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The Contribution of Socioeconomic Status, Stress, and Happiness to Substance Abuse among Adults in America

Volaura Anderson
Walden University

Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

Volaura Anderson

has been found to be complete and satisfactory in all respects,
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Abstract

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MS, Walden University, 2017

BS, Nova Southeastern University, 2013

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

The problem studied was that by 2025, over 5 million adults in the United States will likely be suffering from different disorders caused by substance use. Therefore, the purpose of this quantitative, nonexperimental study was to investigate the relationship between socioeconomic status (SES), stress, happiness, and the frequency of drug use amongst adults over the age of 45 years who resided in the State of Florida and were currently enrolled in a substance use recovery program. The stress process model guided this study and the research questions focused on determining any relationships between frequency of drug use, SES, stress, and happiness, while controlling for age, sex, and ethnicity the population under study. Data were collected by a survey completed by 121 respondents recruited by different Facebook groups. The survey included four different instruments: a demographic questionnaire, a frequency of drug use questionnaire, the Subjective Happiness Scale, and the Perceived Stress Scale. Individuals completed the survey via SurveyMonkey. Multiple regression was used to assess the relationship between adult substance use, SES, stress, and happiness, while controlling for age, sex, ethnicity, and income. Although, SES had a positive effect with frequency of patients' drug usage, while happiness and stress had a negative effect on frequency drug usage when controlling for age, sex, and ethnicity. Overall regression model did not explain significant amount of variance in frequency of drug use among adults aged 45 years and older who are currently enrolled in a substance use recovery program in the State of Florida. Findings may contribute to social change by further informing healthcare practitioners as they provide more effective treatment programs to substance users.

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Chapter 1: Introduction to the Study

Introduction

Substance use in the United States is a growing problem (Crome, 2015; Dombrowski et al., 2016). By 2025, it is estimated that over 5 million adults in the United States will be suffering from different disorders caused by substance use (Mattson et al., 2017; Scrivner, et al., 2020). According to Lamptey (2015), substance use had affected approximately 5% of all individuals across the world. Substance use is significantly correlated with socioeconomic status (SES), stress, and happiness (Lewis et al., 2018). Residing in disadvantaged neighborhoods was significantly associated with higher substance use (i.e., tobacco and drug use; Linton et al., 2017). Additionally, using alcohol, marijuana, and cigarettes is significantly negatively correlated with life satisfaction (Mies et al., 2018; Moschion & Powdthavee, 2018). Foster et al. (2016) reported that cigarette or marijuana use was significantly positively correlated with depressive symptoms.

There appeared to be a gap in the literature that investigated any relationships between adult substance use, SES, stress, and happiness, while controlling for age, sex, and ethnicity. Therefore, the aim of this research was to investigate the relationship between SES, stress, happiness, and frequency of drug use amongst adults over 45 years of age who were currently enrolled in substance use recovery programs in a geographical region located in the United States. The findings of the research could contribute to social change by allowing healthcare practitioners to provide more effective treatment programs to substance users. In providing more effective treatment to substance users, stress levels

could be reduced by allowing patients to better cope with stressors. Policymakers could also use the findings of this research to develop policies that would help substance users. This chapter will introduce the study by discussing the problem and its background, the purpose of the study, the research question, and the conceptual model of the stress process model that will guide this research. This chapter will also provide an overview of the study's design, the assumptions, limitations, and significance of the study, while presenting the definitions of commonly used terms that will be used in the research.

Background

Substance use is significantly associated with SES and residing in disadvantaged neighborhoods is significantly associated with higher substance use (i.e., tobacco and drug use) (Linton et al., 2017). However, different researchers have demonstrated different results when it came to higher levels of drug use in disadvantaged neighborhoods. For example, Patrick et al. (2012) differed from Karriker-Jafe (2013) as Patrick et al. concluded young adult substance use of alcohol and marijuana was significantly associated with higher childhood family SES. More recently, Linton et al. (2017) supported Karriker-Jaffe (2013) in stating that tobacco and other drug use was associated with residing in disadvantaged areas.

Substance use is significantly associated with stress and happiness. Monahan et al. (2014) found that risk and protective factors for alcohol use, such as isolation and low self-esteem, were significantly associated with depressive symptoms. Depressive symptoms can cause deficiencies in social relations which can result in isolation and low self-esteem (Krieger et al., 2016).

Cigarette or marijuana use is significantly and positively correlated with depressive symptoms (Wilkinson et al., 2016). From a historical perspective, Rooks (2010) also concluded that the substance use of alcohol, marijuana, and cigarettes was significantly negatively correlated with life satisfaction. Shanmugam (2017) also argued that individuals over 45 years of age were more susceptible to substance use than in previous years and had higher incidences of depression and anxiety.

Researchers have also examined the relationship between adult substance use, SES, stress, and happiness (Assari et al., 2019; Karriker-Jafe, 2013; Monahan et al., 2014; Rooks, 2010). However, there appeared to be limited literature that had investigated the relationship between adult substance use, SES, stress, and happiness, while controlling for age, sex, and ethnicity. This study was needed because it could advance knowledge by better understanding how age, sex, and ethnicity were related to adult substance use, SES, and happiness.

Problem Statement

Research on SES, stress, and happiness on substance use has been well documented (Crome, 2015; DeMartino et al., 2015; Sudhinaraset et al., 2016). The problem being studied was that by 2025, over 5 million adults in the United States would be suffering from different disorders caused by substance use (Mattson et al., 2017). Previously, researchers had found some linkages between substance use and SES, stress, and happiness; however, this topic needed to be further investigated in better understanding these links in relation to age, sex, and ethnicity.

In the State of Florida, resident use of alcohol and drugs continued to rise; since the 1980s, Florida has had a reputation of being known as one of the major centers of drug trade in the United States (Contreras & Hipp, 2020). The Florida Department of Children and Families (2017) reported a fourth year of continued increase in opioid-related deaths, with individuals between the ages of 25 to 34 years being the demographic with the highest rates. Additionally, individuals between the ages of 25 and 34 years had the highest levels of in-patient and hospital emergency room visits in 2017 (Florida Department of Children and Families, 2017). To demonstrate the need to complete this study in the State of Florida, different classifications of drugs had been demonstrating different usage rates. For example, 10.7% of Florida's adolescents in 2014 used alcohol at higher rates than the national average (Windle, 2016). In relation to illicit drugs, 0.22% of Floridians abused heroin in 2014 (Gladden et al., 2016).

There was a gap in the research that focused on SES, stress, and happiness on the frequency of drug use specific to adults in the United States and the State of Florida, in relation to age, sex, and ethnicity. Therefore, this study examined three broad potential determinants of possible frequency of drug use, including SES, stress, and happiness, while controlling for age, sex, and ethnicity.

Purpose of the Study

The purpose of this quantitative nonexperimental study was to investigate the relationship between SES, stress, happiness, and the frequency of drug use amongst adults over the age of 45 years who resided in the State of Florida and who were currently enrolled in a substance use recovery program. In the State of Florida, there was

an increasing trend of both alcohol and drug use amongst different age groups (Florida Department of Children and Families, 2017; Gladden et al., 2016; Windle, 2016). There was a limited body of knowledge on the contribution of societal factors to substance use specific to adults. Therefore, the available knowledge had indicated that additional research was necessary to develop a stronger body of knowledge.

In this study I recruited 85 individuals who resided in the State of Florida and were currently attending a rehabilitation treatment center. When collecting the data, I required participants to complete a survey that highlighted the different demographic variables that were being studied (age, sex, ethnicity, SES level), level of happiness, level of stress, and the frequency of drug use. The aim of data collection was to answer the identified research question that guided this study by completing a multiple regression analysis.

Research Question

The research question that guided this study was as follows:

Research Question 1**:** Is there a relationship between the frequency of drug use, SES, stress, and happiness, while controlling for age, sex, and ethnicity among adults aged 45 and older who are currently enrolled in a substance use recovery program in the State of Florida?

H_0: There is no statistically significant relationship between the frequency of drug use, SES, stress, and happiness, while controlling for age, sex, and ethnicity among adults aged 45 and older who are currently enrolled in a substance use recovery program in the State of Florida.

H_1: There is a statistically significant relationship between the frequency of drug use, SES, stress, and happiness, while controlling for age, sex, and ethnicity among adults aged 45 and older who are currently enrolled in a substance use recovery program in the State of Florida.

Theoretical Framework

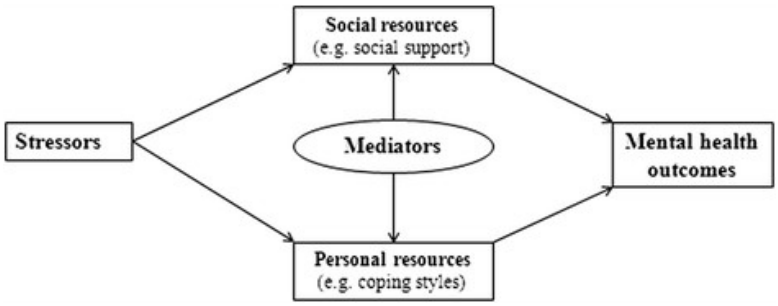
The theoretical framework that guided this study was the stress process model. Pearlin (1989) posited that substance use was associated with social stressors experienced by the individual. With increased experiences of social stress, when individuals tend to cope using drugs or alcohol, depression can be experienced. The stress process model focuses on individuals of lower SES and includes four stages:

1. A demand
2. An appraisal of the demand
3. A negative response to the cognitive appraisal of the demand
4. The stress response (Blankenship, 2007, p.39).

Pearlin (1989) related increased substance use to a lack of prosocial coping mechanisms which could be acquired from members of a more affluent society. As this study focused on SES, stress, and happiness in relation to substance use, especially within lower SES cohorts, the stress process model was the most appropriate theoretical framework for this quantitative study. The stress process model tied into the study because it was most suitable for examining the effect of social pressures on substance use as depicted in Figure 1 below. The stress process model was informed by the research question.

Figure 1

The Stress Process Model



Nature of Study

This study utilized a quantitative nonexperimental study that used a multiple regression analysis. This quantitative research method is most appropriate for developing research questions, creating a hypothesis, and using a theoretical framework. (Kumar, 2015). The study variables were all quantifiable, as the study focused on adults who were 45 years and older, and who had been sampled from treatment and rehabilitation recovery programs in the State of Florida. The sample age of 45 years and above was selected to establish which factors continue to be significantly related with substance use in midlife and older people. The active substance users were found in rehabilitation centers in the State of Florida.

An experimental design is most appropriate when various conditions are used (Bernard, 2013; Vaishnavi & Kuechler, 2015). Additionally, a multiple regression analysis is most suitable for investigating the relationship between two or more variables (Leedy & Ormrod, 2016). Therefore, a nonexperimental design using a multiple regression analysis was most appropriate for examining the research question as this

study investigated multiple variables (Cooper & Schindler, 2014). The dependent variable of the study was participants' drug use, measured as frequency of use, whereas independent variables include SES, stress, and happiness. Additionally, covariates of this study included age, sex, ethnicity, and income.

A multiple regression analysis allowed me to assess the relationship between adult substance use, SES, stress, and happiness, while controlling for age, sex, and ethnicity. A multiple regression analysis was the most appropriate as it could partition the variance within the dependent variable (substance use) among different independent variables. Furthermore, a multiple regression compared independent variables against the dependent variable because it was most appropriate for measuring the impact of SES, stress, and happiness on the dependent variable. This study had a minimum of 85 respondents as determined by G*Power. In order to detect a medium effect size of r2= 0.15, at 5 % level of significance and 80% power, a minimum sample size of at least 85 participants were required.

