388	.793	.468	1.344
School self-esteem	-.024	.026	.851	1	.356	.976	.928	1.027
Constant	-3.043	.981	9.629	1	.002	.048		

a. Variable(s) entered on step 1: Friend Use, Parent Use, Religious Connection, Social Class Identification, Gender, School self-esteem.

Summary

The results in the present study are important for understanding social learning theory. They present support for predictive variables for the use of illicit drugs in college students. These factors were: friend use, parent use, and church connection. Intriguingly, friend use was

significant with a high odds ratio in each three models. In contrast to two hypotheses, gender, social class identification, and all the HARE area-specific subscales for self-esteem were not found significant in any model and did not support the hypotheses. Furthermore, the subsequent chapter will interpret these findings by discussing the major results and connection between tested factors and illicit drug use.

CHAPTER 5

DISCUSSION

This chapter will discuss and interpret the findings of the current analysis and offer a comparison to previous research findings, while examining the specific research hypotheses. Additionally, the chapter will present limitations of the study and will then offer suggestions for the direction of future research that may be conducted on the relationship between demographics (gender), risk (exposure: friend use and parent use of illicit drugs), preventative/protective factors (religiosity and self-esteem) in reports of drug use in participants currently enrolled at a university. While some of the findings in the current study support the results of previous work, other findings were inconsistent with such. Beyond that, the present study also made some new contributions to the existing literature on the topic of social learning theory and illegal use of drugs in university students.

Thus, the key purpose of the current study was to examine the relationship between exposure, religiosity, gender, social class identification, and self-esteem in the reports of illicit drug use in current college students. The analysis attempted to determine whether any differences existed in drug use and predictive factors. Therefore, the variables of gender, self-esteem (home, peer, school), social class, religiosity, and exposure were used in predicting drug usage in university students. The goal of the current research was to determine if the social learning and control theory were acceptable explanations and interpretations of why students engage in drug use while attending college. Although there is adequate research on risk factors, there is a paucity of research on self-esteem as a predictive factor. Furthermore, the research that does exist is controversial. So, the current analysis aims to explore these controversial findings and explore any other relationships that exist in college students that engage in drug use. This was done by running computations while controlling for other variables.

First, the present analysis demonstrated the importance of social components in a college student's life. It showed that many students that engage in drug use are exposed to peers and parents that also engage in illicit drug use. That is, peer illegal drug use was a significant predictor in reports of drug use in current students. In addition, religious connection to church and parent illicit drug use were also significant predictive variables in all the models. These relationships persisted even after controlling for two control factors of gender and perception of social class identification. The findings were consistent with the hypotheses that social components (friends, parents, religiosity) would influence drug use.

For instance, it was predicted that those who had strong religiosity would be less likely to report drug usage. The measurement was the strength of connection to church. This would be considered a social bond for control theory. The findings are consistent with control theory in suggesting that individuals with a strong social bond are less likely to engage in negative behaviors (illegal drug use). In addition, it was predicted that individuals who were exposed to friend's or parent's use of illegal drugs would be more likely to report their own drug usage. This was also consistent with the social learning model, as the strongest attachments with others would be an individual's parents or peers.

However, it was predicted that a low self-esteem would be a predictive factor in high rates of drug use as well. For instance, researchers have found that low self-esteem is even linked to cigarette smoking and high risk behaviors (Tucker 1985; Dielman et al. 1984). Surprisingly, the findings did not support this hypothesis. Although previous research has indicated that low self-esteem is a predictive factor of drug use (Backer-Fulgham et al. 2012; Zamboanga et al. 2009), these findings were not consistent with this. In addition, Zamboanga et al. (2009) showed that self-esteem was also a protective factor against drug use. A study that analyzed school

children used the Hare Self-Esteem scale and found (in each subscale) that high self-esteem scores indicate non-use of drugs and intentions to abstain from use in the future (Young and Werch 1990). The same study found that there were significant differences for school self-esteem in the variable of “frequency of dipping and chewing” (Young and Werch 1990). The same study only found one significant difference for peer self-esteem for “frequency of coffee drinking” (Young and Werch 1990). It was also hypothesized that gender differences would be a significant predictor in drug use reports, however the findings did not support this. There were no significant differences between males and females in reports of drug use. Moreover, the study identified some important components of the social learning theory with young adults.

