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The Psychological and Physical Impact of the Opioid Crisis on Families

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This is to certify that the doctoral dissertation by

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Abstract

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MBA, William Wood University, 2006

BS, Southeast Missouri State University, 2004

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Many rural areas in the United States have experienced an opioid crisis. Social support programs could be created to address social support for the families affected by opioid addiction. The purpose of this non-experimental, cross-sectional research study was to examine the possible relationship between (a) prescription or non-prescription addiction; (b) opioid addiction or another addiction; (c) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (d) stress of the family member in a rural area. Bowen’s family systems theory provided the theoretical framework for the study. A non-probability sampling was used to identify participants and a convenience method to increase participation and collect the participant's data. An electronic questionnaire disseminated from a recovery center located in a region (north United States). A multiple linear regression was used to analyze the data collected from 40 participants. Within the results, it was found that the results had sufficiency problems because the sample size was not met. All support scales were removed and the ADF total support scale and stress were analyzed, which resulted in nonsignificant findings, but the measurement of the variables did meet the assumption for the multiple linear regression. These issues contributed to poor generalizability. The results could only be applied to a narrow population taken from a sample as there were no significant differences and the findings were inconclusive. This study has a plethora of opportunities to address social change. Lack of social support is deficient in many communities and stress negative or positive is infringed on communities especially in rural areas where services are limited.

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Dedication

This dissertation is dedicated to the people who instill the value of education in me. Those who supported, encourage, listened and motivated me through life as well as to those whose shoulders and life experiences I stand on. Many are not physically here to see me achieve this accomplishment, yet their spirit is inside of me. Without them this journey would not have been fulfilled.

I would like to begin firstly acknowledging my parents, James R. Hunter Sr. and Lillian Catherine Glass Hunter who forwarded me the opportunity of education, guidance, family values, joy and love. Though you are not physically here, your teachings and your spirit will remain with me forever. My life has been full, bountifully blessed, along with rich experiences because of you. A special gratification goes to my paternal grandparents Samuel Hunter and Margurite Hunter and maternal grandparents, Louis and Lillian Glass; you created the narrative and the map. My parents followed it and passed down to me and my vision is to the same.

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Being the youngest forwarded me opportunities. My older siblings would take me with them providing additional experience that my parents hadn't gifted me. Fourthly, to my older sister Karen Hunter Mitchell, who was closer to me age, who was very active in school and respected by the teachers. Thank you for providing me with high school and college experiences before my time. Your thoughtful actions were a reinforcement of what was expected.

Life is full of twist and turns. A parent's crisis can affect the entire family. An unforeseen illness changed our family dynamics overnight. Our father became ill. My mother thought it would best for my father and I to return to her family farm. At that time, I thought my life had turned upside down. We moved to the family farm, from Chicago, Il, and I only had three years left in high school. These three years were long, but I gained wisdom. Fifthly, I am thankful for the wisdom of my late grandmother, Dr. Lillian Harber Glass. She instilled in me the that the investment in knowledge paid the best interest, no one could take it away from me. In addition to my great-grandmother the late Amanda Harber reminding me to walk the narrow road and not wide road, because the road less traveled was better. I thankfully graduated from high school and went to my aunt's, the late Margurite E. Hunter, alma mater. My third year of college having many growing pains my parents decided to return to Chicago. I shortly followed. Life has twist and turns. Sixthly, thankful for the advice and suggestions of my aunt Margurite E.

Hunter she provided. I graduated from our alma mater and many more degrees followed in addition to many more hurdles, but I digress. Seventhly, to my children Ashley, Angelica, and Alexis Wells, who have traveled many educational journeys with me. I am thankful for your love, motivation and encouragement in completing this process. In conclusion, I would lastly want to thank my husband Darvin H. Green, for your support encouragement listening and simply just being there when I went through many storms before I completed this journey.

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Chapter 1: Introduction to the Study

Introduction

Rural America in the United States has experienced an unforeseen crisis (Center for Disease Control and Prevention [CDC] n.d.). The opioid crisis, as it is known today, has gained public recognition in the past few years. Opioids are a type of substance that causes harm to families. These harmful experiences are felt nationwide by families. This crisis has impacted rural America the most (Farm Bureau, 2018). Family experiences are often not addressed. The concern is substance abuse and it has been a problem since the 1700s. The focus has been mainly on individuals with addiction in urban areas.

The advent of the first rehabilitation center established in 1750 created awareness of the need for social support when battling addiction (Foundations Recovery Network, n.d.). As time has progressed, substance abuse has increased, and new drugs have been introduced to communities contributing to harm to society and families. Organizations throughout time have continued to address the needs of individuals dealing with addiction. Rehabilitation centers that address substance abuse and the requirements of these individuals are in most regions across the nation. There are over 14,000 rehabilitation centers in the United States (Elflein, 2020).

The family’s needs often are overlooked, leaving the family to suffer enduring unpredictability because of the family member's addiction (Kelly et al., 2017). Often a family member suffers from enduring and unforeseeable behaviors. These unforeseeable behaviors may stress a family member (Daley et al., 2013). These behaviors can cause family members to feel helpless, ashamed, worried, and demoralized, creating stress on family members and impacting family members' mental and physical health.

The family's unpredictability often plays a significant role in recovering the family member dealing with addiction (Kelly et al., 2017). Reflecting on the word family, to understand a person's perception of family, the researcher may allow the individual to identify who they identify as being family. This thought process allows the researcher to obtain a snapshot of the family's configuration (Amanto, 2014). Negative life experiences can trigger families into a crisis dealing with addictions. Implementing recovery resources is vital nationwide in urban and rural America (U.S. Department of Agriculture [USDA], n.d.). Therefore, family social support is a crucial component for family members when interacting with a family member dealing with addiction. Family and social support are vital for a family coping with addiction. It can provide psychological and material resources and awareness, letting them know that someone cares, making them feel peaceful and not anxious, and letting them know that someone is there to provide additional help. Assisting family members who have ongoing interaction with a family member dealing with an addiction is not a matter of possibility but a matter of priority (Brundage et al., 2019). These efforts can bridge the gap between what we know and what we can do.

This study will assist in understanding the following: (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area. There is a great need for the study to be conducted. The study used the survey data to increase awareness and to understand the effects of opioid use on the family unit. In addition, the study provided knowledge regarding the research gap related to the psychological impact on the opioid user's family. It also addressed the family members' needs when dealing with opioid addiction and substance abuse addictions and their impact on rural communities and families. As per social change, the study increased opportunities for developing new programs addressing current needs for outreach and educational programs. The outreach services created awareness of the experiences of an individual who had ongoing interaction with an individual struggling with an addiction and how it affected the lives of family members. Many rural communities experience obstacles because of the opioid crisis (National Rural Health Association, [NRHA], 2016). Literature obtained from the study analyzed this non-experimental quantitative study using a survey methodology to understand how addictions has impacted families over the last few years.

The theory provided a basis for a description of the study. The theory approach acted as a roadmap to note the purpose and highlight the research topic. Questions to measure, identified and determined the gap in the research study, as well as justified and highlighted the research problem. The theory explained the research and justified why the research is warranted.

Background

The opioid epidemic has created concerns in the medical profession because of the high number of overdose deaths (Gillian et al., 2014). This epidemic has led to the development of policies and programs to limit the use of opioids. These programs and policies have guided the presence of drug-free family and friends in personal social networks of people receiving treatment for an opioid use disorder. The opioid epidemic has also created awareness of how the opioid epidemic has affected not just the lives of the individuals dealing with addiction but how it has impacted the lives of their family members (Kidorf et al., 2016). These resources demonstrated and described the impact of the opioid epidemic and how it has negatively impacted children and other family members (Mirick & Steerod, 2016).

This epidemic has impacted and negatively affected individuals of all ages (Dirks, 2018). In 2012, there were approximately 22,000 babies who were born drug-dependent (Smith, 2017). In 2015, more than 33,000 drug overdoses involved opioids (Piper et al., 2018). Over the past 5 years, the opioid crisis has escalated dramatically (Smith, 2017). In 2017, according to the (National Survey on Drug use and Health, [NSDUH]), 19.7 million Americans ages 12 and older were battling substance use disorder (SUD).

As the opioid crisis escalated between 2013 to 2015, many children entered foster care due to addiction or opioids (Randel et al., 2018). There was an increase of approximately 7% during the years 2013 to 2015 (Collier, 2018). Due to the opioid crisis, other impacts have been homelessness and unemployment (Chartjee et al., 2018). Substance abuse, such as opioid addiction, can affect workplace productivity, create healthcare expenses, and create crime-related costs. These costs have totaled approximately $740 billion annually for American society. The development of opioids has immersed multiple segments of the population in the United States and has become a pressing public health problem (Stuart et al., 2018).

Understanding the challenges of assisting a loved one battling addiction is essential. Research has shown that a family member's addiction has many adverse effects on the family member (Kourgiantakis et al., 2020). The family members often notice the mood changes and their behavior. The social support that the family member provides creates opportunities for the family member suffering from an addiction to receive treatment at rehabilitation centers (Substance Abuse and Mental Health Services Administration [SAMHSA], n.d.). It also provides additional resources to assist them on their recovery journey from their addictions.

It is an assumption that many of these rehabilitation centers address the needs of the individual dealing with addiction. Still, it is a limited number of services that address the needs of the family members of the individual with the addiction. Outcomes for families struggling with opioid issues expose them to legal issues, domestic violence, poverty, and psychiatric and parental medical issues (Croarkin et al., 2019). This study is also necessary because there is limited research on how the family is affected when interacting with someone dealing with an addiction. There are services and research that address combating substance abuse in rural America. Although the benefits are made available, they may be limited. Studies often overlook awareness and services for families with ongoing interaction with a family member with addictions. Therefore, the variables identified determined the study's outcome, and the data acquired warrants future research.

This research study added to the extensive research on opioid users. However, the research broadened the scope of the limited and existing research by addressing the stress effects of dealing with a family member taking opioids for future researchers. The study increased awareness and gained an understanding of the effects of the opioid epidemic on families in rural areas. The study provided an examination of a possible difference between the following: (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area.