Definitions

The following terms were used regularly throughout this study and were, therefore, defined as follows:

Alcohol abuse: In this study, alcohol abuse was defined as a pattern of drinking 15 or more drinks a week. A drink was defined as 12 ounces of beer or 5 ounces of wine (Baker, 2017, p.20).

Happiness: Happiness was defined as a state of contentment (Rooks, 2010).

Marijuana abuse: Marijuana abuse was defined as a pattern of smoking too much marijuana. (Rooks, 2010).

Socioeconomic status: Socioeconomic status was defined as the social and economic standing of a person. Socioeconomic status was additionally defined as an individual's economic and social position, based on income, education, and occupation (Karriker-Jafe, 2013).

Substance use: Substance use was defined as any alcohol and drug use *(*Karriker-Jafe, 2013).

Stress: Stress was defined as a factor that resulted in tension (Malone, 2013).

Tobacco abuse: Tobacco abuse was a pattern of smoking too much tobacco (Malone, 2013).

Assumptions

This study included several assumptions. In this study, it was assumed that persons over 45 and currently enrolled in substance use recovery programs in the State of Florida had stress. This assumption was necessary to examine the research question. In addition, it was assumed that the findings of this research could not be generalized to persons in other regions of the United States or around the world. Finally, it was assumed that the findings of this research could not be generalized to persons not completing treatment or seeking help through other types of treatment programs, not otherwise studied in this research.

Scope and Delimitations

This study was also defined by a scope and delimitations. Substance use in the United States is an essential and growing problem (Crome, 2015; Gfroefer et al., 2003). The inclusion criteria for this study included persons over the age of 45 years and currently enrolled in a substance use recovery program within the State of Florida. The exclusion criteria included persons who were not currently enrolled in a substance use recovery program and those individuals who did not reside in the State of Florida. Therefore, the findings could not be generalized to persons in other regions of the United States or elsewhere in the world. Additionally, the findings could not be generalized to persons not had not completed treatment or sought help through other types of treatment programs not otherwise studied in this research.

Limitations

This study included several limitations. Limitations in this study included the inability to establish causation between happiness and drug use. For instance, unhappiness may lead to drug use, or drug use may result in increased unhappiness. The simultaneous measurement of variables makes impossible firm conclusions concerning causality. Therefore, the limitations that were experienced within this study included the lack of generalizability regarding the results. Data collection was restricted to individuals completing treatment at substance abuse treatment facilities located in the State of Florida. Therefore, the results of data collection may not have represented a relationship between drug use and happiness in other facilities or within other areas of the country or world. Firm conclusions could not be made regarding participants in other regions of the

country or elsewhere in the world since this study focused only on one location. Additionally, this study did not reflect persons not currently seeking treatment or seeking help through other types of programming not otherwise studied within this research.

Significance

The findings from this study highlighted different societal factors that affected adult substance use and abuse in the State of Florida. The findings from this sudy investigated the impact of SES, stress, and happiness on adult substance use in the United States. Therefore, the findings of the study could be vital to adults who use substances by helping them decrease substance use when operating under different lifestyle conditions. The results of the study could also inform policy that SES, stress, and happiness could affect adult substance use in individuals who are older than 45 years of age. Therefore, the government could focus on preventing different forms of substance use and abuse by utilizing the findings of this study. Additionally, counseling departments could shape their perceptions of substance use and abuse and how to handle substance addiction by using the results of the study.

Summary

The purpose of this quantitative nonexperimental study was to investigate the relationship between SES, stress, happiness, and the frequency of drug use amongst adults over the age of 45 years who resided in the State of Florida and who were currently enrolled in a substance use recovery program. In this study, a quantitative nonexperimental study was utilized that used a multiple regression analysis. The findings of the research could help adults who use substances. The next chapter, Chapter 2, will

include research on the stress process model and a robust overview of both historical and recent studies that have been completed on the different variables of substance use and abuse, societal pressures, happiness, SES, and stress.

Chapter 2: Literature Review

Introduction

Research on societal pressures on substance use has been well documented (Crome, 2015; DeMartino et al., 2015; Sudhinaraset et al., 2016); however, there was a gap in the literature that examined research on the contribution of societal factors on substance use specific to adults over the age of 45 years, with focus on sex and ethnicity. The purpose of this quantitative nonexperimental study was to investigate the relationship between SES, stress, happiness, and the frequency of drug use amongst adults over the age of 45 years who resided in the State of Florida and who were currently enrolled in a substance use recovery program. The societal factors that were examined in this study included SES, stress, and happiness.

This chapter will present a robust literature review and will begin by highlighting the search strategy that was used when completing background research. Additionally, this chapter will include a strong discussion on the stress process model, which is the conceptual framework that guides this study. This literature review will also examine research that focuses on the relationship between substance use and SES, as well as the relationship between stress, happiness, and substance use and abuse.

Search Strategy

To complete this literature review, Google Scholar, ProQuest Dissertations and Theses, and my university's databases were used to identify relevant literature. Search terms included: *substance use AND socioeconomic status, substance use AND stress, substance use AND happiness, substance use AND depression, and* the stress process

model and substance use AND abuse. In this chapter, I primarily review peer-reviewed journal articles; however, I also included specific magazines and published dissertations when necessary. The period from which the literature was drawn upon was primarily between 2015 and 2020; however, exceptions were made for historic or foundational work.

Theoretical Framework

The theoretical framework that was used within this study was the stress process model. Pearlin (1989) posited that substance use was associated with social stressors experienced by the individual. The stress process model focuses on individuals of lower SES and includes four stages:

1. A demand
2. An appraisal of the demand
3. A negative response to the cognitive appraisal of the demand
4. The stress response (Blankenship, 2007, p.39).

Pearlin (1989) related increased substance use to a lack of prosocial coping mechanisms which could be acquired from members of a more affluent society. As this study focused on SES, stress, and happiness in relation to substance use, especially within lower SES cohorts, the stress process model is the most appropriate theoretical framework for this quantitative study. The stress process model tied into the study because it was most suitable for examining the effect of social pressures on substance use, especially when determining relationships between the different variables of stress,

happiness, and the frequency of alcohol or drug use. Therefore, the stress process model was informed by the research questions.

This theoretical framework had been used in a variety of previous studies both inside and outside of the substance abuse field. Outside of the substance abuse field, the stress process model had been used to investigate workplace stressors and bullying behaviors as evidenced by Attell et al. (2017). The authors aimed to better understand the mental health consequences of workplace bullying, using the stress process model Completing a quantitative study, the authors drew on the stress process theory to examine participants' coworker levels of support as a coping mechanism against workplace bullying. The findings of their study concluded that coworker support was a protective buffer against workplace bullying, and the effects of workplace bullying affected more women and people of color, especially within the African American population.

Additionally, in terms of different demographic backgrounds, Brown et al. (2020) used the stress process model to examine race and ethnic differences to the exposure of chronic stress in older adults. The authors reported that minority groups tend to experience higher levels of stress than other populations and collected data by utilizing results from a previous survey that compiled data from 6,567 individuals who were 52 years and older. The results of the study highlighted that individual who identified as being Black, and both U.S. and foreign-born Hispanic individuals reported an increase in chronic stress exposure than White individuals, as well as being more likely to experience financial and housing-related stress. This study was important to this current study, as the researcher aimed to examine different variables such as that of SES, age, gender, level of

happiness, and level of substance use or abuse. Interestingly, the results of Brown et al. (2020) could highlight in this current study that minority groups and older individuals could experience higher levels of stress as well as increased substance use or abuse to deal with stress levels, as per the findings of Brown et al's study.

To include a study that has used stress processes that are in alignment with the topic of this current study, Carroll and Lustyk (2018) investigated mindfulness-based relapse prevention on substance abuse disorders, concentrating on the effects of cardiac vagal control and craving under stress. In their study, the authors defined cardiac vagal control as being measured by heart rate variability, which reflects the input of the parasympathetic branch of the autonomic nervous system that regulate cardiac rhythm. Additionally, when the participants of this study were completing mindfulness-based relapse prevention, they were able to complete cognitive behavioral mindfulness training to cope or prevent high-stress responses to different situations. The results of the study suggested that mindfulness-based relapse prevention was associated with decreased levels of anxiety and lower heart rate levels. This study was important to the current study, as it demonstrated different preventative measures that individuals could complete to deal with stressful events in a successful way.

Statistics on Substance Use

Substance abuse is the excessive use of alcohol or drugs and is one of the key variables in this study. In this section, I will describe relevant statistics on substances and their prevalence in the United States. Different areas of discussion will include the use of

alcohol, opioids, heroin, marijuana, tobacco, cocaine, methamphetamines, hallucinogens, and inhalants.

Alcohol Use

Alcohol abuse is one source of substance abuse. Every year, worldwide, alcohol results in 5.3% of deaths (Yerby, 2019). Approximately 300 million individuals are likely to have an alcohol use disorder (Baker, 2017). Approximately 88,000 Americans die from alcohol-related illnesses every year (Liu et al., 2016). Additionally, nearly 15 million adults are likely to have an alcohol use disorder in the United States (Marzban et al., 2017). This prevalence is relevant to this study, as alcohol can be easily bought and obtained as demonstrated by the high prevalence rates throughout the United States. When it comes to the different variables that will be examined in this study, men aged 18 to 25 years have a higher likelihood of becoming alcoholics (Monahan et al., 2014). In 2017, approximately 2.3 million individuals aged 12 to 17 and 2.4 million people aged 18 to 25 were likely to start to drink alcohol in the United States (Saban et al., 2014). In 2018, adolescents were less likely to drink underage than those in 2013 (Holzhauer et al., 2017). These data suggest that, overall, men are more likely to abuse alcohol. In addition, though teenagers and young adults are also significant portions of the population who struggle with alcohol abuse, alcohol use disorder is on the decline overall.

Opioid Use

Opioids are considered narcotics and can include strong prescription drug pain relievers including that of oxycodone and hydrocodone. Approximately 130 individuals die every day from an opioid overdose in the United States (Yerby, 2019). From 1999 to

2017, 399,230 individuals died from opioid use in the United States (Boogar et al., 2014). In 2017, 47,600 overdoses occurred in the United States, which included at least one opioid (Humensky, 2010).

In 2017, doctors were less likely to issue opioid prescriptions (i.e., 191 million) than those from 2006 to 2016 (i.e., 200 million) (Rose & Bond, 2008). In 2017, 2 million Americans misused prescription opioids (Murtha, 2018). Approximately 10% of individuals who misuse prescription opioids are addicted to opioids (Yerby, 2019). These statistics demonstrate the highly addictive and easily abused nature of opioids, making it important to understand the nature of addiction in relation to this current study.

Heroin Use

Heroin is an opioid drug made from morphine, a naturally occurring substance that is illegal and highly addictive. Approximately 494,000 people who are over 12 years old are regular heroin users in the United States (Yerby, 2019). In 2017, 886,000 people utilized heroin at least once in the United States (Karriker-Jafe, 2013). In 2017, 81,000 people tried heroin in the United States (Boogar et al., 2014). Abstaining and recovering from heroin use or abuse is extremely difficult due to the highly addictive nature of the drug; however, there are some medications that doctors can prescribe that can aid in this process over time, yet can be a challenging process (Yerby, 2019).