In all three models, it was found that friend use, parent use, and connection to church were significant predictors in drug usage for college students. The first model included gender and the peer self-esteem scale. Oddly, both factors were not significant predictors as hypothesized. For the second model, exposure to friends and parental use of illicit drugs and connection to church were strong predictors in drug usage for participants. Gender and self-esteem home scale were included in this model and were not considered significant. For the last model, exposure to friends, parents, and the strength of one’s connection to church were significant. Gender and self-esteem in school were not. These are significant findings that suggest self-esteem in the most significant areas of interaction are not predictive factors of drug use in college students.

Although, findings did show there were statistical significance among the variables in the correlation matrix, each independent variable, apart from gender and peer self-esteem, had a statistically significant coefficient with the dependent variable of reports of drug use. That is, friend and parent use were positively correlated with personal reports of drug use, while church

connectedness was negatively correlated. In addition, friend use was the strongest correlation coefficient with drug use. This is consistent with the social learning model, as strong attachments to others leads to similar behaviors. That is, seeing close friends and families use drugs will lead to a higher likelihood of engaging in drug use. The HARE self-esteem subscales also showed a high correlation between the home area-specific assessment and drug use. Gender was not significant with drug use but was significant with self-esteem with peers and at school.

Thus, the present study partially confirmed and partially differed from prior findings with regards to the relationship of drug usage with gender and self-esteem. These findings are not surprising, as these variables have had different outcomes based on prior findings with examining self-esteem. In other words, previous findings have suggested opposing results. However, research has shown that self-esteem is associated with drug abuse rates. It has also been determined to be a predictive factor (see Bartsch et al. 2017, Carvajal et al. 2011, Gossop 2009;).

Although the current study found a correlation between self-esteem in the home and school with rates of drug use, it was not significant as a predictive factor. In addition, the majority of academic literature has determined that males have a higher report of illicit drug use than female college students. Similarly, the measure of social class identification was significant in the Spearman correlation matrix with drug use, although very weak, and was not significant as a predictive factor. Therefore, the research findings of the present analysis were not consistent with this hypothesis, and it can be concluded that being male or female, or the perception of one's social class identification, does not have an effect on whether a college student engages in the use of illicit drugs or substances.

Limitations

It is imperative to note several limitations of the present research analysis that should be addressed. First and foremost, because this study drew analysis from a secondary data set, there was no control over the data collection. This includes the use of sample instruments, sample size, and selection of questions. It was hoped that the sample size was an adequate amount for the study and findings. There were several factors that may have been important predictors of drug and substance misuse that were not addressed in the original survey distributed online. For example, previous research has determined that a student's involvement with sororities or fraternities plays an important role in the engagement of substance use (Caron et al 2004; Collins and Liu 2014; McCabe et al. 2018; Wechsler et al. 2009). Likewise, a student's involvement with other campus organizations may be an influential factor in substance use. Future research should continue to evaluate this relationship.

The aim of this study was to investigate only students enrolled in classes at a university. However, there were a few missing cases from nearly every question on the survey. This was either due to the respondent's choice not to answer or possible technical issues. This led to a smaller sample size for each univariate and multivariate analyses that were computed. Consequently, any similar research conducted in the future should attempt a higher sample size in order to reduce the significance of missing responses. This would help the data become more accurate and lead to greater generalizability.