Problem Statement

Over 2 million people in the United States had a substance disorder and fell under the guidelines of opioid use disorder in 2016 (National Institute of Health, [NIH], 2018). Opioid use disorder is a pattern of opioid use that can lead to impairment or distress within 12 months. This disorder consists of opioid analgesic medications, heroin, or both (Vashishtha et al., 2017). More than 130 people in the United States die daily after overdosing on opioids (NIH, 2019). Under these circumstances, 100,000 people have died from unintentional overdoses. Concerning these findings, this is one of the worst manufactured epidemics in history (Franklin et al., 2015).

There has been an increase in prescriptions written by physicians (Madras, 2017). The growth possibly contributes to opioid use in the last 20 years. Given these circumstances, prescriptions written by physicians have risen to 300%, with 50% of these prescriptions connected to chronic noncancer discomforts during these 20 years. In 2016, more than 40% of opioid overdoses in the United States were linked to prescription opioids (American Physical Therapy Association, [APTA], 2018). Between July 2016 and June 2017, there were 11,884 opioid deaths, and 17.4% of the 11,884 were from prescription opioids (CDC, 2018).

Consequently, many individuals have become victims of the opioid epidemic because of injuries. Some of these are work-related injuries that vary through occupations. These injuries are more prominent in health care practitioners, construction workers, and individuals who work in fields of extraction of gas or mining oil. In addition, when an individual experience chronic pain, their levels of depression and anxiety are higher (Feingold et al., 2017). Twenty-one percent to 29% of the individuals prescribed opioids for their chronic pain misused them (NIH, 2019). Sixteen percent of Americans experiencing mental health disorders and injuries are recipients of over half of the opioids prescribed in the United States (Davis et al., 2018).

Henceforth, the impact of the opioid epidemic is universal (Missouri Hospital Association, 2017). According to the CDC (2018), Morbidity and Mortality Weekly Report, the chance of receiving an opioid prescription was 87% higher for patients in rural counties than those in urban counties. Opioid overdoses in rural areas increased between 2012-2014 at an unprecedented rate (National Advisory Committee on Rural Health and Human Service [NACRHHS], 2016). In rural areas, between 1999-2015, opioid deaths for females between 18-25 quadrupled (United States Department of Agriculture [USDA], 2017). However, nationally, overdoses and deaths due to opioids have been higher among men (Glerum & Choo, 2015). Overall, in 2015, there were 4,578 opioid deaths in rural areas. Subsequently, 44% of those deaths were older adults 45 and older (Benson & Aldrich, 2017). Concerning these trends, rural communities face many challenges in addressing the opioid crisis (NRHA, 2016). Given such, opioids have ripped through communities affecting families from all socioeconomic backgrounds with a massive impact on rural communities threatening their quality of life (USDA, 2018). The opioid epidemic has been devasting not just for the victims. The epidemic has also negatively affected the family's quality of life, economic opportunities, and rural prosperity.

Conscious reasoning has also identified poor health, poverty, substandard living, and poor working conditions related to excessive opioid use as contributors to stress in rural America (Dasgupta et al., 2017). Efforts focusing on the individuals suffering from opioid addiction are available, but the family suffers (Kelly et al., 2017). Being overlooked increases stress and enduring the unpredictable behavior of their loved ones. Family members suffer from the behaviors of a family member with opioid addiction, leading to poor physical effects, financial challenges, social insecurity, increased depression, isolation, and even legal problems for these families, which are related to higher stress levels (Benson & Aldrich, 2017). As a result, there is a higher rate of child neglect and domestic violence (NRHA, 2016). Equally important, millions of children under the age of 18 live with a parent with opioid addiction (Dirks, 2018). The data showed that millions of grandparents and other family members are raising a child(ren) (Benson & Aldrich, 2017). Therefore, families who are not encouraged or invited to participate in the treatment of a loved one may feel disgruntled or abandoned. Families with opioid issues experience legal issues, domestic violence, poverty, and psychiatric and parental medical issues and are more likely to have adverse outcomes and higher stress levels (Romanowicz et al., 2019). After all, addictions often upset the entire family, and even during recovery, different emotions may occur (Daley et al., 2018). If a family is under stress, a situation can escalate into conflicts, illness, and adverse psychological effects on the children (Olafsdottir et al., 2018). Most resources have focused on assisting opioid-addicted individuals directly. Yet, there is limited research and resources to help the affected family members that experience related stress due to opioid effects (Kelly et al., 2017).

Furthermore, the research studied family members that had an ongoing interaction with an individual who had a drug addiction. A family member characteristic for this study is not only related by blood, marriage, or adoption (Amato, 2014). Many cohabiting partners, for example, consider themselves to be family. Similarly, many people feel their best friends are family members. There can also be fictive kin. This phenomenon may be prevalent in many ethnic groups (Amato, 2014). These family members often provide some support that a blood relative does not. One individual expressed family social support characteristic for this study to another that gives love, advice, care and can influence well-being through psychosocial, behavioral, and physiological pathways (Thomas et al., 2017).

In addition, the study analyzed the emotional reactions of a family member that had an ongoing interaction with a family member with addiction. Measured by the emotional responses and effects of a SUD on the family unit, the emotional reactions of the family member and their emotional response are defined for the study as emotional burdens, economic burdens, relationship distress or dissatisfaction, and family instability (Daley, 2013). Individuals struggling with an addiction can harm family members while engaged with the family member's experiences dealing with an addiction. Family members are uniquely affected by these experiences. Family members can experience legal problems, emotional distress, impaired attachment, and unmet needs (Lender, 2013). Family addiction affects family members differently as they observe their loved one’s physical and socioeconomic changes because of an obsession. At times, family members experience a feeling of upset because of cutting ties with a family member dealing with addiction (Daley et al., 2018). The family’s needs are equally important. Often overlooked, family problems negatively affect family members (Kaur et al., 2018). Such as and not limited to conflicts, financial burdens, and disruptions that can cause stress in the family member’s everyday activities. Overall, individuals struggling with an addiction can negatively impact family members who are engaged and have ongoing interaction with them.

Family involvement and support are essential for individuals with drug addiction (Akbar, 2015). Social support for an individual dealing with addiction means having a family to turn to when they are in a crisis and supporting them in staying focused and maintaining a good quality of life. Families face many challenges when approaching their loved ones when attempting to conduct intervention activities and encouraging them to get treatment for their drug addiction. These family members often enable them to keep the family system at a relative equilibrium (Lander et al., 2013). Support services are equally important for families (Thomas et al., 2017). The opioid crisis has demonstrated the level of importance for family, friends, and service providers to invest in these families by creating instrumental and educational services (McCann & Lubman, 2017).

The opioid crisis continues to hurt families (Brundage et al., 2019). With the unforeseen coronavirus disease 2019 (COVID-19) impacting the nation negatively, many rural hospitals have been experiencing increased opioid overdoses and relapses these past few months (Ochalek et al., 2020). Families across the country are experiencing stress and social implications (Brundage & Levine, 2019). Given such, further research warrants examining the family unit in crisis because of the opioid epidemic using a cross-sectional study. The research findings assisted in developing new strategies for dealing with situations families may experience (McCann & Lubman, 2017). In addition, family and social support were discussed in the study and identified as a variable. The study first addressed if there is a significant relationship between prescription or non-prescription addiction and the stress of a family member who has ongoing interactions with an individual struggling with an addiction in a rural area. Second, the study addressed if there is a significant relationship between opioid addiction or other substance addiction on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area. The study also addressed if there is a significant relationship between the amount of family social support of a family member on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area.

Community outreach services are needed to address this gap in family social support for a family member who has ongoing interactions with an individual struggling with opioid addiction, or another addiction, from prescription or non-prescription use and the family member's stress in the rural community. Participants were required to have a family member, as defined above, and have ongoing interaction to participate. Questionnaires were disseminated online from an outreach recovery center. The questionnaires gathered information to understand opioids or another addiction, prescription or non-prescription drug addiction, the amount of family social support, and the level of stress experienced by the participant. This research is needed so it can be invested in communities to create support services for families in crises (McCann & Lubman, 2017).

Purpose of the Study

The study is a non-experimental quantitative cross-sectional study using a survey methodology. The study explored the possible relationship between addiction to prescription or non-prescription substances, opioid or other substance addiction, and the amount of family social support on the amount of stress of a family member that has ongoing interaction with an individual struggling with an addiction in a rural area. The study analyzed six independent variables (IVs). The first IV is if the family member has an addiction to prescription or non-prescription substances. The first IV is a categorical and dichotomous variable. The second IV is if the family member has an opioid or another substance addiction and measuring as a categorical and dichotomous variable. The third through six IV’s are the amount of family social support that a family member receives that has ongoing interaction with an individual struggling with an addiction. The third through six IV's are continuous variables using the Alcohol, Drug, and the Family Support Scale [ADF SSS] survey broken up into four areas/variables: positive functional support, negative ADF support, and positive ADF support (Toner & Velleman, 2014). The dependent variable (DV) is the measurable stress of the family member who has ongoing interaction with an individual struggling with addiction in a rural area and is a continuous variable using a Stress Factor Questionnaire survey (Kring et al., 2011a). The questionnaires provided insight into the possible relationship between prescription or non-prescription addiction, opioids, or other addictions. In addition to the amount of family social support received in the last 3 months, the three types of family social support received, as well as the amount of stress of a family member that has ongoing interaction with an individual struggling with an addiction to opioids or another addictive substance in a rural area.

Research Question and Hypotheses

Research Question: Is there a statistical relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area?

Null Hypothesis (H_0): There is no statistically significant relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area.

Alternative Hypothesis (H_A): There is a statistically significant relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area.