Marijuana Use

Marijuana is one of the most common psychoactive substances used within the United States after alcohol (Yerby, 2019). Marijuana comes from the cannabis plant and is primarily used for both medicinal and recreational purposes. Approximately 30 to 40

million people smoke marijuana every year in the United States (Yerby, 2019). In 2017, 1.2 million people aged 12-17 and 525,000 people over 26 used marijuana for the first time in the United States (Rooks, 2010). Approximately 30% of regular marijuana users are likely to suffer from a marijuana use disorder (Kedzior & Laeber, 2014). Marijuana is primarily ingested by smoking or through food. When smoking, users tend to ingest marijuana via handheld pipes, hand-rolled cigarettes, or water pipes. Statistics on marijuana use are important for this current study because it has been shown that marijuana use can lead to the use of other substances, especially that of opioids, cocaine, stimulants, hallucinogens, and tobacco (Tzilos et al., 2014).

Tobacco Use

According to the Centers for Disease Control and Prevention (2018), tobacco use is the leading cause of preventable death, disease, and disability in the United States. Approximately 34 million people smoke cigarettes in the United States (Yerby, 2019), with 16% of men and 12% of women smoking cigarettes (Patrick et al., 2012). In 2017, around 604,000 people aged 12 - 17 smoked their first cigarette in the United States (Malone, 2013). These statistics were important to this current study, as it was considered highly addictive as 60 to 80% of current smokers fulfilled the criteria for drug dependence (Patrick et al., 2012).

Cocaine Use

Cocaine is a stimulant drug that is commonly used on a recreational basis. Approximately five million people are regular cocaine users in the United States (Yerby, 2019). In 2017, cocaine caused one out of every five overdose deaths (Shanmugam,

2017). People aged 18-25 years of age are more likely to use cocaine than people over 25 years in the United States (Rose & Bond, 2008). In 2017, 1 million people above the age of 12 years used cocaine for the first time (Addiction Center, 2019). When using cocaine, users tend to either snort, inhale, smoke, or inject the drug into a vein. These statistics were important to this current study, because of the high usage rate, users tended to experience significant positive mental effects, such as that of a loss of contact with reality, intense feelings of happiness (Addiction Center, 2019). It should also be noted that many users can also experience agitation or anger when using the drug.

Methamphetamine Use

Methamphetamine is a highly addictive drug that promotes many stimulant effects when being used. Approximately 774,000 people are regular methamphetamine users in the United States (Yerby, 2019), with around 16,000 of users being between the ages of 12 to 17 years (Murtha, 2018). Nearly 964,000 people are addicted to methamphetamines in the United States (Karriker-Jafe, 2013), and in the year 2017, approximately 195,000 people used methamphetamines for the first time (Yerby, 2019). The statistics of methamphetamine are important to this current study, simply because higher prevalence rates are found in different regions of the United States. For example, although methamphetamine can be found across the country, it does have higher prevalence rates in the Western and Midwestern regions of the United States, as well as in Northern and Central Florida (Yerby, 2019). These statistics were important because this current study recruited participants in the State of Florida.

Hallucinogen Use

Approximately 1.4 million Americans are regular hallucinogen users (Yerby, 2019). Nearly 143,000 of them are aged between 12 and 17 years (Karriker-Jafe, 2013). In 2017, 1.2 million people used a hallucinogen for the first time in the United States (Boogar et al., 2014).

Inhalant Use

Inhalants are considered a broad range of household or industrial chemicals whose volatile vapors and pressurized gasses are inhaled by users that are not intended for consumption as outlined by the different manufacturers (Boogar et al., 2014). Approximately 23 million people have used an inhalant in the United States (Yerby, 2019). Nearly 556,000 people are regular inhalant users in the United States (Boogar et al., 2014). In 2018, around 9% of 12th graders had used an inhalant (Patrick et al., 2012). Based on the above literature, numerous people seem to suffer from substance use, and inhalants are an important component to this study, simply because of the ease of access that users can have as they can be commonly found in households or places of employment.

Statistics on Substance Use Among Older Adults

It is important to examine different statistics of substance use among older adults. Older adults tend to use different drugs outside of younger individuals and may use substances based upon their availability. Typical drugs that older individuals consume can include alcohol and tobacco use, the misuse of medications, and of course, other illegal drugs.

Alcohol Use and Tobacco Use

The National Center for Biotechnology Information (NCBI) (2018) reported that older individuals tend to abuse alcohol due to reducing pain and mental health issues such as that of anxiety, depression, and the effects of loneliness. The rates of alcohol use disorders among older adults are 22%. Rates for at-risk drinking are 16% for older male adults and 10.9% for older female adults (Yerby, 2019). Rates of binge drinking are 19.6% for older male adults and 6.3% for older female adults (Boogar et al., 2014). Additionally, approximately 14% of older adults are tobacco smokers (Addiction Center, 2019), and older adult smokers have a higher likelihood of being heavy smokers (Yerby, 2019). These statistics were important to this current study, as many older adults had easy access to alcohol and tobacco and were more likely to be abused due to lingering mental health issues.

Illegal Substance Use

Illegal substance use includes the use of any psychoactive drug, or drug that produces an altered state of mind. Many of the illegal substance have been discussed above, including marijuana, cocaine, and methamphetamines. The Addiction Center (2019) reported that 19.3% of old adults aged 65 years and older had utilized illegal drugs; 47.6% of older adults between the ages of 60 and 64 years used drugs in their lifetime (Murtha, 2018). Among adults aged 50 years and older, 4.6 million used marijuana in the past year (Yerby, 2019). These statistics were important because it highlighted how illegal substance use could continue and even begin in older adulthood.

Medication Use

Most older adults who suffer from prescription drug abuse experience addiction by accident (Yerby, 2019). This is due to this population taking more prescription medications than any other age group. Yerby (2019) found that 37.1% of men aged 57 to 85 years and 36.0% of women aged 57 to 85 years used five or more prescription medications. Additionally, approximately 1 in 25 participants in Yerby's study was at risk for a drug interaction (Yerby, 2019). Yerby (2019) also found that 1.4% of adults aged 50 years and older utilized prescription opioids nonmedically. These statistics were important to this current study because it was crucial to understand how prescription medications played a role in the lives of older adults especially during the transition of using medications for medically appropriate purposes and treatment through to the transition of recreational use.

Association Between Adult Substance Use and Socioeconomic Status

Substance use is significantly associated with SES. Karriker-Jafe (2013) found that an individual's residence in disadvantaged neighborhoods was significantly associated with higher substance use (i.e., tobacco and other drugs). This finding is relevant to adults who use substances and this current study's variables by finding any significant relationship between substance use and SES. Karriker-Jafe's (2013) findings emphasized the relationship between substance use and SES. Patrick et al.'s (2012) study also highlighted a relationship between substance use and abuse and SES. For example, Patrick et al. (2012) examined the relationship between substance use and found that if adults came from a lower SES when they were children, they were more likely to have

higher smoking use. This finding is relevant to adults who use substances and the study variables by finding the significant relationship between smoking use and SES.

Other studies also highlighted the relationship between substance use and SES, albeit with specific increases in different drug use. For example, Baker (2017) found that lower SES was significantly associated with higher nicotine, alcohol, and marijuana dependence. Additionally, 8,958 adults were asked to answer questions regarding SES and nicotine, alcohol, and marijuana dependence and their results were analyzed by the utilization of a chi-square test. The findings highlighted that adults who used substances such as nicotine, alcohol, and marijuana were more likely to come from a lower SES background. The findings of Baker have also been supported by other research, such as that of Liu et al. (2016) and Boogar et al. (2014). Liu et al. (2016) found that lower SES was significantly associated with higher alcohol dependence and Boogar et al. (2014) found that SES significantly and negatively predicted substance use. Therefore, these different studies concluded that the impact of SES on substance use was significant and was worthy of further exploration, especially in different populations.

It was also important to examine different categories of drugs and how they were related to one's SES or background. For example, Marzban et al. (2017) found that SES was inversely correlated with hookah and alcohol use. In their quantitative study, 364 people were surveyed and their answers were analyzed by using logistic regressions. Marzban et al.'s (2017) findings emphasized the relationship between substance use and SES. The authors' results confirmed that the relationship between substance use and SES were negative. In addition, other researchers experienced similar results, such as a study

completed by Patrick et al.'s (2012). When examining the association between alcohol and marijuana use, the authors found that higher alcohol and marijuana use were positively associated with higher childhood family SES. In their study, 1,203 adults were asked to answer the questions regarding SES and alcohol and marijuana use via survey and the results confirmed a relationship between substance use and SES when using these drugs. This finding is relevant to adults who use substances and the study variables of this current study, by finding the significant relationship between alcohol and marijuana use and SES. In addition, there are also identical viewpoints through research as multiple studies have continued to examine SES and substance use. Humensky (2010) also examined the relationship between substance use and SES and found that adolescents with high SES tended to engage in drinking and marijuana use. In his study, 20,745 students were asked to answer the questions regarding SES and drinking and marijuana use and analyzed. The relationship between substance use and SES was examined by using logistic regression models. This finding was relevant to adults who used substances and the study variables by finding the significant relationship between drinking and marijuana use and SES.

Karriker-Jafe (2013), Patrick et al. (2012), Liu et al. (2016), Marzban et al. (2017), Boogar et al. (2014), Baker (2017), Humensky (2010), and Patrick et al. (2012) examined the relationship between substance use and SES. There were similar views concerning the relationship between substance use and SES. Based on the above literature, SES had been linked to substance use. However, there was a gap in the literature that examined research on the contribution of societal factors on substance use

specific to American adults while controlling for age, sex, and ethnicity. This study filled the gap by examining the relationship between stress, happiness, and substance use amongst American adults over 45 years. The study would extend knowledge in the discipline by controlling for age, sex, and ethnicity.

Association Between Adult Substance Use, Stress, and Happiness

In this study, two of the most important variables included that of stress and happiness. Stress was defined as a factor that results in tension (Malone, 2013), and happiness was defined as a state of contentment (Rooks, 2010). Substance use is significantly associated with stress and happiness. Monahan et al. (2014) found that the risk and protective factors for alcohol use, such as isolation and low self-esteem, were significantly associated with depressive symptoms. This was concluded as problems in individuals' lives can cause deficiencies in social relations, which result in isolation and low self-esteem, correlating with depressive symptoms (Monahan et al., 2014). In Monahan et al's study, 2,002 students were asked to answer questions that focused on risk and protective factors for alcohol use (e.g., isolation, low self-esteem, etc.) in conjunction with depressive symptoms and they analyzed the results with different regression models. The study's finding emphasized the relationship between substance use and depressive symptoms. Monahan et al.'s (2014) views concerning the relationship between substance use and depressive symptoms were negative. The results of Monahan et al's study is relevant to adults who use substances and this current study's variables by highlighting significant relationships between alcohol use and depressive symptoms.

In addition, Malone (2013) also examined the relationship between substance use and depressive symptoms and had similar results. Malone (2013) found that cigarette or marijuana use was significantly and positively correlated with depressive symptoms. 4,757 adolescents were asked to answer a survey regarding cigarette and marijuana use and the experience of any depressive symptoms and analyzed their answers using a regression analysis. Malone's (2013) findings emphasized that there was a relationship between substance use and depressive symptoms. Malone's (2013) views concerning the relationship between substance use and depressive symptoms were negative. Therefore, there are identical views concerning the relationship between substance use, stress, and happiness. In terms of different substances and a combination of substance use, other researchers also examined the relationship between substance use and abuse and life satisfaction and had similar results. Rooks (2010) found that different kinds of substance use (e.g., alcohol, marijuana, and cigarettes) was significantly and negatively correlated with life satisfaction. In his study, 130 high school students were asked to complete a survey regarding their substance use of alcohol, marijuana, and cigarettes, in conjunction with their perceptions of the level of their life satisfaction. The data that were collected were analyzed by utilizing binary logistic regressions and the findings concluded that there was a significant relationship between substance use and life satisfaction.