Additionally, the age of respondents varied. While the majority were 18, the oldest individual was 81. It may be beneficial to have a constraint on age restrictions, as an older individual may not experience the same type of campus life as a student that is 18 and heavily involved in campus activities. And since this survey was conducted with just college students, it

may only be valid for individuals attending a university, even though illicit drug use can be engaged in at any stage of life. Furthermore, it has been shown that college students are not the only individuals that engage in substance and illicit drug use. Investigating drug use at a number of different ages and stages of life (adolescents, graduating high school and transitioning to work life, or graduating high school and transitioning to college, etc.) should be analyzed too. This would add to the current research and benefit the field in understanding drug use in all ages and what stages of life it is more prevalent in. In addition, the HARE general and area-specific self-esteem scale was developed and suggested to be used on youth between the ages of 10 to 18. This may be why previous studies found significant findings in school children for area-specific measurements. Since the present study ranged in ages from 18-81, the median being 19 years old, the HARE self-esteem scale may not have been as accurate for measuring this age group of individuals.

Moreover, it would be beneficial to examine drug use in other regional, rural, and urban differences of college campuses. As some have a stronger diversity in backgrounds of race, social class, ethnicity, and religious background. Thus, the current research did not have a strong distribution of race differences in the population sample. Further research should attempt to have a more diverse population sample. This research also only relied on quantitative analyses. It might be interesting for future researchers to address this issue in a more qualitative matter, as it leaves room for more openness in responses and interpretation of results. That is, qualitative allows for a deeper and more detailed understanding of certain phenomena, which would be very beneficial in examining college students. Further, in-depth research should be conducted with members of diverse backgrounds and seek specific stories and answers describing the experience of campus life when it comes to illicit use and misuse of substances and drugs. Likewise, future

research should inquire into the practical implications of certain demographics like perception of social class and income, as early research has assumed that illegal drug use and criminal behavior was only present in lower and working classes.

Suggestions for Future Research

It is central to identify why substance and drug use is so prevalent in college aged individuals. Some scholars have argued that the transition from high school to adulthood is associated with increased drug and substance use and not necessarily attending college (White et al. 2005). In addition, academic scholars have shown that it is the transition from high school that is associated with risk of substance use, not transition into college (White et al. 2005). Therefore, academic scholars should examine between college students and their age-matched peers when making the transition from high school to college or adulthood. In fact, research implies that the transition out of high school, rather than college is association with risk for substance use initiation (White et al. 2005).

Therefore, college students are not at a greater risk for engaging substances than their non-student peers (Skidmore et al 2016). It has even been found that college students have lower rates of marijuana, cigarette, and other illicit drugs in comparison to noncollege peers (Cranford et al. 2009; White et al. 2005). Also, additional research could focus on first-year college students as they are in a unique position where they must balance new responsibilities and independence. In fact, it has been established that first-year students are more often exposed to alcohol use because they are the largest percentage of population that attend campus parties (Harford et al. 2002).

The present study did not find gender or social class identification differences in college students when it comes to the illegal use of drugs. However, other studies have found that men

are more likely than women to engage in substance use and do at a higher frequency (Johnston et al. 2014). Similarly, Meier et al. (2015) found that male undergraduate students had higher reports of drug use and abuse than their female counterparts. In contrast, Wagoner et al. (2012) discovered that females were more likely to obtain free alcohol and would have a higher likelihood of risk drinking than males, although they would experience fewer alcohol-related consequences than male students.

Though the present study did not find significant differences in gender, it is important for future research to continue to examine this further. Perhaps there were no significant differences, as males and females have similar experiences when attending college. Furthermore, future research should analyze gender difference in drug usage at different phases of life.

Though it was hypothesized that self-esteem may be a risk or protective factor of illegal drug use in undergraduates, it should be further examined as some research has suggested these factors may be important. In fact, further research may use a different self-esteem measurement than the one used in the present study (HARE general and area-specific self-esteem scale). For instance, a study representing 16 different schools found statistically significant difference for home and school self-esteem scales for drug use or expected use (Young et al. 1989). Donnelly et al. (2008) found that there were significant differences in home and school self-esteem scores between users/expected users and non-users in substance use. Further, they found that there were distinguishing difference in users and non-users on the peer, home, and school subscales (Donnelly et al. 2008). Thus, using other self-esteem scales may indicate different findings than the present study. Further, research may use the general self-esteem scale in place of the three area-specific assessments to determine if that is a predictive factor of illegal drug use and misuse.