Table 1

Variables

Variable	Dependent or independent	Type of variable	Measurement
Family member has an addiction to prescription or non-prescription substances.	Independent Variable I	Categorical – Two categories (Prescription or non-prescription substances)	Measured with one categorical question
Family member has an opioid addiction or another substance addiction.	Independent Variable II	Categorical – Two categories (Opioid addiction or another substance addiction)	Measured with one categorical question
Family Social Support that a family member receives that has ongoing interaction with an individual who is struggling with an addiction.	Independent Variable III	Continuous variable using a Likert scale with four responses. There are four sub-scales and one total score. (1) (scale of positively perceived functional support (sub-scale 2), scale of negatively perceived ADF-related support (sub-scale 3), and scale of positively perceived ADF-specific support (sub-scale 3). (4) total scale score of all sub-scales	Measured by using the Alcohol, Drug and the Family Support Scale [ADF SSS] survey and by using three sub-scales (1) positive functional support (Emotional and instrumental support, social companionship, and support for coping), (2) negative ADF support, (Support for coping and attitudes and actions and actions towards the using relative) and (3) positive ADF support (Informational-formal and informal – emotional support, support for coping and attitudes and actions towards the using relative). The three sub-scales will be measured individually to accurately measure the participants' responses and then totaled at the end.
Stress of the family member that has ongoing interaction with an individual struggling with addiction in a rural area.	Dependent Variable	Continuous	Measured using a Stress Factor Questionnaire survey

Theoretical Framework for the Study

Bowen Family Systems Theory (BFST, 1978) has guided many research practices for the last 3 decades. Bowen defines the family as a relationship system as well as an emotional system and, as a result, family members influence one another at intergenerational, dyadic, systematic, and individual levels. The BFST acted as the lens for the research. The theory application and theoretical perspective assisted in understanding human behavior, emotions and a tool to comprehend the dynamics of the impact on the family when dealing with individuals who engage in opioid addictions. The findings explained the feelings that the family experience when addressing the needs of an individual who participates in opioid addiction, as well as the family's emotional process to study and the effects on the family when a family member engages in opioid addiction. The theory demonstrated the diversity of emotions that arise from various scenarios taken from experiences from the environment or relationships. A number of these emotions identify as, pride, shame, anxiety, sadness, happiness, and depression. The theory acted as a map to identify the human behaviors and emotions of the following: (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area.

Nature of the Study

The research aligns with a non-experimental quantitative cross-sectional study using a survey methodology. The Recovery Center’s central location is in region (north

United States). The Recovery Center has multiple locations; for this study, demographics are from the main center. The identified population consisted of family members within the (north United States) area that have family members with an addiction problem. The sampling process used non-probability sampling to identify participants and a convenience method to increase participation and collect the participant's data using an electronic questionnaire disseminated at a recovery center. The participants were family members suffering from addiction issues and receiving services from the recovery center.

As aforementioned, the research study assisted in understanding a possible relationship between (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area. The study generated knowledge and meaning and produced an understanding of prescription or non-prescription addiction, opioid or another addiction, and the amount of family social support on the amount of stress of a family member that has ongoing interaction with an individual struggling with an addiction in a rural area. The study analyzed these variables to explore if they have a relationship with an individual's stress and understand the relationship between the independent variables to the dependent variable.

The study analyzed six IVs. The first two independent variables are an addition to the survey for this research and are categorical and dichotomous variables. The first IV is if the individual with the addiction uses prescription or non-prescription substances. This categorical and dichotomous variable will be measured by asking if the family member's substance addiction is prescription or non-prescription. The second IV is if the addiction is to opioids or another substance. This categorical and dichotomous variable will be measured by asking if the family member's addiction is to opioids or another addictive substance. The third through sixth IVs are the amount of family social support.

Using the ADF SSS survey, this is a continuous variable was measured using three sub-scales: (1) positive functional support, (2) negative ADF support, and (3) positive ADF support, and (4) total scale score (Toner & Velleman, 2014). The total score sub-scale is counted, making it possible for three sub-scales to each have different amounts of per the responses on the scale. The total score of all scales combined were analyzed. The questionnaire asked about three types of support the participant has received in the last 3 months. The words friends/relations mean the person who has a dependency problem. The first two questions on the survey are an add-on for the study. The DV is the measurable stress of the family member who has ongoing interaction with an individual struggling with addiction. Measured as a continuous variable using a Stress Factor Questionnaire survey (Kring et al., 2011a), the total score calculation is from the seven items using a Yes/No format. The final total score calculation created from the item score ranges from 0-7 to determine the mean score. Higher scores mean more stress, and lower scores indicate less stress. There is only one continuous score (Kring et al., 2011b). The complete survey provided insight into the possible relationship between the following (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area. I maintained credibility by not engaging anyone suffering from opioid addiction or under 18. The surveys are from family members who had ongoing interaction with an individual struggling with opioid addiction.

Findings from the surveys determined the possible relationship between the six IVs and the DV using multiple linear regression. The first IV is the individual struggling with addiction using prescription or non-prescription substances as a categorical variable. The second IV is if the addiction is to opioids or another addiction as a categorical variable. The third, fourth, fifth, and sixth IVs are the amount of family social support. Using the ADF SSS survey, this is a continuous variable and were measured using three sub-scales (1) positive functional support, (2) negative ADF support, and (3) positive ADF support (Toner & Velleman, 2014). The total scores for each sub-scale are added, making it possible for three sub-scales to each have different amounts of scores per the responses on the scale. The total score of all scales combined were analyzed. The questionnaire asked about three types of support the participant had or had not received in the last 3 months. The DV is the measurable stress of the family member that had ongoing interaction with an individual who is struggling with addiction as a continuous variable. Therefore, a multiple linear regression model addressed a possible relationship between the third through six IVs, as a categorical independent variable on the continuous dependent variable. The data were analyzed on a needs basis and kept confidential on a secure computer using Statistical Package for the Social Science software (IBM Corporation, n.d.).

Definitions

Addiction. People with substance use and behavioral addictions may be aware of their problem but unable to stop even if they wanted to. The addiction may cause physical and psychological issues with family members, friends, or work. Alcohol and drug use is one of the leading causes of preventable illness and premature death nationwide (American Psychiatric Association, [APA] n.d.).

Family member. Family members are not always related by blood, marriage, or adoption. Many cohabiting partners, for example, consider themselves to be family. Similarly, many people feel their best friends are family members. There can also be fictive kin. This phenomenon can often be observed in many ethnic groups (Amato, 2014).

Family support. Providing love, advice, and care can influence well-being through psychosocial, behavioral, and physiological pathways (Thomas et al., 2017).

Opioids. Opioids are natural or synthetic (made in laboratories to mimic the properties of natural opioids) chemicals that interact with opioid receptors on the nerve cells in the body and brain and reduce feelings of pain. They are a class of drugs, including prescription pain relievers, synthetic opioids, and heroin (APA, n.d.).

Opiate addiction. A chronic disorder with high mortality risk (Scherbaum, et al., 2008).

Rural. Pastoral landscapes, unique demographic structures and settlement patterns, isolation, low population density, extractive economic activities, and distinct sociocultural milieus (Hart et al., 2005).

Stress. Stress means pressure or strain (McEwen & Sapolsky, 2006). Life constantly subjects us to pressures. In people, stress can be physical (e.g., disease), emotional (e.g., grief,) or psychological (e.g., fear).

Assumptions

The study proceeded with the following assumptions. The survey, presented unbiasedly, allowed the participants to answer questions truthfully for reliability in the research study. Because all participants completed their surveys online, there is no method to determine if the prior statement is accurate. I assume that the assumption is correct and the survey is accepted. The reality about the data philosophies also have validity, and the answers reflect the variable of intent and be measured and done so objectively. Positivistic quantitative inquiry is an epistemological assumption. The assumption assumes that what happens in one social environment studied in this method can be generalized to future social outcomes. These assumptions are measurable, and the assortment and process of inquiry are as objective as possible and are hallmarks of the quantitative approach in this research study. Multiple linear regression analysis makes many critical assumptions in the study. The six IVs for the study are (1) the individual struggling with addiction by the use of prescription or non-prescription substance as a categorical variable, (2) if the addiction is to opioids or another addiction as a categorical variable, and (3-6) is the amount of family social support of a family member on the stress of a family member that has ongoing interaction with an individual who is struggling with addiction in a rural area as a continuous variable. The DV is the measurable stress of the family member that has ongoing interaction with an individual who is struggling with addiction as a continuous variable. There is an assumption that the variables fit this type of design. The sample was representative of the selected population. Objectively, reviewing the literature within the study, the assumptions are determined. This research study was conducted in rural America in a chosen population to determine if the assumptions are right or wrong.

Scope and Delimitations

The scope of the study addressed the opioid epidemic and explained how the opioid epidemic has impacted not just the lives of the individuals dealing with addiction but also the lives of their family members (Kidorf et al., 2016). The proposed timeline for the study is the survey administration and took a few weeks to finalize. The delimitations of the study described the presence of family members impacted by the opioid epidemic and explained how the epidemic has negatively affected children and other family members (Mirick & Steenrod, 2016). The demographics of the study are rural America. The generalizability of the study explained the phenomena of emotions that the family experienced when addressing the needs of an individual who engages in opioid addiction, as well as the family's emotional process. The generalizability provided validity for the research study. Given its unique nature, the current research study contributed to the gap in identifying the relationship between the variables in the study. As mentioned above, the study variables are (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area.

Limitations

Notably, limitations are often contributors to challenges in a study. The data collection involved surveying a specific sample from an organization that caters to the needs of individuals dealing with substance addictions. Limitations in the study are that the researcher faced issues with the sample and selection and insufficient sample size for statistical measurement. Another limitation is that the researcher had limited access to the respondents because only one local organization that worked with individuals with addiction is selected to gather data. Additional limitations are conflict arising from cultural bias and other personal issues. These limitations are characteristics of the design that impacted the research. These limitations can also influence the interpretation of the findings.

Family members that are contributors to the family members' dependency or did not address the addiction issue as readily may not respond accurately or be hesitant to participate. These hesitations and incorrect responses can create challenges in identifying the relationship between the following (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area.

Other potential obstacles, or barriers, in the study are participant mortality, the lack of financial resources, and the lack of accessibility due to transportation issues. These issues could affect participation in the study. In addition, family members may have difficulty identifying with irregular or unusual symptoms because they have attached themselves to the behavior. The family member begins to accept what was once abnormal behavior as now normal behavior within the family. These obstacles consequently create barriers in this study. Future research is still warranted to address the gap in the study after considering these challenges.

Significance

Addiction to opioids can create an unwelcoming environment for the family unit and the community (Brundage & Levine, 2019). The setting of the opioid users creates an atmosphere for an opportunity for ongoing struggles. The atmosphere can also trigger a lack of drive to assume responsibilities such as performing parental and personal duties and responsibilities. Drug abuse with emphasis on opioids can cause this inability. I helped narrow the research gap to determine the relationship between (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area.