Outside of happiness, stress levels, and the perception of life satisfaction, Saban et al. (2014) completed a study that examined the relationship between substance use and mood and anxiety disorders. The authors surveyed 1,766 adults that asked them questions regarding substance use and their experiences of mood and anxiety disorders and

completed a multiple regression analysis. The results of their study found that substance use was significantly correlated with mood and anxiety disorders. These findings were also relevant to adults who used substances and the current study's variables as the results indicated that there was a significant relationship between substance use and mood and anxiety disorders. Stress and the experience of happiness is rather subjective and therefore, in a variety of research studies that have depicted different stressors the results are quite similar. The experiences of stressors, low satisfaction of life, and the experience of anxiety and depressive disorders all highlight a relationship with substance use.

For adults that experience stressors, other major life events can cause or predict higher prevalence rates of substance use disorders. For example, Murtha (2018) completed a study that examined the relationship between substance use and adverse childhood events (ACE). Murtha (2018) found that many participants who were currently enrolled and participating in a treatment program identified an adverse childhood event. In their qualitative study, the author completed semi-structured interviews with 29 participants who were currently in a substance abuse treatment program. Murtha's (2018) findings emphasized the relationship between substance use and mood and anxiety disorders in relation to adverse childhood events. This is significant to this current study, as the researcher surveyed adults who were currently in treatment in the State of Florida. The results of Murtha's (2018) study could highlight the probability that participants in this current study will have experienced an adverse childhood event that is related to their substance use or abuse disorder.

Due to the legalization or decriminalization of marijuana, many individuals are self-diagnosing and using marijuana to cope with anxiety (Pawson, 2019). Therefore, research has been completed that have focused on anxiety disorders and the use of Marijuana. For example, Kedzior and Laeber (2014) examined the relationship between cannabis use and anxiety by completing a meta-analysis of 267 studies. The results of their meta-analysis confirmed that cannabis use was significantly and positively correlated with anxiety. This finding was relevant to adults who used or abused substance, as statistics demonstrated that marijuana use was one of the most used psychoactive drugs in the United States and was getting easier to obtain due to changing laws and decriminalization. Kedzior and Laeber (2014) were on track to examine anxiety in relation to substance use, as mental illness has been associated with substance us and abuse disorders in a variety of different populations, ranging from the young to older adults. Okoro (2018) completed a study that focused on better understanding the relationship between alcohol use and mental illnesses and found that alcohol use was significantly correlated with mental illnesses. Data from the National Survey on Drug Use and Health were examined to obtain appropriate data for their study.

Chiu et al. (2018) also examined the relationship between substance use and mental disorders and had similar results. Chiu et al. (2018) showed agreement with Okoro (2018). Chiu et al. (2018) surveyed 124,423 people with mental disorders and 124,423 individuals without mental disorders were asked to answer the questions regarding substance use and mental disorders. After completing an analysis using a Cox

proportional hazard model., the authors found that substance-related disorders were significantly correlated with mental disorders.

In relation to the older adult population, it is also worthy of studying how they are affected by mental health and substance use and abuse. Schulte and Hser's (2017) completed a study that focused on anxiety and depression among older adults and found that substance use was correlated with depression and anxiety. In addition, the results highlighted that substance use was correlated with depression and anxiety among young adults too. This finding was relevant to adults who used substances and the study variables by finding the significant relationship between substance use and mental disorders. This was an important finding because it highlighted that across different populations depression and anxiety increase substance use and abuse disorders. Albeit younger individuals may tend to use a different type of substance to cope with anxiety or depression, as older people tend to rely on alcohol, tobacco, and the misuse of medication to deal with anxiety and depressive symptoms (Schulte & Hser, 2017).

Huffine et al. (2009) examined the relationship between drug use and mental disorders and had similar results. Huffine et al. (2009) showed agreement with Haesen et al. (2019). Therefore, there are identical views concerning the relationship between substance use, stress, and happiness.

Mental health disorders and substance abuse have also demonstrated a strong relationship from a historical basis. For example, Huffine et al. (2009) completed a study that focused on mental health disorders and substance use among older adults. The authors collected data via a survey with 41 65-to-74-year-old White participants, where

they were asked to answer questions regarding drug use and mood and mental health disorders. Huffine et al. (2009) concluded that drug use was significantly associated with mental health disorders among older adults. This finding was relevant to adults who used substances and the study variables by finding the significant relationship between drug use and mental disorders. It should be noted that Huffine et al.'s (2009) views concerning the relationship between drug use and mental disorders were negative, as were other researchers who had completed similar studies even in recent times, such as that of Tevik et al.'s (2019).

From a recent perspective, Tevik et al. (2019) examined the relationship between tobacco use and anxiety amongst older adults. Surveying 10,656 participants aged 54 years and older where they were asked to answer the questions regarding tobacco use and mental health disorders, the authors found that tobacco use was significantly correlated with anxiety, especially among older women. This finding was relevant to adults who used substances and the study variables by finding the significant relationship between tobacco use and anxiety. Previous research highlighted how older adults could easily use and abuse alcohol and tobacco, and this study was important due to the easy access that individuals could have to these drugs.

Stress and Substance Use and Abuse

Because stress is a subjective experience, it was also important to better understand through a variety of studies how stress could be related to that of substance use and abuse. Holzhauer et al. (2017) completed a study on undergraduate women to better understand the relationships between alcohol misuse and their experience of stress.

Surveying 91 undergraduate women and asking them to answer questions regarding their alcohol misuse in relation to stressors in their lives, the authors found that reactivity to stress was significantly associated with alcohol misuse. The relationship between reactivity to stress and alcohol misuse was examined by using a structural equation modeling. This finding was relevant to adults who used substances and the study variables by finding the significant relationship between alcohol misuse and stress.

Interestingly, historical, and seminal studies have also highlighted similar results when it comes to the experience of stress and substance use and abuse. For example, Rose and Bond (2008) examined the relationship between substance use and stress where they surveyed 179 young adults regarding substance use and personal stressors who lived in South Australia. The authors found that stress was significantly correlated with substance use. Similarly, Wahler (2012) examined the relationship between substance use and stress and had similar results. The author surveyed 1,123 substance use treatment participants who were asked questions regarding substance use and their experience and coping styles of stress. The results of the study found that perceived stress significantly predicted substance use. This finding was relevant to adults who used substances and the study variables by finding the significant relationship between substance use and stress.

Examining substance use and abuse outside of alcohol, tobacco, and marijuana use, Hassanbeigi et al. (2013) completed a study that aimed to better understand the relationship between opium use and stress. Completing a quantitative survey, the authors surveyed 150 opium addicts and 150 non-users with both groups being asked to answer questions regarding substance use in relation to their experiences of stress. Hassanbeigi et

al. (2013) found that there was a significant relationship between stress and opium use. This finding was relevant to adults who used substances and the study variables by finding the significant relationship between opium use and stress. Additionally, the results were important because it demonstrated that stress was the common denominator for substance use or abuse, as different studies demonstrated similar results with different classes or classifications of drugs being studied. No matter if the participants used alcohol, tobacco, marijuana, or opium, there was always a strong relationship with stress.

The Relationship Between Alcohol Use and Stress

Because of the easy access that many individuals have to alcohol, combined with society's acceptance of alcohol use in social situations, it was important to indicate many studies that had been completed between alcohol use and stress. For example, Sinha (2001) completed a study that focused on adults and their alcohol use when experiencing stressful events. The results of Sinha's (2001) study found that stress perpetuated alcohol use. Additionally, Emiliussen et al. (2017) examined the relationship between alcohol use disorder and stress and had similar results. Focusing on older adults who were 50 years and older, Emiliussen et al. (2017) found that stress was significantly correlated with alcohol use disorder. These findings were relevant to adults who used alcohol and the study variables by finding the significant relationship between alcohol use disorder and stress.

Not all studies suggested a relationship between alcohol use and abuse and stress levels. For example, Mphele et al. (2013) completed a quantitative study, where the authors provided a survey to 129 participants who were asked to answer the questions

regarding their alcohol use and stress levels. The authors found that stress levels were not correlated with alcohol use. relationship between stress levels and alcohol use was examined by using multiple regression analysis. This finding was relevant to adults who used substances and the study variables by finding the significant relationship between alcohol use disorder and stress.

It should be noted that most studies demonstrated a strong relationship between substance use and abuse and stress levels. Monahan et al. (2014), Malone (2013), Rooks (2010), Saban et al. (2014), Rose and Bond (2008), Murtha (2018), Holzhauer et al. (2017), Kedzior and Laeber (2014), Mphele et al. (2013) Holzhauer et al. (2017), Kedzior and Laeber (2014), Okoro (2018), Schulte and Hser (2017), Haesen et al. (2019), Huffine et al. (2009), Tevik et al. (2019), Rose and Bond (2008), Wahler (2012), Hassanbeigi et al. (2013), Sinha (2001), Bridge (2017), Chiu et al. (2018), Mphele et al. (2013), and Emiliussen et al. (2017) examined the relationship between substance use, stress, and happiness. There were different views concerning the relationship between substance use, stress, and happiness; however, may of the results were identical in nature. Therefore, it was safe to assume that based upon the above literature, stress, and happiness seemed to be linked to substance use.

There was a gap in the literature that examined research on the contribution of societal factors on substance use specific to American adults while controlling for age, sex, and ethnicity. This study filled the gap identified in the problem statement by examining the relationship between stress, happiness, and substance use amongst

American adults over 45 years of age. The study would extend knowledge in the discipline by controlling for age, sex, and ethnicity.

Summary and Conclusion

There was a significant relationship between societal pressures, happiness, and substance use among American adults over 45 years of age. The purpose of this quantitative nonexperimental study was to investigate the relationship between SES, stress, happiness, and the frequency of drug use amongst adults over the age of 45 who resided in the State of Florida and who were currently enrolled in a substance use recovery program. Karriker-Jafe (2013), Patrick et al. (2012), Liu et al. (2016), Marzban et al. (2017), Boogar et al. (2014), Baker (2017), Humensky (2010), and Patrick et al. (2012) examined the relationship between substance use and SES. There were similar views concerning the relationship between substance use and SES. Based on the literature, substance use was associated with SES. Researchers such as Monahan et al. (2014), Malone (2013), Rooks (2010), Saban et al. (2014) examined the relationship between substance use, stress, and happiness. There were different views concerning the relationship between substance use, stress, and happiness. Based on the literature, stress and happiness seem to be linked to substance use.

There was a gap in the literature that examined research on the contribution of societal factors on substance use specific to American adults while controlling for age, sex, and ethnicity. This study filled the gap identified in the problem statement by examining the relationship between stress, happiness, and substance use amongst American adults over 45 years. The study would extend knowledge in the discipline by

controlling for age, sex, and ethnicity.