Changing views on drugs

Americans of all ages have different perspectives on the dangers of drug use. This is especially true for marijuana as more states are now legalizing it for medicinal and recreational use. However, this applies to other drugs and substances too. The perception of the probability of drug abuse does not differ that much among demographic groups, however, it is known that young people are less likely than older generations to view drug abuse as a national crisis (Pew Research Center 2014). In fact, over half of young individuals (60%) claim that drug abuse in their neighborhood is either not a problem or just a minor one (Pew Research Center 2014).

Additionally, 58% of individuals that have a high school diploma or less reported drug abuse is a crisis (14%) or serious problem (43%) (Pew Research Center 2014). In comparison, graduates of college view drug abuse as a lesser problem in their neighborhoods, as 10% reported it as a crisis and 35% reported it as a serious problem (Pew Research Center 2014). Those who have experienced college do not view drugs as a serious issue. This might be due to seeing other people consume substances at college parties or from misinformation on the seriousness of drug abuse. Future research and treatment programs should consider this and implement ways to change the perception of college students on how they view drug and substance abuse.

Treatment, Prevention, and Intervention

In considering the high percentages of drug and substance use in college students, it is necessary to implement prevention and intervention programs. Although there are some programs that do exist, they still need improvements to be more effective. Programs need to focus on early intervention, as risk reduction programs have shown to result in less alcohol consumption and fewer alcohol-related incidence in college students (Carey et al. 2007).

Positively, many universities and colleges are currently making it a requirement for students to complete an alcohol education program prior to arriving to campus (Croom et al. 2009).

Conclusion

In general, college is an increased risk for problem behaviors, like substance use. It is known that college students engage in heavy alcohol consumption, high rates of nonmedical use of prescription drugs, marijuana use, and lower rates of other drugs. The use of substances is associated with many negative consequences ranging from legal issues, academic difficulties, relationship problems, worsening physical and mental health problems, and causing injuries or even death. Individuals with a lack of religious background seem to be at a higher risk for substance use, while individuals who are higher in religiosity are at a lower risk for substance use. University campuses need to provide prevention and intervention programs for the group and the individual level. Previous research has indicated that cognitive behavior skills-based treatment is effective (McHugh et al 2010). It is imperative for programs to strive to seek out the high-risk populations.

Furthermore, the findings have demonstrated significant predictor/risk, and protective/risk factors of drug abuse in college students. Specifically, exposure to peer and parent illicit drug use, and religiosity are all strong predictive indicators of drug abuse. These predictors help explain and understand why social norms and social bonds play a vital role in adolescent and young adult behavior. Social norms are established by groups of friends and campus organizations where behavior that adheres to these norms are rewarded with support and approval. In contrast, behavior that deviates from these norms brings rejection or disapproval. In fact, this is partly due to the desire of being accepted among friends and associates (Steinberg and Monahan 2007). Exposure to peer and parent drug abuse leads to negative long-term

outcomes like violent behavior and school dropout (Farmer et al. 2003). Although an individual can still make their own decisions, it is shown in the findings that there is a very high correlation between drug use and exposure to peer illicit drug use. Though this does not infer causation, it is important to recognize the strength of the linear relationship.

Further, the preceding research findings have confirmed portions of existing literature, has questioned others, and offers insights to the current body of literature on the issue of drug abuse in college students. This examination supports the social learning model in respect to current studies at a college or university. In other words, the key findings highlight the importance of social components. Social attachments to others and reinforcers are key influencers in one's behavior. For example, witnessing illicit drug use by someone to whom the witness is close to can influence the decision to use drugs. In addition, strong social ties to a religious organization or church impact the individual's daily decisions. Usually, strong religious beliefs impact behaviors and decisions made due to moral responsibility. The findings of the present study support previous literature that have established exposure and religiosity as risk and preventative factors of drug use.