The current research often focuses on the opioid user, not the opioid user's family (NACRHHS, 2016). This study contributed to the extensive research on opioids and other addictions. However, the research broadened the scope of the limited and existing research by addressing the stress effects of dealing with a family member taking opioids for future researchers. The study contributed to the little research on understanding a possible correlation between opioid use and stress in a family. The current research also examined if there is a difference between (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area.

One potential social change implication for this study may be developing a program to develop outreach and education programs that create awareness on how dealing with an individual exposure to excessive opioids can devastate an individual and a family's life. Under those circumstances, families need to know that an opioid use disorder is an environmental factor and a biological brain disease (APA, n.d.). Therefore, additional social change opportunities may include developing support services to help families and communities understand and support dealing with individuals affected by the opioid crisis.

The research will support professional practice and allow practical application regarding the effects that opioid addiction has on the family unit (American Public Health Association, [APHA] 2014). Unfortunately, current evidence is insufficient, and a rapid expansion of longitudinal research is urgently needed to guide clinicians in balancing the need for opioids with the risk of adverse consequences. The study will provide a roadmap for future researchers to understand opioid users' families' needs. It is also an opportunity to create awareness of services needed for the family members. Future services could help prevent; social isolation, family members removed from the home, decrease deaths and increase community involvement.

The data obtained from the study increased awareness and as well as gain an understanding of the effects of opioid use on the family unit. The information measured will raise awareness and gain an understanding of the family's experiences of the following (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area. The research study provided knowledge regarding the gap in the research study as it relates to the psychological effects on the opioid user's family when addressing the family member's needs when dealing with opioid addiction.

The potential relevance of this study is that it created awareness of the need for programs and services for families exposed to excess opioid use. The study provided research that revealed the missing gaps in the research that addressed the effects that opioid use had on the family unit. The behaviors of the opioid user can create socialization issues for family members. Socialization issues can lead to the personal needs of the family member not being addressed.

Support services can assist family, friends, and the community when dealing with the opioid crisis. Community service organizations can act as an instrument to enhance and help the opioid user cope and identify strategies to overcome the battle of opioid addiction (McCann & Lubman, 2017) and provide support for the family unit. These resources from community service organizations can act as instruments for the family social support of the family member as they work towards the healing process when dealing with an opioid crisis within the family unit.

Summary

For many years, floods have created an unforeseen crisis in rural America. This crisis as we know it today is the opioid crisis, and it continues to gain public recognition regarding its negative impact on society. Current research contributed to the gap in identifying the relationship between the following: (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area. The literature in Chapter 2 helped build knowledge by analyzing, gaining understanding, and providing a foundation and justification for existing research and the research study. In addition, Chapter 2 summarized the literature search strategy, theoretical framework, the significant themes of the literature, and a summary. The literature review outlined the existing research and the missing pieces in the discipline of study. The knowledge gained from the literature review assisted in identifying at least one significant gap to justify the research study. The literature review also warranted future research.

Chapter 2: Literature Review

According to the NIH (2018), over 2 million people in the United States have a SUD per the DSM-5, which falls under the guidelines of opioid use disorder. Furthermore, drug use and overdoses in rural America have escalated at an alarming rate. NACRHHS (2016) found that opioid overdoses in rural areas increased between 2012-2014 at an unprecedented rate. Between 1999 and 2015, opioid deaths for women aged 18-25 quadrupled (USDA, 2017). Also, the CDC (2018), in their- Morbidity and Mortality Weekly Report, stated that the chance of receiving an opioid prescription was 87% higher for patients in rural counties than for those in urban counties. The America Medical Association (AMA; 2021) identified that between September 2019 and September 2020, there were nearly 90,000 opioid overdoses. The opioid epidemic continues to create new ongoing challenges. As contended by various researchers, SUD is an ongoing problem (Benson & Aldrich, 2017; Feingold et al., 2017; Glerum & Chaoo, 2015; Mandras, 2017; Vashishtha et al., 2017), considering the sizeable number of opioid deaths, overdoses, and substance abuse incidences.

Substance abuse and the opioid crisis continue to hurt families (Brundage et al., 2019). This synopsis of the literature assisted in establishing the relevance of the problem as well as discuss the possible relationship between the following: (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area. The sections of this chapter will summarize vital elements of this research study. These elements are the following: the literature search strategies, the theoretical foundation, the literature review as it relates to the key variables, summary, and conclusions. In addition, there will be a comprehensive review, literature search strategy, search engines, key terms, and the scope of literature resources. The literature search strategy will also include a library database. This chapter summarized what is known and identified the missing components of the discipline of study. After this chapter, the literature described how the study filled the gap in the literature and assisted in developing new strategies for dealing with situations that families may experience. In conclusion, the summary and the ending provided clarity of the critical variables and transition to Chapter 3, the methodology section of this research study.

Literature Search Strategy

The literature search strategy used an organized structure of key terms to search databases. These key search terms and combinations are as follows: prescription, non-prescription substances, opioid (opiates), addiction, substance addiction, family social support, stress, anxiety, and distress. The databases used for this literature search strategy were Google Scholar, ProQuest, EBSCO, Science.gov, CORE, Bielefeld Academic Search Engine, Microsoft Academic, and Walden University library. The search strategies also used the fundamental concept of the RQ. The techniques implemented will retrieve accurate results from the literature search strategy. The literature review consisted of scholarly research 5 to 10 years old because of the limited research available. The literary research review provided a list of seminal and current peer-reviewed literature and a description of recent but limited research to base a conclusion on the research taken from the scholarly articles that center around the scope of the research.

Theoretical of Foundation

For this purpose, BFST (1985) was used as the theoretical concept to understand the total human phenomenon studied during this research process. The theoretical concept is a reliable instrument for making an overall evaluation for this study. The BFST is reliable because the theoretical concepts describe the range of how family members are emotionally stuck together. The theoretical concept continues to operate in the background, no matter how much people deny it or how much they pretend to separate from the family unit. Mental health therapist Murray Bowen developed the BFST. Following the Second World War, many family models were developed by mental health, yet while researching families, Bowen noticed patterns that assisted in managing anxiety. Recognizing the similarities in how herds and packs use their instincts to deal with threats and identifying the parallels to our relationship problems and how they mirror patterns of herds and packs, through observation, Bowen began initiating the BFST.

Assumptions of BFST (Bowen, 1985) include (1) emotional illness is directly related to the biological part of men; (2) emotional illness in a multigenerational process; (3) the discrepancy between what man does and what he says he does; (4) structuring hard to define concepts into useful facts; and (5) Cause and effect thinking. The human mind is characterized by cause- and effect- thinking.

Bowen (1978) recognized personal relationship problems that disrupted an individual's personal harmony. The BFST assisted in understanding how the disruption of personal harmony and responding to others' negative actions impact family members. Bowen understood that these challenges can affect us all and that the theory could provide a bigger picture rather than a narrow view of the situation. As a theorist, Bowen's focus was not on mental illness but on the challenges of being human in relationships.

Bowen (1978) originated the BFST with eight concepts that were useful in this study. These concepts are as follows: (1) triangles – the triangle is a pattern that conceptualizes patterns of the emotional functioning in a relationship system; (2) differentiation of self – is the effort to classify all levels of human functioning, from the lowest to the highest possible levels; (3) nuclear family emotional system – the concept addresses the development of emotional patterns that begin before marriage, and the pattern emerges through marriage to the first birth of a child; (4) family projection process – this process occurs when parents project part of their immaturity two or more children (Bowen, 1985). A notable example is a mother becoming less anxious because she is focusing on her child; (5) the multigenerational transmission process is the process that addresses patterns that develop through time. It emerges from the parental family. The process addresses lower, equal, or higher levels of differentiation than the parents; (6) emotional cutoff – The concept often referred to as cutoff is a process centered around emotional distancing. An individual accomplishes this by internal mechanism or physical distancing; (7) sibling position is a concept based on Toman's (1961) work. The concept focuses on the growth of the sibling and all things being equal; and (8) societal emotional process – the individuality-togetherness force of life balance. The theory focuses on a 50-50 balance, with neither party overriding the other.

The BFST focus tends to be more culturally expansive (Erdem & Safi, 2018). The expansion process includes family history, ethnicity, gender, race, sexual orientation, social class values, and rituals. Through this process, expansions are prevalent and incorporated into the family unit. A substantial number of studies throughout the years have tested the validity of BFST, such as the cultural lens approach to BFST: contributions of family change theory (Erdem et al., 2018); evidence-based behavioral interventions to promote diabetes management in children and adolescents (Hilliard et al., 2016); an application of BFST, (Haefner, 2014). Equally important, the researchers have used BFST in their research and/or provided empirical support for the theory. The BFST has been a prominent systemic perspective that has guided research for decades (Erdem & Safi, 2018).

The connection between the theory and this research is that Bowen (1978) considers triangles and differentiation of self the foundation of his theory. The triangle is a pattern that conceptualizes patterns of emotional functioning in a relationship system. The rationale for selecting the BFST was because it can potentially be a true paradigm shift, that challenges thinking in the social sciences. The theory promotes a research attitude. Bowen's theory demonstrates that the level of chronic anxiety correlates with the level of differentiation of self. Therefore, people with high chronic stress need to manage their anxiety. Bowen identified that there are generally four mechanisms used during this process (1) martial conflicts; (2) health or emotional problem; (3) health or emotional problems of a child; or (4) triangulation of other people into a relationship. Therefore, a rationale for using these mechanisms and this specific theory, according to Bowen, is applicable whether studying one's own family or consulting with a family in psychotherapy. The rationale creates a rational implementation and connection between the theory, the hypotheses, and the research study. Therefore, using the BFST is fitting to find pieces to the puzzle as stated in the hypothesis. It also is the lens and the anchor of this research study.

The rationale for using the variables in conjunction with theory is that, according to Kerr (2019), is to understand what is occurring in a person's family of origin by analyzing several generations. The theorists recognize that knowledge of the past is the key to understanding the present. It assisted in describing the underlying basis for the variables, making it a rational choice for the research study. The conjunction of the theory and the variables assisted in creating a roadmap for the research study and was the anchor for the study. The Bowenian strategy is to coach; It teaches family members to be conscious and observe patterns of their behaviors (Haefner, 2014). Observation is encouraged when anxiety and tension are escalating and how family members react. As mentioned, the BFST provided the framework needed for the variables selected for the research study and created a blueprint that assisted as a guide during the dissertation process. In addition, the theory is also fitting for the study because it focused on facts about the human relationships system. The scholarly research review provided a list of seminal and current peer-reviewed literature. The review described the research used to base a conclusion, the analysis conducted, and knowledge taken from additional scholarly articles centered around the research scope. The determination and findings built on the existing theory.