Chapter 3: Research Method

Introduction

The purpose of this quantitative nonexperimental study was to investigate the relationship between SES, stress, happiness, and the frequency of drug use amongst adults over the age of 45 years who resided in the State of Florida and who were currently enrolled in a substance use recovery program. This chapter will include an overview of the research methodology and design, as well as a discussion on the study's sampling procedures and population being studied, the data collection methods, the instruments being used, and the data analysis plan. The research question that guided this study was:

Research Question 1: Is there a relationship between the frequency of drug use, SES, stress, and happiness, while controlling for age, sex, and ethnicity among adults aged 45 and older who are currently enrolled in a substance use recovery program in the State of Florida?

H_0: There is no statistically significant relationship between the frequency of drug use, SES, stress, and happiness, while controlling for age, sex, and ethnicity among adults aged 45 and older who are currently enrolled in a substance use recovery program in the State of Florida.

H_1: There is a statistically significant relationship between the frequency of drug use, SES, stress, and happiness, while controlling for age, sex, and ethnicity among adults

aged 45 and older who are currently enrolled in a substance use recovery program in the State of Florida.

Research Design and Rationale

The type of research design applied was a quantitative nonexperimental study. A quantitative research method was selected because it was most appropriate for developing research questions, creating a hypothesis, and using a theoretical framework (Kumar, 2015). The variables proposed for this study were all quantifiable. This study focused on adults aged 45 years and older who were currently enrolled in substance use recovery programs in the State of Florida. The sample age of 45 years and above was selected to establish which factors continued to be associated significantly with substance use.

In this study, a nonexperimental design was selected. An experimental design is most appropriate when various conditions are used, which was not the case for this study (Bernard, 2013; Vaishnavi & Kuechler, 2015). Therefore, a nonexperimental design was most appropriate for examining the research question (Cooper & Schindler, 2014). Furthermore, a multiple regression analysis was most suitable for investigating the relationship between two or more variables (Leedy & Ormrod, 2016), as in this study, I examined the dependent variable of a participants' drug use, measured as frequency of use, and independent variables that included SES, stress, and happiness. Additionally, covariates of this study included age, sex, ethnicity, and income.

The design choice in this study was consistent with research designs that aimed to improve knowledge in the discipline. For example, Malone (2013) used a quantitative

non-experimental study to advance knowledge by examining the relationship between cigarette or marijuana use and depressive symptoms.

Methodology

Population, Sampling, and Sampling Procedures

The population of interest in this study included individual persons who were 45 years of age and older, and who were currently enrolled in substance use recovery programs in the State of Florida. A convenience sampling method was used to sample the population of interest. A convenience sampling method was most appropriate because this sampling method relied on data collection from population members who were conveniently available to participate in the study (Cooper & Schindler, 2014). Participants were recruited to complete a survey via Facebook groups that acted as a support network for individuals who were currently residing in the State of Florida and were currently completing a substance abuse treatment rehabilitation program. After receiving permission from the group's administrators, I posted a link to the survey that participants would be required to complete, which was hosted by SurveyMonkey. To participate in this study, interested individuals met the following criteria:

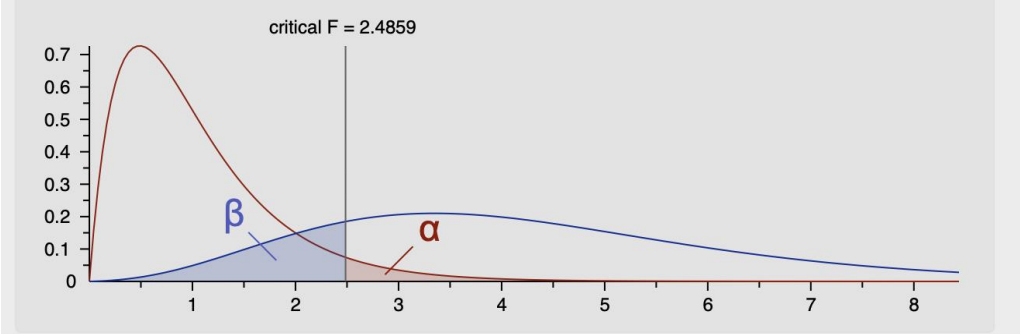
1. Each participant was 45 years of age or older.
2. Each participant resided in the State of Florida.
3. Each participant was currently enrolled and participated in a drug treatment center.
4. Each participant identified as current substance users or abusers.

This criteria allowed for alignment between the research objectives, as I could then investigate any relationships between SES, happiness, stress, and substance use. The

exclusion criteria for this study were adults who were not substance users, adults who were not currently attending a substance abuse treatment rehabilitation program, or individuals who were younger than 45 years of age. I completed a sample size calculation via G*Power, where the calculation recommended that I have at least 85 respondents (Erdfelder et al., 1996). This sample size was calculated following a medium effect size of $r2 = 0.15$, at 5 % level of significance and 80% power. The sample size calculation via G*Power is depicted in Figure 2 below.

Figure 2

*G*Power Sample Size Calculation*



Procedures For Recruitment, Participation, and Data Collection

Before beginning the study, I received approval from my university's Institutional Review Board (IRB). IRB approval was garnered to ensure that ethical standards were upheld throughout the entirety of the study. After receiving approval to begin the study, I reached out to administrators of alcohol and drug treatment support groups located on Facebook. Each of the groups were identified as a population of alcohol and drug treatment recipients who resided in the State of Florida. When reaching out to the administrators of the groups, I provided them with a purpose of the study, what was

required of the participants, and a request to post a link on the group's page. When posting the link to each of the Facebook group pages, I provided information that discussed the purpose of the study, what was required of the participants, and the criteria that was required to participate in the study. In this study, all participants met the following criteria:

1. Each participant was 45 years of age or older.
2. Each participant resided in the State of Florida.
3. Each participant was currently enrolled and participating in a drug treatment center.
4. Each participant identified as current substance users or abusers.

When interested indiviuduals responded to the post on the Facebook group pages, they clicked on a link that took them to the survey that was hosted by SurveyMonkey. SurveyMonkey is an online survey development cloud-based software company that allows users to create and build surveys while hosting the surveys and organizing the collected data. I created and built the survey on SurveyMonkety before inititing contact with potential participants through the Facebook groups.

Instrumentation and Operationalization of Construct

The survey that the participants completed included four different instruments: a demographic questionnaire, a frequency of drug use questionnaire, the Subjective Happiness Scale, and the Perceived Stress Scale. Before beginning the survey, the participants reviewed and agreed to a consent form. The consent form highlighted what was expected of the participants, the purpose of the study, the amount of time needed to complete the survey, how the participants could remove themselves from the survey at

any time, and the level of risk associated with the participation of this study. It should be noted that it took the participants no more than 15 minutes to complete the survey, and the level of risk was considered minimal, as the participants were only answering questions regarding their demographics, level of drug use, perceived happiness, and perceived stress levels. To agree to the consent form and to complete the survey, participants were required to click on *I agree,* and they were then redirected to the first section of the survey. For participants who selected *I do not agree*, they were thanked for their time and were required to close their browser. The participants in this study were anonymous as they were not required to provide any identifying or personal information.

After clicking *I agree,* the first section of the survey screened potential participants to ensure that they met the criteria of the study. For any individual who responded in the negative to any of the screening questions, they were thanked for their time and were required to exit their web browser. For individuals who met all criteria, they then proceeded to the next section of the survey.

The next section of the survey included demographic questions that focused on age, gender, ethnicity, and SES. SES was measured using the individual's annual income as a measure of SES. Income was assessed by asking the participants the next question: What is your income? Participants answered by using the next scoring system: 1 = "$0-26,200", 2 = "$26,201-$40,500", 3 = "$40,501-$70,000, 4= "$70,001-100,000", and 5 =">$100,000." Sex was assessed by asking the participants the next question: What is your sex? Participants answered by using the next scoring system: 1= *Male,* 2 = *Female,* 3=*Other*. Ethnicity was assessed by asking the participants the next question: What is

your ethnicity? Participants answered by using the next scoring system: 1 = *White*, 2 = *African American*, 3 = *Hispanic*, 4 = *Asian*, 5 =*American Indian or Alaska Native*, 6 = *Native Hawaiian or Other Pacific Islander*, 7 = *Other*. Age was assessed by asking the participants the next question: What is your age? Participants answered by using the next scoring system: 1 = *45-50*, 2 = *51-56*, 3 = *57-62*, 4 =*>62*.

The next section of the survey measured drug use. Drug use was measured by examining frequency of drug use. Drug use was assessed by asking the participants the next question: How many times do you use drugs? Participants answered by using the next scoring system: 1 = *once a day*, 2 = *more than once a day*, 3 = *once a week*, 4 = *several times a week*, 5 = *other*. Additionally, the variable of happiness was measured by using the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999). Lyubomirsky and Lepper (1999) developed the Subjective Happiness Scale. The Subjective Happiness Scale is most convenient for measuring happiness since it is a four-item scale of happiness. The participants rated happiness using a seven-point Likert scale (Q1: 1 = *not a very happy person*, 7 = *a very happy person*; Q2: 1 = *less happy*, 7 = *more happy*, Q3: 1 = *not at all*, 7 = *a great deal*, Q4: 1 = *not at all*, 7 = *a great deal*; see Appendix A). Permission from Lyubomirsky and Lepper (1999) was obtained.

Finally, Stress will be measured by using the Perceived Stress Scale (PSS), developed by Cohen (1994). The PSS is most convenient for measuring stress since it consists of 10-item survey questionnaire that examines stress. The participants rated stress using a five-point Likert scale (0 = *never*, 4 = *very often*; see Appendix B). Permission from Cohen (1994) was obtained. Khalili et al. (2017) used the PSS in their study. Khalili et al. (2017)

tested the reliability and validity of the PSS. Khalili et al.'s finding (2017) suggested that the PSS had acceptable reliability. The Cronbach's alpha coefficient was 0.72, which was acceptable because it was greater than 0.70 (Nyunnally, 1978). Khalili et al. (2017) found that the face validity was good since the KMO coefficient was 0.82, and Bartlett's test showed 0.327.

I will keep the data collected for 5 years at my residence in a locked and secured filing cabinet. This follows ethical practices. After five years, the data will be destroyed. I utilized SPSS to answer the research question and to complete data analysis.

Data Analysis Plan

Data analysis was completed by using the Statistical Package for the Social Sciences (SPSS) package, version 25. Data cleaning and screening were performed. I followed a multiple regression analysis, which was used to assess any relationships between adult substance users and abusers, SES, stress, and happiness, while controlling for age, sex, and ethnicity. A multiple regression analysis was most appropriate for measuring the impact of SES, stress, and happiness on the dependent variable because it compared independent variables against the dependent variable (Weisberg, 2014). When completing a multiple regression, the independent variables can be entered into the regression equation simultaneously. In this study, the *p*-value, effect sizes, and R-square were presented. If the *p*- value was less than 0.05, there was a significant association between adult substance use, SES, stress, and happiness, while controlling for age, sex, and ethnicity. Therefore, when completing the analysis, I followed these specific steps:

1. I conducted a preliminary analysis that examined the descriptive statistics of the continuous variables.
2. I checked the normality assumption by examining the histograms of the variables.
3. I checked the linearity assumption by examining correlations and scatter diagrams of the variables.
4. I conducted a multiple regression analysis by running a model with the variables.
5. I checked the model (For example, I checked for multicollinearity, examined normality and homogeneity of variance).
6. I checked for any outliers.
7. I examined the significance of coefficient estimates to trim the model.
8. I then revised the model as required.
9. I wrote the final multiple regression equation and interpreted any coefficient estimates (Gunst, 2018).
10. I completed a t-test from the multiple regression and then determined the p-values.
11. If *p*-value <0.05, significance was determined.
12. If *p*-value >0.05, no significance was determined.
13. Within the dataset, I removed any missing values and then created the scales.