These findings did not show significance with self-esteem, however similar yet different concepts measures should be examined in future research, those ideas being an individual's self-concept or self-efficacy. Furthermore, future research on this topic is essential in understanding drug abuse and how substance use disorders develop and increase in the United States. By further investigating and understanding this pathway to drug abuse, research can aim to help more individuals that are at risk for engaging in drugs to avoid this issue or rise above this type of difficulty that persists in society.

APPENDICES

Recruitment script for Survey on Re-Evaluating Socio-Cultural Backgrounds and Health Habits at a University Level: A Survey of MSU Undergraduate Students
The following script will precede the questionnaire

Survey on Re-Evaluating Socio-Cultural Backgrounds and Health Habits at a University Level: A Survey of MSU Undergraduate Students

As an undergraduate student at MSU, you will be asked a series of questions regarding your socio-cultural background and health habits. This survey was originally conducted in 2007-2008 and researchers are now conducting a follow-up. The research is conducted by Drs. Suzanne Tallichet (sociology faculty) and Elizabeth Perkins (criminology faculty) at Morehead State University. The survey will take approximately 15 minutes to complete.

The survey is anonymous and confidential. No data will be collected which will identify you. Your completing the survey is voluntary. You may choose not to answer any or all questions, and you may stop at any time. There is no penalty for declining to take part in this research study. If you have any questions, please call Elizabeth Perkins at 606-783-5386 for any research related questions or the Office of Research Integrity and Compliance, at 606-783-2541.

There is no "capturing of your email or IP address" when you submit this questionnaire. In addition, no identifying code will be attached to any response. I HAVE HAD THE OPPORTUNITY TO READ THIS CONSENT FORM, ASK QUESTIONS ABOUT THE RESEARCH PROJECT AND AM PREPARED TO PARTICIPATE IN THIS PROJECT. I AM 18 YEARS OF AGE OR OLDER.

SURVEY QUESTIONNAIRE

This survey examines the socio-cultural backgrounds and health habits of college students in the Appalachian region. Please begin by supplying the most accurate answer to the questions asked below:

1. What is your age in years? _____
2. Your gender is:
 - a. male
 - b. female
3. You would identify your race/ethnic group as:
 - a. White American
 - b. African American
 - c. Hispanic American
 - d. Latin American
 - e. Asian American
 - f. Native American
 - g. Other: _____
4. When you were growing up, how large was your family?
 - a. only child
 - b. small (2-3 children)
 - c. mid-size (4-5 children)
 - d. large (6 or more children)
5. Among the children in your family, are you the _____?
 - a. oldest
 - b. next to oldest
 - c. middle child
 - d. next to youngest
 - e. youngest
 - f. not applicable, only child
6. During most of the time you were growing up, your parents were:
 - a. married the entire time
 - b. separated or divorced most of the time
 - c. separated or divorced some of the time
 - d. never married
7. Your current marital status is:
 - a. single never married
 - b. living with someone
 - c. married

- d. legally separated or divorced
 - e. widowed
8. How many children do you have?
- a. none
 - b. one
 - c. 2-3 children
 - d. 4-5 children
 - e. 6 or more children
9. You would identify your religion as:
- a. Baptist
 - b. Methodist
 - c. Pentecostal
 - d. Lutheran
 - e. Presbyterian
 - f. Catholic
 - g. Jewish
 - h. No affiliation
 - i. Other: _____
10. In the past year, about how often have you attended religious services?
- a. daily
 - b. weekly
 - c. monthly
 - d. occasionally
 - e. never
11. How often do you engage in religious activities, such as prayer, reading the Bible or other religious material, meditation or listening to religious broadcasts?
- a. daily
 - b. weekly
 - c. monthly
 - d. occasionally
 - e. never
12. How strong is your connection to any church?
- a. very strong
 - b. strong
 - c. moderate
 - d. mild
 - b. nonexistent
13. How important is religion or spirituality in your life?
- a. very important
 - b. important
 - c. somewhat important
 - d. not important
14. Without a doubt, would you agree there is a God?
- a. strongly agree
 - b. agree
 - c. disagree
 - d. strongly disagree