Literature Review Related to Key Variables or Concepts

Many researchers have addressed the topic of addiction (Amiri et al., 2021; Chan & Trant, 2018; McArdle & Stull, 2018). These research endeavors have included a plethora of research addressing adolescent addiction, the family dynamics of addiction, and even the effects of maternal drug use. Yet, there is limited research regarding addictions' impact on family members (McArdle & Stull, 2018). Additional research has demonstrated that different capacities contributed to and affected well-being and distress, which can help enhance effective mindfulness-based interventions (Roemer et al., 2021). Equally important, a limited amount of health research focuses on substance use, emphasizing nonmedical prescription opioids and how they impact mental health and parenting (Chan & Trant, 2018).

Though this is a problem in the United States, it affects health more in vulnerable populations of adolescents and young adults, including those living in poverty in rural communities (Love et al., 2016). Rural overdose rates are rising and surpassing urban areas (USDA, 2017). In rural communities, drug addictions appear to be unique in the empirical literature (Love et al., 2016). Moreover, the comprehension of the mechanism of rural opioids is significant, considering the toll that the epidemic has taken on rural areas (Chichester et al., 2020). Lastly, the literature review topics of prescription and non-prescription addiction, opioid (opiates) addiction, substance addiction, and stress are linked to address the importance of social issues and inclusions.

Opioid (Opiates) Addiction and Substance Addiction

SUD is a very complex disorder (American Psychiatric Association, [APA], n.d.). The condition is uncontrolled and has harmful consequences. Individuals with a SUD may have distorted thinking and behaviors. They may experience intense cravings and abnormal movements. Substance abuse can cause changes in brain function. Brain imaging studies of individuals faced with SUDs reveal changes in decision-making, memory, learning, judgment, and behavioral control. Unfortunately, a large majority never receive treatment for their addiction (Daley et al., 2018; SAMHS, n.d.).

The USDA (2017) stated that the opioid epidemic has devastatingly affected users and their families. The impact of the opioid epidemic has had an alarming negative burden not only on families but also on communities and the health care systems (Missouri Department of Health & Senior Services, [MDHSS], n.d.). The opioid epidemic has created a ripple effect throughout communities, affecting the economy and the quality of life for the user and their families in rural areas. The American Academy of Pediatrics (n.d.) stated that approximately 115 Americans die daily from an opioid overdose. Opioid addiction is a chronic, complex, and relapsing condition (Stuart et al., 2018). About 60% of patients relapse and have to receive inpatient psychological treatment. Opioid addiction negatively impacts families, including an increased number of children entering foster care, babies born with neonatal abstinence syndrome, and an increase in maternal mortality.

Furthermore, the United States is in the midst of a severe opioid epidemic (Stuart et al., 2018). Addressing this epidemic is a health priority and needs to be addressed. A link in the opioid epidemic connects a series of addictions. These links lead to the misuse of opioids. These addictions are also associated with various determinates that negatively impact society. Notable examples of these determinants are personal problems for these individuals and the effects on their social networks and the community. Additional problems linked to these addictions are childhood maltreatment, criminal activity, economic burden, trauma exposure, post-traumatic reactions, intimate partner violence, and disruption of parental attachments. However, many users get these drugs from family, friends, and dealers, not physicians (Daley et al., 2018).

Daley et al. (2018) examined addictions in individuals 12 years and older. One hundred nineteen million people ages 12 or older used prescription drugs. Unintentional overdoses have increased by 250% since 1999 in rural areas. Rural areas also have high rates of mental illness compared to urban areas. The impact of mental illness can lead to depressive episodes and anxiety disorders, often leading to substance abuse (Brooks et al., 2017). Substance use addiction affects the entire family (Lander et al., 2013). The impact of substance use addiction on the family unit warrants attention.

Opioid Prescription, Non-Prescription Substances

At present, the abuse of opioids is an alarming problem in the United States (Love et al., 2016). Many opioid users with chronic pain are often associated with comorbidities and multiple mental disorders. These disorders include depression, anxiety, and insomnia (Chan et al., 2018; Zin et al., 2017). Although prescription opioids offer acute pain management, their use, misuse, and abuse have contributed to significant economic and health burdens for the patient's and their family’s mental health (Hagemeier, 2018).

Vulnerable populations, such as residents of rural communities, appear to be at greater risk for opioid misuse. Many rural states have seen a tremendous increase in opioid mortality and injury (Lund et al., 2019). According to Lund et al. (2019), rural states have the most significant mortality risk, opioid misuse, and high-risk prescription use. The VHA (2019) is the most extensive integrated healthcare system in the United States, disproportionately serving rural areas. According to Lund et al., the VHA provides a unique setting to understand the treatment of rural and urban areas and examine the regional differences in prescribing opioids.

Studies have also shown an increase in prescribing opioids in rural areas. A few notable examples of these studies are; Buyback program of unused prescription opioids in U.S. rural communities, 2017-2018 (Liu et al., 2020), disparities in access to opioid treatment programs, and office-based buprenorphine treatment across the rural-urban and area deprivation continua: A U.S. nationwide area analysis (Amiri et al., 2020), and Families in crisis: The human services implications of rural opioid misuse policy brief July 2016 (NACRHHS, 2016). Furthermore, the Buyback program of unused prescription opioids in U.S. rural communities, 2017-2018, discussed the overprescribing of opioids after elective surgeries by as much as 70% and the importance of adequately disposing of unused opioids (Liu et al., 2020). Additionally, disparities in access to opioid treatment programs and office-based buprenorphine treatment across the rural-urban and area deprivation continua: a U.S. nationwide small area analysis that expresses concerns of the United States experiencing a steady increase in the rates of drug overdoses and opioids being the major contributor (Amiri et al.,2020). Equally important, the families in crisis.

The human services implications of rural opioid misuse policy brief July 2016 discuss rural America and the changing opioid overdose epidemic. The briefing addresses concerns about non-medical prescription opioid misuse being a fast-growing public health problem and states that the primary cause is unintentional deaths, particularly in rural areas (NACRHHS, 2016). It was also noted that opioid prescriptions were 30% higher for rural than urban veterans. The opioid prescription volume was also higher for rural veterans regarding the number of medications and days' supply dispensed (Lund, 2019). The study indicated the substantial number of regional prescriptions in the rural-urban variations as far as prescribing opioids to patients with chronic and non-malignant pain in rural areas. The limitation of this study was the inability to obtain data from non-VHA sources and how rural families were affected by access to prescription opioids.

Furthermore, the opioid epidemic has been devasting not just for the users but for their families (Liu et al., 2020). Patients and their families face many challenges due to their geographical isolation. These challenges include prescription opioid diversion, lack of disposal, and over-prescription. In addition, rural living contributes to opioid addiction in rural America. Healthcare organizations find it challenging to identify ways to motivate patients to dispose of opioids properly. Liu et al. (2020) investigated the disposal of opioids. The findings stated that less than 10% of surgery patients properly store or dispose of unused opioids. The research also explained how surgeons overprescribe as much as 70% after elective surgery. Prescription opioids are an alternative because they are effective for pain management, and if patients do not receive adequate pain management, it can delay returning to normal activities. The study also focused on educational and motivational methods for patients to properly disposal of opioids and opioid use. A buyback program was developed, which provided a monetary reimbursement for those who had a same-day procedure for unused opioid prescriptions in rural areas. The program also excluded individuals discharged to rehabilitation centers or nursing homes. Older adults are more likely to participate in the buyback program for opioids (Liu et al., 2020). However, there are concerns from physicians that, after the surgeons' education intervention training, the surgeons will prescribe fewer opioids after same-day procedures. The patients were also encouraged to use nonopioid pain management techniques. These efforts have the potential to be an added benefit for social change efforts in rural communities as far as providing alternatives for pain management and decreasing the number of opioids used in rural communities.

Le et al. (2018) investigated the use of over-the-counter medication compared to prescription medication and its potential for misuse. If misused, many over-the-counter prescriptions, such as cold medication, can produce euphoric, dissociative, and stimulant effects. Engaging in these acts can result in psychosis, tolerance, dependence, psychosis, and physical withdrawal. According to the President's Commission on Combatting Drug Addiction and the Opioid Crisis (2017), nonmedical prescription opioid use is a significant public health crisis. Chan et al. (2018) investigated the connection between nonmedical prescription opioids, their use, and the impacts on relationships across systems, including the impact on families with children. Chan et al. demonstrated that non-medical prescription opioids use in adults is connected to family relationships and psychological well-being. Although this study is one of the first of its kind, it provided insight into the impact of non-medical prescription opioids and how they can affect the psychological well-being of families. The Substance Abuse and Mental Services Administration (2017) reported that prescription drug misuse is a common problem in the United States. Most of the population, equivalent to 87.2%, who take prescription pain relievers, do not misuse them. Yet, for those who misuse substances, the disorder can negatively impact many life areas, including how the family functions (Hussaarts et al., 2011). The patterns can lead to harmful relapses and negative consequences.

Family Social Support

The opioid epidemic has devasted families, leaving parents unable to care for their children and the children being cared for by their grandparents. According to Dolbin-MacNab et al. (2021), studies have revealed societal issues such as substance abuse and opioids. They are instrumental in grandparents raising their grandchildren and have become demographically heterogeneous. Family support is crucial when parents cannot provide support for their children. These families are known as grand families. Though additional research is needed, evidence demonstrates that opioids have contributed to the increase in these grand families. According to a survey of grandparents raising grandchildren, 70% identified opioids as the cause, emphasizing heroin (Dolbin-MacNab et al., 2021; Generations United, 2018). This epidemic has negatively impacted many grand families. The trauma these families have experienced warrants them the opportunity to receive benefits from policies such as legal assistance, mental health care, support groups, and other services that support them as grandparents and services to address the needs of the children (Dolbin-MacNab et al., 2021). These grandparents have been able to differentiate one's self, separate their own needs and recognize the needs of their grandchildren. They understood the importance of staying connected but made a rational decision to care for the children (Bowen, 1978). Equally important, in these circumstances, the grandparents play a significant role in the support for the children because this is the period in a child's life that they learn to become members of society and incorporate norms, values, and social roles from the family unit (Howson, 2021).