Threats to Validity

Threats to External Validity

Male or female adults who were 45 years of age or older, who were currently enrolled in a drug treatment center, had been or were currently substance users, and who resided in the State of Florida were randomly selected. The selected adults did not necessarily represent the entire population of the United States or broader populations. Therefore, the findings could not be generalized to other states or geographical areas outside of what was being studied. In this study, convenience sampling was used; convenience sampling is a form of non-probability sampling where I recruited individuals from a population whose members were conveniently available to participate in the study (Cooper & Schindler, 2014). Facebook support groups of current individuals who were participating in alcohol or drug treatment programs were used to select the sample. I chose the participants based upon the characteristics of the population (e.g., gender: male and female, age: 45 years or older, geographical location: State of Florida). I added a question at the beginning of the survey by asking if my respondents were currently enrolled in a drug treatment center, had been or were currently substance users, were currently 45 years or older, and were currently residing in the State of Florida. SurveyMonkey hosted the survey and collected the responses from the participants.

Threats to Internal Validity

Selection bias is the bias caused by the selection of individuals in such a way that randomization is not possible (Vaishnavi & Kuechler, 2015). Selection bias may occur when there is a difference between the people who can complete the survey and the

people who cannot complete the survey. The history threat refers to any event other than the independent variable that may explain the results (Cooper & Schindler, 2014). The history threat may occur when events affect adult substance use, but do not have a relationship with SES, stress, and happiness (Leedy & Ormrod, 2016). Therefore, I addressed this threat to internal validity by ensuring that all individuals who participated in the study met the same criteria. This allowed for ensuring that all participants faced the same threat in relation to the data that were gathered.

Threats to Construct Validity

Convergent validity examines if constructs that are expected to be related are related (Cooper & Schindler, 2014). Discriminant validity examines if constructs that should have no relationship do not have any relationship (Leedy & Ormrod, 2016). Construct validity studies of convergent and discriminant validity had confirmed that the Subjective Happiness Scale was appropriate for measuring subjective happiness (Lyubomirsky & Lepper, 1999). Thus, the Subjective Happiness Scale had high construct validity. In Lyubomirsky and Lepper's (1999) study, 250 students completed the PSS, and they were analyzed by using confirmatory factor analysis (CFA). Thus, the PSS had high construct validity since the model fits the data (Lee & Jeong, 2019). Therefore, by using the above instruments, any threats to construct validity were addressed.

Ethical Procedures

In this study, there were specific ethical procedures that I followed. The fist ethical procedure was that I obtained IRB approval from my university before beginning the study. Secondly, all the participants were provided an informed consent form that

explained the right of anonymity. In this study, it was important to note that participation remained anonymous as participants were not required to provide answers that contained any identifiable or confidential information. Additionally, the participants were informed that they could refuse participation or drop out of the study at any time, without any repercussions. Because of anonymity, SurveyMonkey assigned a random ID for participants that were completing the survey. The random ID was numerical in nature and did not contain any identifying information of the participants. I did not know who the participants were, and only I had access to the data. All data information will be protected in a safe for five years and deleted or destroyed after the five-year period which is in accordance with the university's IRB.

Summary

The study was a quantitative nonexperimental study that utilized a multiple regression analysis. The participants of this study were required to complete a survey that included basic demographic information as well as predesigned surveys including that of the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) and the Perceived Stress Scale (Cohen, 1994). A convenience sample was used to recruit individuals who were 45 year or older, were currently enrolled in a substance use recovery program, were currently residing in the State of Florida, and who currently identified as substance user or abuser. In this study, a sample of at least 85 participants was required.

Using a multiple regression allowed me to assess any relationships between adult substance use, SES, stress, and happiness, while controlling for age, sex, and ethnicity. In this study, the *p*-value and R-square were presented. If the *p*-value was less

than 0.05, there was a statistically significant relationship between adult substance use, SES, stress, and happiness, while controlling for age, sex, and ethnicity. The next chapter is that of Chapter 4, where I will present the study's results and findings, while answering the identified research question that guides this study.

Chapter 4: Results

Introduction

The purpose of this quantitative nonexperimental study was to investigate the relationship between SES, stress, happiness, and the frequency of drug use amongst adults over the age of 45 who resided in the State of Florida and who were currently enrolled in a substance use recovery program. Participants were recruited to complete a survey via Facebook groups that acted as a support network for individuals who were currently residing in the State of Florida and were currently completing a substance abuse treatment rehabilitation program.

This analysis was carried out using SPSS software version 25 (IBM, 2017). The descriptive statistics method was employed to review the frequencies and percentages of nominal and ordinal variables in the study. An alpha (α) significance level of ($p < .05$) was selected. The multiple regression analysis was adopted, which is most suitable for investigating the relationship between two or more variables in conjunction with the dependent variable. Participants' drug use, measured as frequency of use, and independent variables that included SES, stress, and happiness. Additionally, covariates of this study included age, sex, ethnicity, and income.

Descriptive Statistics

Participants' demographic characteristics presented in Table 1 shows that 69.4% of the 121 respondents were male, while (26.4%) were female. Those who responded as *others* included the remaining 4.1% of the sampled population. Most of the respondents were of the age range 45-50 years (34.7%), followed by respondents who fell within the

age range of 51-56 years (29.8%), and 57-62 years (27.3%). The respondents within the age range of 62 years or older (8.3%) had the least response.

The respondents with the larger income fell within the range of $40,501 to $70,000 per annum (38.8%), next to respondents within the income range of $26,201 to $40,500 per annum (28.9%), $0 to $26,200 per annum (19%), and $70,001 to $100,000 per annum (8.3%). Respondents with $100,000 per annum or more had the least response (5%). On the ethnicity of the respondents, most individuals were African American and White, which made up (24.8%) each. This was followed by Hispanic (22.3%) respondents, American Indian or Alaska Native (11.6%), Asian (8.3%), Native Hawaiian or Other Pacific Islander (5.8%). The respondents who selected *other* (2.5%) had the least responses.

The preponderance of the sample respondents used drugs *several times a week* (29.8%), while participants who used drugs *once a day* and *once a week* came next as they made up (22.3%) each. The respondents who chose *more than once a day* followed with 16.5% and the least responses were individuals who had selected *other* routine of drug use with (9.1%).

Table 1

Demographics (N = 121)

	N	%
Age		
45-50	42	34.7
51-56	36	29.8
57-62	33	27.3
62 or older	10	8.3
Gender		
Female	32	26.4
Male	84	69.4
Other	5	4.1
SES		
$0 to $26,200	23	19.0
$26,201 to $40,500	35	28.9
$40,501 to $70,000	47	38.8
$70,001 to $100,000	10	8.3
$100,000 or more	6	5.0
Race/Ethnicity		
African American	30	24.8
American Indian or Alaska Native	14	11.6
Asian	10	8.3
Hispanic	27	22.3
Native Hawaiian or Other Pacific Islander	7	5.8
White	30	24.8
Other	3	2.5
Drug Use		
More than once a day	20	16.5
Once a day	27	22.3
Once a week	27	22.3
Several times a week	36	29.8
Other	11	9.1

Results

Table 2 below is the SPSS output for the model summary between drug usage (dependent variable) and stress, happiness, and SES (independent variable), while controlling for ethnicity, age, and gender (control variables). The value of R square in model 1 indicated that total variation in drug usage (dependent variable) is 1.2% explained by the control variables of ethnicity, age, and gender. Model 2 shows the that total variation in drug usage (dependent variable) is 2.4% explained by the independent variables of stress, happiness, and SES with the control variables of ethnicity, age, and gender. The Durbin Watson Statistics of 2.254 suggests that there is a slightly negative autocorrelation (serial correlation). From the second model (model 2) which is a combination of the of the independent and control variables, shows some sign of improvement in model 1, although the model signifies a poor model.

Table 2

Model Summary

Model	R	R square	Adjusted R square	Std. error of the estimate	Durbin-Watson
1	.111[a]	.012	-.013	1.254	
2	.155[b]	.024	-.027	1.263	2.254
a. Predictors: (Constant), Ethnicity, Age, Gender					
b. Predictors: (Constant), Ethnicity, Age, Gender, Stress, Happiness, SES					
c. Dependent Variable: Drug Use					

In Table 3, both models (1 and 2) suggest that the relationship of drug usage (dependent variables), and stress, happiness, and SES (independent variable) while controlling for ethnicity, age, and gender (control variables) at 95% level giving that the

p-value 0.694 and 0.830 which are greater than the confidence interval at 95% (0.05) is statistically not significant.

Table 3

Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.286	3	.762	.484	.694[b]
	Residual	184.045	117	1.573		
	Total	186.331	120			
2	Regression	4.496	6	.749	.470	.830[c]
	Residual	181.835	114	1.595		
	Total	186.331	120			

a. Dependent Variable: Drug Use
b. Predictors: (Constant), Ethnicity, Age, Gender
c. Predictors: (Constant), Ethnicity, Age, Gender, Stress, Happiness, SES

Table 4 lies in model two which carries the independent and control variables. From Table 4, the resulting econometric model 2 is:

$$\mathrm{DU} = \alpha_0 + \mathrm{AGE}\alpha_1 + \mathrm{GEND}\alpha_2 + \mathrm{ER}\alpha_3 + \mathrm{SES}\alpha_4 + \mathrm{HAP}\alpha_5 + \mathrm{STR}\alpha_6 + U$$

$$\mathrm{DU} = 3.214 + 0.067\alpha_1 - 0.160\alpha_2 - 0.014\alpha_3 + 0.125\alpha_4 - 0.028\alpha_5 - 0.175\alpha_6$$

$$Drug\ Usage = DG$$

$$Stress = STR$$

$$Happiness = HAP$$

$$Socioeconomic\ Status = SES$$

$$Age = AGE$$

$$Gender = GEND$$

$Ethnicity\ and\ Race = ER$

Table 4

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.051	.403		7.574	.000		
	Age	.091	.118	.071	.771	.443	.987	1.014
	Gender	-.193	.208	-.087	-.928	.355	.969	1.032
	Ethnicity	-.016	.059	-.025	-.264	.792	.978	1.022
2	(Constant)	3.214	1.041		3.087	.003		
	Age	.067	.122	.052	.547	.585	.944	1.059
	Gender	-.160	.215	-.072	-.741	.460	.919	1.088
	Ethnicity	-.014	.059	-.022	-.232	.817	.972	1.029
	SES	.125	.115	.105	1.088	.279	.919	1.088
	Happiness	-.028	.121	-.023	-.236	.814	.936	1.068
	Stress	-.175	.408	-.040	-.430	.668	.994	1.006

a. Dependent Variable: Drug Use

Only SES as an independent variable had a positive relationship with patients' drug usage with regression coefficient $(\alpha = 0.125)$. Happiness $(\alpha = -0.028)$ and stress $(\alpha = -0.175)$ had a negative effect on drug usage. This implies that at a unit change in happiness and stress levels will cause a reduction in the usage of drugs by the participants. All independent variables were non-significant as they had *p*-values $0.279, 0.814\ and\ 0.668$ for SES, happiness (HAP), and stress (STR) respectively. This

study disagrees with the study of Hassanbeigi et al. (2013) and Emiliussen et al. (2017) where they found that there was a significant relationship between stress and opium use. And, in disagreement with Saban et al. (2014) were they found that substance use was significantly correlated with mood and anxiety disorders. In this study, SES, happiness (HAP), and stress (STR) were insignificant when controlling for age, gender, and ethnicity/race.