- e. undecided
15. Which of the following best describes where you grew up:
- a. a large city (250,000 residents or more)
 - b. a city (50,000 residents or more)
 - c. suburb of a city
 - d. town (2,500 residents or more)
 - e. small town (fewer than 2,500 residents)
 - f. open country or rural area
16. Do you consider yourself Appalachian?
- a. yes
 - b. no
17. You would identify your social class as:
- a. lower class
 - b. working class
 - c. middle class
 - d. upper class
18. Your occupation currently is best described as a job in a (the):
- a. service sector
 - b. extractive industry (farming, logging, mining)
 - c. other blue-collar trade
 - d. white-collar managerial
 - e. professional
 - f. Other: _____
 - g. not applicable
19. Your student status is:
- a. full time
 - b. part time
20. Your class rank is:
- a. freshman
 - b. sophomore
 - c. junior
 - d. senior
 - e. graduate student
21. Roughly speaking, your income last year was:
- a. under \$5,000
 - b. \$5,000-\$9,999
 - c. \$10,000-\$14,999
 - d. \$15,000-\$24,999
 - e. \$25,000-\$34,999
 - f. \$35,000-\$49,999
 - g. \$50,000-\$74,999
 - h. \$75,000-\$99,999
 - i. \$100,000 and over
 - j. not applicable

22. Most of the time while you were growing up, your father's occupation was:
- a. service sector
 - b. extractive industry (farming, logging, mining)
 - c. other blue collar trade
 - d. white collar managerial
 - e. professional
 - f. other: _____
 - g. not applicable

23. Most of the time while you were growing up, your mother's occupation was:
- a. service sector
 - b. extractive industry (farming, logging, mining)
 - c. blue collar trade
 - d. white collar managerial
 - e. professional
 - f. other: _____
 - g. not applicable
24. Roughly speaking, your father's income while you were growing up was:
- a. under \$5,000
 - b. \$5,000-\$9,999
 - c. \$10,000-\$14,999
 - d. \$15,000-\$24,999
 - e. \$25,000-\$34,999
 - f. \$35,000-\$49,999 (continued next page)
 - g. \$50,000-\$74,999
 - h. \$75,000-\$99,999
 - i. \$100,000 and over
 - j. not applicable
25. Roughly speaking, your mother's income while your were growing up was:
- a. under \$5,000
 - b. \$5,000-\$9,999
 - c. \$10,000-\$14,999
 - d. \$15,000-\$24,999
 - e. \$25,000-\$34,999
 - f. \$35,000-\$49,999
 - g. \$50,000-\$74,999
 - h. \$75,000-\$99,999
 - i. \$100,000 and over
 - j. not applicable
26. Your father's education level is:
- a. middle school or less
 - b. some high school
 - c. high school graduate
 - d. post-secondary school, vocational
 - e. post-secondary school, some college
 - f. college graduate
 - g. some graduate school
 - h. graduate or professional degree
 - i. not applicable

27. Your mother's education level is:
- a. middle school or less
 - b. some high school
 - c. high school graduate
 - d. post-secondary school, vocational
 - e. post-secondary school, some college
 - f. college graduate
 - g. some graduate school
 - h. graduate or professional degree
 - i. not applicable

In this section of the survey, for each question listed, circle the answer that best applies to you.