Rapier et al. (2019) stated that social support resources for families and a shield against substance and alcohol abuse are beneficial in the outcome of addiction treatment. Rapier et al. took two samples: one from existing data collected on 441 male inmates during a voluntary intake process, a free-of-charge six-month addiction program, and the second was a non-incarcerated sample. The participants had used methamphetamine at least once in the past 30 days and had engaged in a voluntary treatment plan offered free of charge through a mental health program. The findings contributed to the limited literature linking social support to substance use. The study had limitations, including sample size issues, and did not address sociodemographic variables. However, it did suggest the importance of moving away from intrapersonal and acute models for treatment and moving towards models that address social networks, communities, and integrating families. Findings suggest quantifiable inverse relationships between substance use and social support.

Social support is essential when an individual is in a crisis. Peck et al. (2018) analyzed the importance of family and social support for adolescents and young adults with cancer-related pain. Yet, the study did not address the needs of the families. Further research is warranted to investigate the connection between social support, substance use and treatments, and the families' needs. Atadokht et al. (2015) investigated the role of the families' expressed emotions and their perceived social support concerning addiction and relapse. The study uses a descriptive-correlation method and 80 participants as a sample. The results indicated a positive relationship that expressed emotions between family and the frequency of the participants relapses. Poor communication with family members and a lack of understanding of the cruel and violent treatment of family members were factors of deterioration. The impact on the family received little attention. However, according to the researchers, social support is another determinant that affects addiction. The study demonstrated a significant negative relationship between the frequency of relapse and perceived social support from friends and family and the social support the participants received. Therefore, the decrease in perceived social support from friends and family is a link to increased relapse probability. Suggestions focusing on emotion and sensing social support from family are needed. Families should receive help to identify support networks and become more aware of their current relationship, yet the study failed to discuss the support for family members.

Lastly, Chou et al. (2018) explored parenting self-efficacy, substance use, social support, and family empowerment as predictors linked to parenting self-efficacy among expecting mothers in SUD treatment. A sample of expecting mothers in a SUD treatment participate in the Family Empowerment project. The project enhances services that enhance the lives of expectant mothers. The project used a service model, allowing women to remain at their facility for 12 months with their children under 12. The individualized services include empowerment, counseling, case management, and therapy. The sample is 130 expected mothers. The findings from the model revealed that pregnant women with substance abuse disorder could serve as resources for each other and be an asset to their recovery. Additional results explained how the positive correlation between social support and family empowerment played a significant role in the recovery of the patients. The respondents from the sample in the parenting classes revealed this to be a beneficial component for family empowerment. The family empowerment component also encouraged confidence in parenting ability. The trust in the parents helped create a positive outcome for the children. In conclusion, Chou et al. state that future research should focus on specific components to increase family empowerment and that the role of family empowerment can act as a mediator for social support. The study impressed on the importance and benefits of self-efficacy and examining on a larger scale.

Researchers have revealed the need for social support when addressing substance abuse disorders (Atadokht et al., 2015; Chou et al., 2018; Dolbin-MacNab et al., 2021; Kourgiantakis et al., 2021; Rapier et al., 2019). The researchers emphasized the importance of social support for individuals dealing with substance abuse disorder. The researchers above have identified the need for more than one support option to meet the needs of families dealing with substance abuse in the home. However, these studies failed to include data on social support for family members. The objective of this research study was to generate data that builds on existing research to gain an understanding of family and social support for family members who have ongoing interaction with an individual who is struggling with addiction, especially with opioids.

Stress on Family Members

Researchers have shown that anxiety and stress can contribute differently to an individual's emotions (Basile et al., 2015; Souza et al., 2017). These emotions can trigger different stressors when responding to threatening or dangerous situations. These stressors also create a feeling of being overwhelmed, fatigued, angry, and anxious (Howson, 2021). Howson stated that these strains occur from competing demands that overlap through time. Through many years of research, Bowen understood that all people have some form of anxiety and possibly all living creatures (Kerr, 2019).

Substance abuse disorder can lead to many stressors, such as; death, loss of the role of the functioning parent, incarceration, and loss of separation (Daley et al., 2018). Studies such as Daley et al. (2019), Dasgupta et al. (2018), Chou et al. (2018), and Lander et al. (2013) have identified many environmental stressors that occur when an individual lives with SUD. Notable examples are housing, employment, and transportation (Chou et al., 2018). An abundance of traumatic events can create a high-stress response in children triggering toxic stress for children. These toxic stressors can lead to acute crises (Brundage et al., 2019). As noted by researchers such as Lynch (2019), Romanowicz (2019), Schak (2019), and Shekunov (2019), children of parents with opioid use disorder display greater disorganization attachment that can lead to an increased risk of behavioral and emotional issues, as well as poor academic performance and poor social skills.

According to Bowen (1985), one of the most effective mechanisms for reducing anxiety in families is having a relatively open relationship system in the extended family. An open relationship in any family dynamics is warranted. However, when family members are experiencing trauma, such as SUD, that can contribute to divorce or separation, as well as repeat admissions to hospitals or rehabilitation centers, these actions lead to instability in the family unit. During these times, an open relationship system can be invaluable. According to Kerr (2019), understanding the link between patterns of emotional functioning and clinical symptoms depends on understanding a person's functioning position in a family relationship system. Accordingly, these disruptions often lead to role changes in the family unit. A few notable examples are teenagers caring for younger siblings and grandparents raising grandchildren (Daley et al., 2018). Grandparents experience multiple stressors in these disruptions. In addition to the experiences of adverse physical and mental health outcomes (Doblin-MacNab, 2021), these stressors affect the physical and psychological well-being of the family unit. Overall, role-changing can cause distress. Morley et al. (2019) stated despair expresses a decision point. It is when a choice resolves ambivalence needs. Once the decision occurs, the distress tends to dimmish.

Summary and Conclusion

In summary, research has indicated that between July 2016 and June 2017, there were 11,884 opioid deaths (CDC, 2018). Millions of individuals have been negatively impacted by the abuse and misuse of opioids (Hagemeier, 2018) and fall under the guidelines of opioid use disorder (CDC, 2018). As noted, socioeconomically disadvantaged communities have borne this epidemic's adverse effects (Dolbin-MacNab et al., 2021). Equally important, the opioid epidemic has been expanding in rural America. Undoubtedly, overdose deaths in rural areas are as high or higher as in urban areas (Cooper et al., 2020).

Above all, studies have shown the quality of family relationships can influence the well-being of the family unit (Kourgiantaki et al., 2021; Lander et al., 2013; Romanowicz et al., 2019). Furthermore, this transpires through behavioral, psychosocial, and physiological pathways by providing care, showing love, and giving advice (Thomas et al., 2017). Behaviors that create strain contribute to stressors in the family unit. Examples of these strains are arguments, being critical, and making too many demands. Bowen (1985) explained how the family system works and that changing one family unit can disrupt the family.

Limited data focuses on family and social support or the effects of parental opioid use on the parent’s children (Romanowicz et al., 2019). Research has revealed that strain can compromise the family's mental health, but social support may be a protective resource. All things considered, when parents cannot provide care for their children because of parental opioid use, the grandparents serve as an asset by providing a support system for these families. These grand families face many challenges and could benefit from additional support (Dolbin-MacNab, 2021). Notably, support systems in non and traditional families dealing with a spouse or a child with addiction could be beneficial. The literature has explained that a growing body of research focuses on families of individuals with substance abuse impedes their quality of life. As noted, limited services focus primarily on the family members to improve their quality of life (Denomme et al., 2017). The data and findings of this study will be meaningful for future researchers and worthy of building on existing research.

Chapter 3 will discuss the research design and its connection to the research question. The following chapter will also address the threats and validity of the research study. This chapter will also explain the data screening procedures and describe and address the threats to the external and internal validity of the study. Lastly, Chapter 3 will summarize the design and the methodology of the method of inquiry and transition into Chapter 4.

Chapter 3: Research Method

Between July 2016 and June 2017, there were 11,884 opioid deaths (CDC, 2018). Approximately 17.4% of these individuals tested positive for prescription opioids. The diversion of opioids has immersed multiple segments of the population in the United States and has become a pressing public health problem (Stuart et al.,2018). There is excessive activity in opioid use in rural communities (Seigel, 2018). The chapter discusses the methodology and explains how the research design connects to the study. It will also explain the data screening procedures. In addition, it will describe the threats and validity of the research that will assist in providing for the existing research on the effects of the opioid epidemic on families who have ongoing interactions with family members suffering from addictions in rural communities. Chapter 3 will also be a method of inquiry and a transition to Chapter 4**.**

Research Design and Rationale

The cross-sectional research design used a survey method and it provided an understanding of a possible relationship between (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area. The data acquired from the recovery center for the study increased awareness and understanding of opioid use in the family unit. The research study provided knowledge regarding the gap in the research study as it related to the stress of the opioid user's family when addressing the family members' needs when dealing with opioid addiction.

As aforementioned, the study analyzed six IVs. The first two independent variables are and add to the survey for this research purpose. The first IV is if the individual with the addiction uses prescription or non-prescription substances. This categorical and dichotomous variable will be measured by asking if the family member's substance addiction is prescription or non-prescription. The second IV is if the addiction is to opioids or another substance. The categorical and dichotomous variables will be measured by asking if the family member's addiction is to opioids or another addictive substance. The third through six IVs are the amount of family social support. Using the Alcohol, Drug, and the Family Support Scale [ADF SSS] survey, this is a continuous variable and will be measured using three sub-scales (1) positive functional support, (2) negative ADF support, and (3) positive ADF support and (4) a total score (Toner & Velleman, 2014). The total score sub-scale is counted, making it possible for three sub-scales to each have different amounts of per the responses on the scale. The total score of all scales were combined and analyzed.