Only the control variable of age $(\alpha = 0.067)$ had a positive effect on substance usage. Gender $(\alpha = -0.160)$ and ethnicity/race $(\alpha = -0.014)$ was seen to affect substance usage negatively. All control variables were non-significant as they had *p*-values $0.585, 0.460\ and\ 0.817$ for age, gender, and ethnicity/race.

Therefore, the null hypothesis of this study supported the conclusion that there is no statistically significant relationship between the frequency of drug use, SES, stress, and happiness, while controlling for age, sex, and ethnicity among adults aged 45 and older who are currently enrolled in a substance use recovery program in the State of Florida.

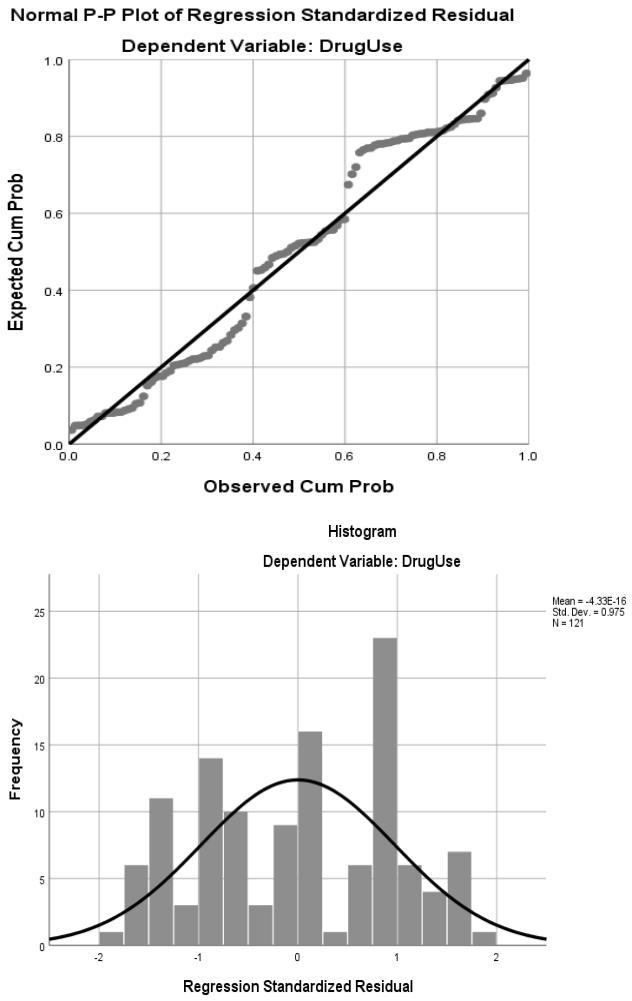
In addition, all VIFs of the predictors are less than 10, hence, there is no problem of multicollinearity in the model. Age, gender, ethnicity/race, SES, happiness (HAP), and stress (STR) with VIF 1.059, 1.088, 1.029, 1.088, 1.068 and 1.006 respectively posed no sign of multicollinearity with the dependent variable which is drug usage.

The histogram in Figure 1 below indicates that the residuals are almost normally distributed. It can, therefore, be concluded that the assumption of normal distribution of errors was not violated. Finally, the test for homoscedasticity was also conducted. Based

on the scatterplot shown below, this regression displays some homoscedasticity as the dots do not form a specific linear pattern. Thus, it can be concluded that the regression analysis violated the assumption of undue influence which could be influenced by outliers present in the dataset.

Figure 3

Histogram with Normal Plot and Residual Plot



Conclusion

The purpose of this quantitative non-experimental study was to investigate the relationship between SES, stress, happiness, and the frequency of drug use amongst adults over the age of 45 who resided in the State of Florida and who were currently enrolled in a substance use recovery program. The results show that SES had a positive effect with patients' drug usage with regression coefficient $(\alpha = 0.125)$, while happiness $(\alpha = -0.028)$ and stress $(\alpha = -0.175)$ had a negative effect on drug usage when controlling for age, sex, and ethnicity. The study also found an insignificant statistical relationship between the variables which thus led to the failure to reject the null hypothesis and supported a conclusion that there is no statistically significant relationship between the frequency of drug use, SES, stress, and happiness, while controlling for age, sex, and ethnicity among adults aged 45 and older who are currently enrolled in a substance use recovery program in the State of Florida.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The problem being studied was that by 2025, over 5 million adults in the United States will be suffering from different disorders caused by substance use (Mattson et al., 2017). Therefore, the purpose of this quantitative nonexperimental study was to investigate the relationship between SES, stress, happiness, and the frequency of drug use amongst adults over the age of 45 who resided in the State of Florida and who were currently enrolled in a substance use recovery program. The results for H1 showed that SES had a positive effect with patients' drug usage with regression coefficient $(\alpha = 0.125)$, while happiness $(\alpha = -0.028)$ and stress $(\alpha = -0.175)$ had a negative effect on drug usage when controlling for age, sex, and ethnicity. Overall, I found an insignificant statistical relationship between the variables which thus led to the failure to reject the null hypothesis for H1 and supported a conclusion that there was no statistically significant relationship between the frequency of drug use, SES, stress, and happiness, while controlling for age, sex, and ethnicity among adults aged 45 and older who are currently enrolled in a substance use recovery program in the State of Florida.

This chapter will conclude this study by providing a robust discussion regarding the results. The chapter will begin by interpretating the study's findings and will then discuss the study's limitations. I will then discuss recommendations based upon the results and the implications brought about based upon this study.

Interpretation of the Findings

This study was guided by the following research question and hypothesis:

Research Question 1: Is there a relationship between the frequency of drug use, SES, stress, and happiness, while controlling for age, sex, and ethnicity among adults aged 45 and older who are currently enrolled in a substance use recovery program in the State of Florida?

H_0: There is no statistically significant relationship between the frequency of drug use, SES, stress, and happiness, while controlling for age, sex, and ethnicity among adults aged 45 and older who are currently enrolled in a substance use recovery program in the State of Florida.

H_1: There is a statistically significant relationship between the frequency of drug use, SES, stress, and happiness, while controlling for age, sex, and ethnicity among adults aged 45 and older who are currently enrolled in a substance use recovery program in the State of Florida.

The results of this study supported the null hypothesis, concluding that there is no statistically significant relationship between the frequency of drug use, SES, stress, and happiness, when controlling for age, sex, and ethnicity among adults aged 45 and older who were currently enrolled in a substance use recovery program in the State of Florida. It is important to note that within this study's results, although there were no statistically significant relationships between the variables, SES as an independent variable had a positive relationship with patients' drug usage with regression coefficient, while happiness and stress had a negative relationship with drug use. These results appear in relation with previous literature.

Socioeconomic Status and Drug Use

Previous research has highlighted how SES is significantly associated with drug use. For example, Karriker-Jafe (2013) found that an individual's residence in disadvantaged neighborhoods was significantly associated with higher substance use (i.e., tobacco and other drugs). In addition, Baker (2017) found that lower SES was significantly associated with higher nicotine, alcohol, and marijuana dependence. The author reported that adults who used substances such as nicotine, alcohol, and marijuana were more likely to come from a lower SES background. Therefore, these results were in alignment with this current study's results as the individuals who reported being in lower SES groups reported using higher amounts of substances. Other studies had also demonstrated these results. Liu et al. (2016) and Boogar et al. (2014) also found lower SES was significantly associated with higher alcohol dependence. Boogar et al. (2014) found that SES significantly and negatively predicted substance use. Boogar et al.'s results differed than this current study, as in this current research, SES had a positive relationship with substance use.

These differences could have been accounted for from different drugs that have been used by participants. For example, Marzban et al. (2017) found that SES was inversely correlated with hookah and alcohol use, and Patrick et al. (2012) found that higher alcohol and marijuana use were positively associated with higher childhood family SES. In addition, there are also identical viewpoints through research as multiple studies have continued to examine SES and substance use. Regarding the relationship between substance use and SES, generally, adolescents with high SES tended to engage in

drinking and marijuana use more so than their lower SES counterparts (Humensky, 2010). I saw similar results when controlling for age, sex, and ethnicity, SES had a positive association with the participants' drug use within this current study. For example, individuals who reported higher SES levels also reported higher levels of drug use.

Stress, Happiness, and Drug Use

Previously researchers have highlighted that substance use is significantly associated with stress. In relation to stress and drug use, and risk and protective factors for alcohol use, such as isolation and low self-esteem, are significantly associated with depressive symptoms (Monahan et al., 2014). In addition, Malone (2013) also examined the relationship between substance use and depressive symptoms and had similar results. Malone found that cigarette or marijuana use was significantly and positively correlated with depressive symptoms. It is important to note that stress and the experience of happiness is rather subjective and therefore, in a variety of research studies that have depicted different stressors the results are quite similar. These could also depict differing results when it comes to the perceptions of happiness, stress, and how individuals view their SES. However, the experiences of stressors, low satisfaction of life, and the experience of anxiety and depressive disorders all highlight a relationship with substance use.

For adults that experience stressors, other major life events can cause or predict higher prevalence rates of substance use disorders. Murtha (2018) conducted a study that examined substance use and adverse childhood events (ACE). Murtha found that their

participants who were currently enrolled and participating in a treatment program tended to identify an adverse childhood event that had affected them. This is significant to this current study, as I surveyed adults who were currently in treatment in the State of Florida. The results of Murtha's study highlight the probability that participants in this current study had experienced an adverse childhood event that was related to their substance use or abuse disorder and possibly affected their levels of stress and happiness.

Because this current study focused on older adults that were over the age of 45 years, it is important to examine previous literature that has been conducted with a focus on older populations. For example, Schulte and Hser (2017) completed a study that focused on anxiety and depression among older adults and found that substance use was correlated with depression and anxiety. The authors reported that younger individuals may tend to use different types of substance to cope with anxiety or depression, as older individuals tend to rely on alcohol, tobacco, and the misuse of medication to deal with anxiety and depressive symptoms (Schulte & Hser, 2017). These results, in relation to this current study, are difficult to place into alignment, as I was not concentrating on the different types of drugs that older individuals used. Instead, the results of my current study highlighted that happiness and stress had a negative effect on drug usage when controlling for age, sex, and ethnicity. Therefore, future research would need to be completed to better understand the causes for happiness and stress to relate it to previous literature.

Like the experience of happiness, stress is also subjective as it can differ between individuals. That is, what one individual finds stressful, another may not. Therefore, it is

important to better understand through a variety of studies how stress can be related to that of substance use and abuse. Reactivity to stress was significantly associated with alcohol misuse (Holzhauer et al., 2017). In addition, stress is significantly correlated with substance use (Rose & Bond, 2008). Similarly, in this study, happiness and stress had a negative effect on drug usage. Therefore, it is important for future research to focus on specific causes of happiness and stress to better understand how they are connected to older individuals and their drug usage.

Studies have also been done that focused more on other drugs and stress. Hassanbeigi et al. (2013), additionally, completed a study, but did so outside of alcohol, tobacco, and marijuana. The authors completed a study that aimed to better understand the relationship between opium use and stress and found that there was a significant relationship between stress and opium use. This study was important to highlight because it demonstrates how individuals use a variety of substances to cope with stressors or attempt increase their experiences of happiness.