28. All in all, I would say my health is:
a. excellent b. very good c. good d. fair e. poor
29. Have you ever had a continuous health problem at any point in your life?
a. yes b. no
30. Have you ever visited the doctor with a continuous health problem at any point in your life?
a. yes b. no c. not applicable
31. If you visited the doctor with a health problem, did you take prescribed medication?
a. yes b. no c. not applicable
32. Have you ever experienced a mental health problem at any point in your life?
a. yes b. no
33. Have you ever visited the doctor or other health care professionals with a continuous mental health problem at any point in your life?
a. yes b. no c. not applicable
34. If you had a mental health problem, did you take prescribed medication?
a. yes b. no c. not applicable
35. Have you ever seen your friend(s) use illegal drugs?
a. no
b. yes
c. If yes, what illegal drug(s) did your friend(s) use? _____
36. Have you ever seen your parent(s) use illegal drugs?
a. no
b. yes
c. If yes, what illegal drug(s) did your parent(s) use? _____
37. Have you ever seen your sibling(s) use illegal drugs?
a. no

- b. yes
 c. If yes, what illegal drug(s) did your sibling(s) use? _____
38. Have you ever seen your spouse use illegal drugs?
 a. no
 b. yes
 c. If yes, what illegal drug(s) did your spouse use? _____
39. Have you ever taken illegal drugs?
 a. no
 b. yes
 c. If yes, what illegal drug(s) did you use? _____
40. Do you consider the following drugs to be “illegal”?
- | | | |
|--------------------------|-----|----|
| a. caffeine | yes | no |
| b. nicotine | yes | no |
| c. alcohol | yes | no |
| d. oxycontin (oxycodone) | yes | no |
| e. marijuana | yes | no |
| f. cocaine or crack | yes | no |
| g. speed | yes | no |
| i. PCP | yes | no |
| j. METH | yes | no |
| k. heroin | yes | no |
| l. Other: _____ | yes | no |

In this final section of the survey, for each question listed please circle the number that best applies to you.

- | | Strongly
Agree | Agree | Disagree | Strongly
Disagree |
|---|-------------------|-------|----------|----------------------|
| 41. I have at least as many friends as other people my age. | 1 | 2 | 3 | 4 |

42. I am not as popular as other people my age.	1	2	3	4
43. The kinds of things that people my age like to do, I am at least as good as most other people.	1	2	3	4
44. People my age often pick on me.	1	2	3	4
45. Other people think I am a lot of fun to be with.	1	2	3	4
46. I usually keep to myself because I am not like other people my age.	1	2	3	4
47. Other people wish they were like me.	1	2	3	4
48. I wish I were a different kind of person because I'd have more friends.	1	2	3	4
49. If my group of friends decided to vote for leaders of their group I'd be elected to a high position.	1	2	3	4
50. When things get tough, I am not a person that other people my age would turn to for help	1	2	3	4
51. My parents are proud of the kind of person I am.	1	2	3	4
		Strongly Agree	Disagree	Strongly Disagree
52. No one pays much attention to me at home.	1	2	3	4
53. My parents feel that I can be depended on.	1	2	3	4
54. I often feel that if they could, my parents would trade me in for another child.	1	2	3	4
55. My parents try to understand me.	1	2	3	4
56. My parents expect too much of me.	1	2	3	4
57. I am an important person to my family.	1	2	3	4
58. I often feel unwanted at home.	1	2	3	4
59. My parents believe that I will be a success in the future.	1	2	3	4
60. I often wish that I had been born into another	1	2	3	4

family.

- | | | | | |
|---|---|---|---|---|
| 61. My teachers expect too much of me. | 1 | 2 | 3 | 4 |
| 62. In the kinds of things we do in school, I am at least as good as other people in my classes. | 1 | 2 | 3 | 4 |
| 63. I often feel worthless in school. | 1 | 2 | 3 | 4 |
| 64. I am usually proud of my report card. | 1 | 2 | 3 | 4 |
| 65. School is harder for me than most other people. | 1 | 2 | 3 | 4 |
| 66. My teachers are usually happy with the kind of work I do. | 1 | 2 | 3 | 4 |
| 67. Most of my teachers do not understand me. | 1 | 2 | 3 | 4 |
| 68. I am an important person in my classes. | 1 | 2 | 3 | 4 |
| 69. No matter how hard I try, I never get the grades I deserve. | 1 | 2 | 3 | 4 |
| 70. All and all, I feel I've been very fortunate to have had the kinds of teachers I've had since I started | 1 | 2 | 3 | 4 |

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