The questionnaire asked about three types of support the participant had or had not received in the last three months. The ADF instrument has 25 questions. Each question asked about how often the support has been given. The variable mentioned was treated as a continuous variable with a Likert scale with four responses: never, once or twice, sometimes, and often. Three sub-categories will ask (1) the scale score of positively perceived functional support, (2) the scale score of negatively perceived ADF-related support (3) the scale score of positively perceived ADF-specific support, and (4) the total scale score of all sub-scales. The score is the number of times each of the four

Likert responses to the sub-categories make it possible for three sub-scales to each have different amounts of scores per the responses on the scale. The item order number was determined using a random number table to reduce subsequent item influence and biased answers. The total score of all scales combined was analyzed. The DV measures the amount of stress of the family member who has ongoing interaction with an individual struggling with addiction. Measuring as a continuous variable and using the Stress Factor Questionnaire survey (Kring et al., 2011a), responses were taken from 7 items using a Yes/No format. The totaled yes responses created an item score that ranges from 0-7 to determine the total score. Higher scores mean more stress, and lower scores indicate less stress (Kring et al., 2011b). The completed survey provided an insight into the possible relationship between (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area.

The non-experimental quantitative cross-sectional study used a survey methodology. The objective of the survey methodology was that the tool could obtain information describing the characteristics of a large sample of interest and estimate the population's response (Ponto, 2015). Additional benefits of the survey instrument included few or no administrative costs. The survey was also a valuable tool to reach hard-to-reach respondents similar to the target audience. In addition, the survey methodology was efficient when gathering data; surveys were available online. The data explored and described human behavior. The survey was administered with numerically rated items and was relatively inexpensive.

The design choice stated was consistent with the research design to advance knowledge in the discipline. The method was selected because the research aligned with a non-experimental quantitative cross-sectional study using a survey methodology. The survey methodology ensured the confidentiality and anonymity of the participants as well as a sample that allowed the researcher to ask numerous questions about a subject, giving extensive flexibility in data analysis.

Something that the researcher couldn't control or eliminate are survey constraints. Constraints influence the responses to the questionnaire, such as respondent selection issues. These constraints can also occur when respondents provide incorrect answers to the research questions, intentional or unintentional. These constraints are survey-related effects that do not represent errors but may still limit the accuracy of the conclusion calculated from the conclusive evidence.

Methodology

The study intends to explore the possible relationship between prescription or non-prescription addiction, opioid or another addiction, and the amount of family social support on the amount of stress of a family member that has ongoing interaction with an individual struggling with an addiction in a rural area. The targeted population comes from a sample from a recovery center.

Population

The recovery center's central location is in the northern part of the United States. The recovery center has satellite offices that provide services in the northern part of the United States. The targeted population consisted of family members within the northern part of the United States area that have a family member with an addiction attending the recovery center. The total population that the recovery center's central location is 175. The plan used to identify participants is the non-probability sampling plan. The sampling process used a convenience method to increase participation and collect participants' data using an electronic questionnaire.

Sampling and Sampling Procedures

The convenience sampling method is the type of sampling selected for the study. The convenience sample method used a non-probability sampling technique defined by anyone contributing to the data. The strength of the convenience sampling method is that it is inexpensive compared to other research methods and can test the hypothesis of the participants for the study. The weakness of the sampling method is that there is no pattern in acquiring the respondents, and it is subject to sample bias because of the time and the research location. The sample also represent the population at the recovery center, but since this is a convenient sample, it was not be fully representative. However, the participants geographically spread out provided data from different demographics. As stated, convenience sampling is ideal for the study. The sample captured and obtained data to confirm a hypothesis, tentative research, and future research. I maintained credibility by not engaging anyone who suffered from opioid addiction and anyone under

18 years of age. The exclusion and inclusion for the research study are the following: (1) a family member must have ongoing interaction with an individual struggling with opioid addiction, (2) the family member must be 18 years or older, and (3) a person has a family member that is an active part at the recovery center and (4) the survey will be available only in the English; therefore, a criterion is the participants have to be proficient in English.

Using the G*Power (Erdfelder et al., 2007) and population, the recovery center's central location, which serves 175, required a sample size of 102. The sample was determined using a one-tail statistical test. The one-tail is appropriate for the study to identify the difference between the groups the study analyzed. There is a 5% chance of rejection by the null hypothesis: the .05 alpha level assists in determining the rejection. The power setting is 0.80. The 0.80 power setting is the sample calculation selected because it is a standard setting for power.

Procedures for Recruitment, Participation, and Data Collection

The recovery center gave the researcher permission to use the recovery center to gather the study's data. The researcher received approval from the Walden University Institutional Review Board (IRB) to initiate data collection methods online. The data collection method included the director of the recovery center emailing the invitation (see Appendix A). The email invitation explained the details of the study. There was a link on the invitation letter first to be taken to the informed consent. Clicking 'Next' was considered an agreement to the informed consent, and the participant was taken to the survey. The survey began with Question 1, using the event survey software, Survey

Monkey. The participant hit submit after the final question. The participant received a thank you message after the last question for their participation in the study. The researcher received the surveys from the email invitation collector provided by Survey Monkey as anonymous surveys. The survey was able to be completed online for 45 days and extended in order to achieve the sample size.

Instrumentation and Operationalization of Constructs

Instruments

Demographics

There were three demographic questions (see Appendix B). The demographics were collected on the survey to determine the characteristics of the participants. For this research, gender includes an identity that an individual identifies with a male, female, or another gender. Data gathered determined the age of the participants. The age range is from 18-100. The categories for the ethnicity for the study are American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, Hawaiian or Pacific Islander, White, or two or more races. These are Questions 1-3 on the survey.

Addiction to Prescription or Non-Prescription

This question comes after the demographics and ask the family member has an addiction to prescription or non-prescription substances. This is the first IV, and it has two categories. It is not based on an instrument but is needed to address this specific variable. This variable identifies a family member who has an addiction to prescription or non-prescription. This is Question 4 located in Appendix C on the survey.

A Family Member has an Addiction

This question asked if a family member has an opioid or another substance addiction. The second independent variable that identifies if a family member has an opioid or another substance addiction is Question 5 on the complete survey in Appendix C.

Alcohol, Drugs, and the Family Support Scale

I received permission to use and to publish the Alcohol, Drugs, and the Family Social Support [ADF SSS] scale (Toner & Velleman, 2014) for the research study. The scale started with question 6 on the complete survey: Alcohol, Drugs, and the Family Social Support [ADF SSS] scale. The ADF SSS survey's purpose is to measure the family's support. The survey has three continuous sub-scales with a total of 25 questions. Using the Likert scale, it had four responses. The first sub-scale, positive functional support, measures emotional and instrumental support, social companionship and support, and support for coping. Questions 1, 2, 4, 5, 6, 7, 8, 11, 21, 22, and 23 represent sub-scale one. The second sub-scale is negative ADF support, which represented support for coping and attitudes and actions towards the using relative. These are Questions 9, 10, 12, 13, 14, 16, 17, and 24. The third sub-scale is positive ADF support included informational-formal and informal-emotional support, support for coping, and attitudes and actions towards the using relative. These are Questions 3, 15, 18, 19, 20, 22 and 25. The ADF SSS items score using the scores, 0=Never, 1=Once or Twice, 2=Sometimes, 3= Often. Only the total score of each individual sub-category were counted. This makes it possible for 3 sub-scales to each have different amounts of scores per the responses on the scale. Also, the total scores of all scales combined were analyzed. The questionnaire asked about three types of support the participant has or has not received in the last three months. There were 3 total scores for each sub-scales and 1 total score for all of the sub-scales combined. According to Toner and Velleman (2014), the 25-item ADF SSS scale is totaled and correlated significantly with the SOS emotional scale (0.394, $p < 0.05$), and positively perceived functional support registered correlations with SOS emotional (0.503, $p < 0.01$) and practical (0.385, $p < 0.05$) scales and with both respective SOS discrepancy scores (0.417, $p < 0.05$; 0.384, $p < 0.05$). Refined ADF SS total score also correlated with general (0.349, $p < 0.01$) and structural (0.273, $p < 0.01$) support questions contained within the test version of the ADF SSS.

In addition, the 25-item questionnaire offers reliability and validity because the tool provides content that analyzes specific dynamics affecting a family member's life with a family member dealing with addiction (Toner & Velleman, 2014). The findings of the 25-item questionnaire had an overall measure (a= 0.812). The satisfactory levels of reliability (internal and test-retest) and validity (content and construct) for the overall measures and the three constituent sub-scales.

The total ADF SSS scale accomplished a correlation coefficient of 0.970, with values of 0.934, 0.894 and 0.891 considerately for the three subscales. The items encompassing each subscale produced rational kappa values (from 0.385 to 0.749 for of positively perceived functional support; 0.402 to 0.806 for negatively perceived ADF support and 0.390 to 0.727 for positively perceived ADF support). Upon review and according to Toner and Velleman (2014), the content validity of the ADF SSS the frequency scale score for the 25-item ADF SSS correlated notably with the larger 58-item version at 0.888 (p<0.01), and the ADF SSS frequency sub-scale scores correlated notably with the total frequency score (0.842 for frequency of positively perceived functional support, 0.336 for frequency of negatively perceived ADF support [the items for this frequency have a reverse score for this scale] and 0.536 for frequency of positively perceived ADF Support; Toner & Velleman, 2014, p.153)

Toner and Velleman (2014) further noted that the three sub-scales will be measured individually to accurately measure the participants' response. Then the three sub-scales will be totaled at the end. Measure development was centered around an instrument suitable for self-completion by family members of problem alcohol or drug users focusing on perceived availability of functional support as well as the quality and adequacy of support (Toner & Velleman, 2014). The focus of the measurement was also centered around inclusion. The initial 75- item questionnaire was downsized to 58-item questionnaire. It was piloted produced and was extensively tested. The 58-item measure was analyzed, and the results lead to the production of the 25-item questionnaire. Considering, the Alcohol, Drugs and Family Social Support Scale [ADF SSS] originally was 75-items and as stated has been piloted produce from 58-items to the 25 items questionnaire producing an instrument that is an appropriate tool for the study because it measures the perceived social support for family members who have family members with alcohol addiction and drug problems that also affect the family. This is Appendix D, questions 6-29.