In summary, the results of this study supported the null hypothesis, concluding that there is no statistically significant relationship between the frequency of drug use, SES, stress, and happiness, when controlling for age, sex, and ethnicity among adults aged 45 and older who were currently enrolled in a substance use recovery program in the State of Florida. It is important to note that within this study's results, although there were no statistically significant relationships between the variables, SES as an independent variable had a positive relationship with patients' drug usage with regression coefficient, while happiness and stress had a negative relationship with drug use. Due to

the results of this study, future research would need to be completed to better understand the causes of stress or happiness to better align it more strongly with the previous literature.

Limitations of the Study

There are some limitations that must be discussed within this current study. A major limitation that was experienced include that of the population being studied. Because this study focused on adults aged 45 years and older who were currently in a treatment program and resided in the State of Florida, the results may not be generalized to other populations and geographical regions. Therefore, to understand the relationship between SES, stress, happiness, and the frequency of drug use in other populations, outside of what was being studied, additional research may have to be conducted. This is because other populations and geographical regions could experience other issues or challenges that may not be attributed or accounted for within this current study.

A second limitation that needs to be discussed is the impact that the results of this current study could have had based upon the COVID-19 pandemic. Because this study was created before COVID-19, the effects of the pandemic could have influenced the results of this study due to social distancing measures. Social distancing measures and COVID-19 could have decreased happiness and increased stress outside of what was typically aligned to be studied, providing additional issues that were not attributed when designing this study. Many people in treatment programs and recovery groups have had to make changes so that they are in alignment with the Center for Disease Control and Prevention’s social distancing requirements in response to COVID-19. COVID-19 has

affected stress levels, life satisfaction, and happiness among all groups who have been identified as substance users or abusers (DeJong et al., 2020; Gallegos et al., 2021).

A final limitation is the instrument used to collect data. Because this study had individuals complete a survey, it was assumed that all participants would be honest in approaching the survey and answering the questions. Additionally, this study was anonymous; therefore, the researcher was unable to follow-up with individuals to ask additional questions. Therefore, this study could have missed out on crucial information from the participants' perspectives, as individuals were required to answer questions on a Likert scale, unable to expand on information in their own words.

Recommendations

There are some recommendations that must be identified due to the results of this study. First, it is recommended that future studies be completed on this topic but from a qualitative lens. Because this study was quantitative in nature, participants were unable to provide their perceptions and lived experiences in relation to stress, happiness, and drug use. Therefore, future research should include a qualitative study where participants complete semi-structured interviews or a focus group to better explore the findings of this study.

A second recommendation is to continue exploring this topic in relation to the COVID-19 pandemic. Because this study was not aligned to take into consideration the COVID-19 pandemic, it has been concluded in previous research that the pandemic has negatively affected individuals' stress levels, happiness, and life satisfaction (DeJong et al., 2020; Gallegos et al., 2021). Therefore, future studies should focus on adults who are

45 years and older and who are currently in a treatment program during the COVID-19 pandemic. Questions that can be asked in future studies should focus on the experiences that individuals have had during COVID_19 and how it has affected their stress, happiness, and life satisfaction levels. In addition, lower SES individuals should be focused on in additional research of COVID-19 and substance abuse, stress, happiness, and life satisfaction, as research has concluded that individuals who are in a lower SES are more affected by COVID-19 than other SES groups (Gopalan & Misra, 2020; Patel et al., 2020).

A final recommendation is for future research to focus on a longitudinal study. Because this study examined the effects of stress, happiness, and life satisfaction within a snapshot of time, future studies could focus on how stress, happiness, and life satisfaction are affected over time, providing additional information to the population of 45 years and older. This could provide future researchers with additional information that could be beneficial to understanding these variables and could be helpful from a treatment standpoint.

Implications

There are some implications that must be discussed due to the results of this current study. It is first recommended that treatment centers continue to provide strong treatment programs to their clients who are 45 years and older. Because COVID-19 is a strong indicator to stress, happiness, and life satisfaction (DeJong et al., 2020; Gallegos et al., 2021), it is imperative that treatment programs are continued to be aligned and kept as strong as possible for individuals to be able to continue receiving the best possible help

during the COVID-19 pandemic. Therefore, additional resources should be provided to individuals who are currently in recovery. This could include stronger online support groups and counseling sessions, that can be utilized by individuals when having to socially distance due to COVID-19. This can ensure that treatment programs, treatment plans, and support groups can be continuous to clients requiring treatment services, which could assist in ensuring that stress, happiness, and life satisfaction are monitored during the pandemic.

Another recommendation is for continuous research to be completed on the age group of 45 years and older when it comes to treatment and recovery. Continuing research on this population could provide additional insights into how stress, happiness, and life satisfaction affect treatment and recovery issues. This study could also promote positive social change. Positive social change is important to be experienced throughout different levels of the community, including individuals, family, neighborhoods, and cities. One main positive social change that could occur due to the results of this study is that age, gender, and SES do not necessarily change the effects of frequency of drug use, SES, stress, and happiness when experiencing treatment. Therefore, from an individual level, individuals and their families can continue receiving treatment that can assist them in their recovery from drug abuse and addiction. This can continue in addressing alcohol and drug abuse and addiction throughout society and ensure that all individuals, no matter their age, gender, and SES, will all be able to attend strong treatment programs that can assist them in aligning their lives with a strong recovery component.

Conclusion

The problem being studied was that by 2025, over 5 million adults in the United States will be suffering from different disorders caused by substance use (Mattson, Lipari, Hays, Van Horn, 2017). Therefore, the purpose of this quantitative nonexperimental study was to investigate the relationship between SES, stress, happiness, and the frequency of drug use amongst adults over the age of 45 who resided in the State of Florida and who were currently enrolled in a substance use recovery program. The results concluded that SES had a positive effect with patients' drug usage with regression coefficient $|(\alpha = 0.125)|$, while happiness $|(\alpha = -0.028)|$ and stress $|(\alpha = -0.175)|$ had a negative effect on drug usage when controlling for age, sex, and ethnicity. The study also found an insignificant statistical relationship between the variables which thus led to failure to reject the null hypothesis and supported a conclusion that there is no statistically significant relationship between the frequency of drug use, SES, stress, and happiness, while controlling for age, sex, and ethnicity among adults aged 45 and older who are currently enrolled in a substance use recovery program in the State of Florida.

This chapter concluded this study by providing a robust discussion regarding the results. The chapter began by interpretating the study's findings and then discussed the study's limitations. I then discussed recommendations based upon the results and the implications brought about based upon this study. It is recommended to complete future studies that also focus on this topic in relation to COVID-19, as it has been found that COVID-19 can interfere with stress, happiness, and life satisfaction levels. By continuing to understand issues that affect individuals in treatment and recovery, it can assist in

ensuring that all individuals have equitable access to treatment and that treatment programs and recovery groups are ensuring that individuals' happiness, stress levels, and life satisfaction are considered when treating their illness.

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Appendix A: The Subjective Happiness Scale

The Subjective Happiness Scale (Lyubomirsky & Lepper, 1999)

For each of the following statements and/or questions, please circle the point on the scale that you feel is most appropriate in describing you.

1. In general, I consider myself:

1 (not a very happy person) 2 3 4 5 6 7 (a very happy person)

2. Compared to most of my peers, I consider myself:

1 (less happy) 2 3 4 5 6 7 (more happy)

3. Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?

1 (not at all) 2 3 4 5 6 7 (a great deal)

4. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?

1 (not at all) 2 3 4 5 6 7 (a great deal)

Appendix B: Perceived Stress Scale

Perceived Stress Scale (Cohen, 1994)

0=Never, 1=Almost Never, 2=Sometimes, 3=Fairly Often, 4=Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?

2. In the last month, how often have you felt that you were unable to control the important things in your life?

3. In the last month, how often have you felt nervous and “stressed”?

4. In the last month, how often have you felt confident about your ability to handle your personal problems?

5. In the last month, how often have you felt that things were going your way?

6. In the last month, how often have you found that you could not cope with all the things that you had to do?

7. In the last month, how often have you been able to control irritations in your life?

8. In the last month, how often have you felt that you were on top of things?

9. In the last month, how often have you been angered because of things that were outside of your control?

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Appendix C: Instrument Approval

Subjective Happiness Scale

Sonja Lyubomirsky <sonja@ucr.edu>
Fri 5/29/2020 4:27 PM
To: Volaura Anderson

Hi there — You are welcome to use the Subjective Happiness Scale (SHS). (My website, which includes the SHS, states that anyone can use it for research purposes.) Just be sure to cite the scale validation paper, attached.

All the information is also included here: http://sonjalyubomirsky.com/subjective-happiness-scale-shs/

You may also be interested in my two books, The How of Happiness and The Myths of Happiness (translated into many languages too).

All best,
—Sonja

Sonja Lyubomirsky|Distinguished Professor of Psychology
uc riverside
Department of Psychology
University of California
Riverside, CA 92521
t |951.827.5041 f |951.827.3985
academic |sonjalyubomirsky.com
book: The How of Happiness |thehowofhappiness.com
book: The Myths of Happiness |themythsofhappiness.org

From: Volaura Anderson
Date: Friday, May 29, 2020 at 1:26 PM
To: "Sonja.Lyubomirsky@ucr.edu" <Sonja.Lyubomirsky@ucr.edu>
Subject: Permission to use

Hi There,

I am working on my dissertation project and would like permission to print and reprint the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999[KRC1]) for my dissertation project. Please reply to this email to confirm that it is ok. Thank you.

Perceived Stress Scale

From: Volaura Anderson
Sent: Tuesday, June 2, 2020 4:14 PM
To: Sheldon A Cohen
Subject: Need Permission To Use Stress Scale

Hi There,

I am working on my dissertation project and would like permission to print and reprint your Stress Scale (Cohen, 1994[KRC1]) for my dissertation project. Thank you.

PERMISSION FOR USE OF THE PERCEIVED STRESS SCALE

I apologize for this automated reply. Thank you for your interest in our work.

PERMISSION FOR USE BY STUDENTS AND NONPROFIT ORGANIZATIONS: If you are a student, a teacher, or are otherwise using the Perceived Stress Scale (PSS) without making a profit on its use, you have my permission to use the PSS in your work. Note that this is the only approval letter you will get. I will not be sending a follow-up letter or email specifically authorizing you (by name) to use the scale.

PERMISSION "FOR PROFIT" USE: If you wish to use the PSS for a purpose other than teaching or not for profit research, or you plan on charging clients for use of the scale, you will need to see the next page: "Instructions for permission for profit related use of the Perceived Stress Scale".

QUESTIONS ABOUT THE SCALE: Information concerning the PSS can be found at https://www.cmu.edu/dietrich/psychology/stress-immunity-disease-lab/index.html (**click on scales on the front page**). Questions about reliability, validity, norms, and other aspects of psychometric properties can be answered there. The website also contains information about administration and scoring procedures for the scales. Please do not ask for a manual. There is no manual. Read the articles on the website for the information that you need.

TRANSLATIONS: The website (see URL above) also includes copies of translations of the PSS into multiple languages. These translations were done *by other investigators*, not by our lab, and we take no responsibility for their psychometric properties. If you translate the scale and would like to have the translation posted on our website, please send us a copy of the scale with information regarding its validation, and references to relevant publications. If resources are available to us, we will do our best to post it so others may access it.

Good luck with your work.

Sheldon Cohen
Robert E. Doherty University Professor of Psychology
Department of Psychology
Baker Hall 335-D
Carnegie Mellon University
Pittsburgh, PA 15213