Stress Factor Questionnaire Survey

The tool has been made available for future researchers and permits unrestricted use, distribution, and reproduction, provided the original author and source are credited (Iqbal et al., 2011). The stress factor is the second research question in the study. Iqbal et al. (2011) addressed the associations between APOE rs439401, the variant identified from the gene apolipoprotein E (ApoE) that makes protein. The variants in the ApoE affect cholesterol metabolism, which, when altered, leads to heart disease and other chronic stress (SNPedia, n.a.) The APOE gene and metabolic traits impact psychological stress. The study's strength is that the study was a population-based study using a control group (n=709) and a population of 141,800. The validity and reliability of the study were the confirmation when the analyses stratified the stress levels (stressed/non-stressed) and concluded by using p-values <0.05. For the study's purposes, this was considered statistically significant. The Stress Factor Questionnaire survey is an appropriate tool to use for the current study. The study measured a family's problems and conflicts that often contribute to stress. Therefore, the tool was adequate to measure the stress of a family member exposed to a family member with an addiction. According to Iqbal et al., the study's hypothesis is from a previously published study of chronically stressed American caregivers; therefore, being a stressed caregiver, the researcher felt it was an excellent tool to use for the current research study.

In addition, the stress survey consisted of 7 items. Each of the questions has the possible category of yes or no and assessed by a self-administered 7-item questionnaire. The questionnaire assessed familial problems and conflicts. The 7-item questionnaire assessed the psychological stress factors using yes and no responses totaled to determine the stress. The summing of the yes responses constitutes a total stress item score. The higher the score then more stress is determined. This is Appendix E, Questions 30-37.

Operationalization of Variables

Addiction to Prescription or Non-Prescription (IV1)

The first IV in the research question is not based on an instrument but is needed to address this specific variable. The question specifically asks if the family member has an addiction to prescription or non-prescription substances. It is categorical -two categories (prescription or non-prescription substances). The question will use a categorical question to measure.

Family Member Has Opioid or Another Addiction (1V2)

The second IV is if the addiction is to opioids or another substance. It specifically asks if the family member has an addiction to prescription or non-prescription substances. It is categorical and has two categories (opioid addiction or another substance addiction). The question will use a categorical question to measure.

Family Social Support (1V3 - 6)

The third IV is the family social support that a family member receives that has ongoing interactions with an individual struggling with an addiction. The instrument used to measure the third - sixth IVs are Alcohol, Drug, and the Family Support Scale [ADF SSS] using three sub-scales: (1) positive functional support (Emotional and instrumental support for coping), (2) negative ADF support (Support for coping and attitudes and actions towards the using relative), and (3) positive ADF support (Informational-formal and informal – emotional support, support for coping and attitudes and actions toward the using relative). The variable mentioned was treated as a continuous variable with a Likert scale with four responses: The ADF SSS items calculate the scale using the responses, 0=Never, 1=Once or Twice, 2=Sometimes, 3= Often.

Stress of the Family (DV)

The stress of the family is the DV for the study. Then, dependent variable is measured as a continuous variable using the second instrument. There will be one score after adding up all of the yes responses using the Stress Factor Questionnaire survey (Kring et al., 2011a). The stress survey questionnaire consists of seven items. The participants will use a Yes/No format when responding to the seven items. The totaled responses create an item score that ranges from 0-7 to determine the mean score. Higher scores mean more stress, and lower scores indicate less stress (Kring et al., 2011b). The result will be one continuous score measured using the Stress Factor Questionnaire survey.

Data Analysis Plan

The identified software used for analyses was the Statistical Package for the Social Sciences (SPSS) software (IBM Corporation, n.d.). Before collecting raw data in the dataset, the data went through the data screening process to ensure the information is useable, valid, and reliable for testing the research questions. Lastly, the data was inputted into the software package. The process for missing data was to omit those surveys to eliminate bias.

Research Question and Hypotheses

RQ: Is there a statistical relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area?

Null Hypothesis (H_0): There is no statistically significant relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area.

Alternative Hypothesis (H_A): There is a statistically significant relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area.

Multiple linear regression was used for the study. The six IVs for the study are (1) the individual struggling with an addiction by the use of prescription or non-prescription substance as a categorial variable, (2) if the addiction is to opioids or another addiction as a categorial variable, and (3) is the amount of family social support as a continuous variable, there are three sub-scales and one final score. The DV is the measurable stress of the family member that has ongoing interaction with an individual who is struggling with addiction as a continuous variable. Therefore, the measurement of the variables meets the variable assumptions for multiple linear regression.

Assumptions

There are eight total assumptions for the multiple linear regression. These include the following:

Assumption 1: Dependent Variable

There is an assumption that the DV is measured continuously (Laerd Statistics, n.d.). The DV is the measurable stress of the family member who has ongoing interaction with an individual struggling with addiction, measured as a continuous variable using the second instrument, the Stress Factor Questionnaire survey (Iqbal et al., 2011a). There is only one continuous score. Higher scores mean more stress, and lower scores indicate less stress (Kring et al., 2011b). Therefore, the measurement of the variables meets the variable assumptions for multiple linear regression.

Assumption 2: Independent Variables

There is an assumption that the IVs will consist of two or more independent variables that will be measured at the categorical or nominal level (Laerd Statistics, n.d.). The first IV is a family member who has an addiction to prescription or non-prescription substances. It specifically asks if the family member has an addiction to prescription or non-prescription substances. It is categorical and has two categories (opioid addiction or another substance addiction). The second IV is if the addiction is to opioids or another substance. The question will use a categorical question to measure it. The third through sixth IVs are the amount of family social support that a family member receives that has ongoing interaction with an individual struggling with an addiction, measuring as continuous variables. There will be three subscales that are all continuous and one final scale source.

Assumption 3: Independence of Observations

There is independence of observation in the multiple regression. A Durbin-Watson Test has tested and confirmed the assumption. The value is close to 2 and checked in the Model Summary SPSS output.

Assumption 4: Linear Relationship and Variables Collectively

There should be linearity in the regression, that test in two parts (Laerd Statistics, n.d.). (1) Determine if a linear relationship exists between the dependent and independent variables collectively using plotting a scatterplot of the studentized residuals; (2) Using partial regression plots between each independent variable and the independent variable, they will determine if a linear relationship exists between the dependent variable and if each independent predictor variable correlates with the regression is (1) fitted, (2) generated, and (3) checked only once

Assumption 5: Data Needs to Show Homoscedasticity of Residuals (Equal Error Variances)

There should be equal residuals at every point in the model (Laerd Statistics, n.d.). Identifying equal residuals at every point is specified by creating a plot of standardized residuals versus the predicted values against the unstandardized indicated value and determining if there are equal residuals at every point. There is a transformation of the variable if the assumption violates the responses. When the transformation of the response variable occurs, the option is to redefine the response variable using a rate rather than the raw value or a weighted regression. If there is a violation of the assumption, the first step will be to check to see if there are no extreme outliers in the data. The second option is to apply a nonlinear transformation to the response variable.

Assumption 6: Data Must Not Show Multicollinearity

None of the predictor variables correlate (Laerd Statistics, n.d.). Multicollinearity occurs when two or more independent variables correlate with each other. The methods of determinants of the assumption are the following steps: SPSS Statistics to detect multicollinearity by inspecting the correlation coefficients and Tolerance/VIF values. If the assumption violates the assumption, the researcher will remove the predictor variable(s) with a VIF value greater than 10.

Assumption 7: There Should be No Significant Outliers, High Leverage Points or Highly Influential Points

Outliers, leverage, and influential points are different terms used to represent observations in the data set that can be unusual when attempting multiple regression analysis (Laerd Statistics, n.d.). All of these can create a negative effect on the regression equation. Running a multiple regression on the data identifies possible outliers, high leverage, or highly influential points.

Assumption 8: Residual Errors are Approximately Distributed

When running inferential statistics, the residuals and the errors in the prediction need to be normally distributed (Laerd Statistics, n.d.). The data are analyzed by interpreting the actual results for the multiple linear regression and using three steps. The first step will be determining if the association between the response and the term is statistically significant. The second step will be to choose how well the model fits. The final step will be to determine whether the model meets the 8 assumptions of the analysis. These steps will enable the researcher to determine the model's variation and the contribution of each independent variable in the multiple linear regression. Standard methods to check these assumptions include a histogram with a superimposed normal curve and a P-Plot or a Normal Q-Q Plot of the studentized residuals.

Threats to Validity

External Threats to Validity

The study has multiple external threats to its validity. There is an emphasis that the data collection will involve surveying a specific sample from an organization that caters to the needs of individuals dealing with substance addictions. Another threat is that I may have limited access to the respondents because only one local organization working with individuals with addiction is the designated location to gather data for the study. These threats are characteristics of the design that impact the research. These threats can also influence the interpretation of the findings.

Internal Threats to Validity

Notably, threats are often contributors to challenges in a study. Family members that are instrumental in contributing to the family member's dependency or did not address the addiction issue as readily as they could or may not respond accurately or be hesitant to participate. These hesitations and incorrect responses can create challenges in identifying (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area.

To conclude, potential obstacles or barriers in the study are participant mortality, the lack of financial resources, and the lack of accessibility due to transportation issues. These issues could affect the statistical significance. In addition, family members have difficulty identifying with irregular or unusual symptoms they view because they have attached themselves to the behavior. Family members condition themselves to accept what was once abnormal behavior as now normal behavior within the family. These obstacles consequently create barriers as well as the validity of the research study.

Given its unique nature, the current research study will contribute to the gap in identifying the relationship between the variables in the study. The variables mentioned earlier are prescription or non-prescription addiction, opioid or another substance addiction, and the amount of family social support of a family member who has ongoing interactions with an individual struggling with addiction on the stress of the family member in rural areas. These challenges in the study can address the gap in the study, and future research is warranted to address the gap.

Threats to Statistical Conclusion Validity

The research validity is the data obtained for the study, and the data is analyzed. Threats to the statistical conclusion of validity can lead to an incorrect decision when interpreting the data. These threats to the statistical conclusion validity are the following: (a) fishing and error rate problem, (b) violated assumptions of statistical test, (c) random heterogeneity of respondents, and (d) low statistical power. These threats can be minimized or eliminated by reducing distractions in the measurement, practicing exemplary implementation, and identifying an adequate proper sampling distribution. In addition, when data were received, I immediately screened for accuracy.

Ethical Procedure

The director at the recovery center agreed to assist me by emailing the invitation to potential participants. The director requested for the email invitation letter to be uploaded (Appendix A) so it could be forwarded to the potential participants. Once the Walden University IRB granted approval, I contacted the director to send the email invitation to all possible participants. My institutional permission and IRB approvals are (#10-24-23-0614739). The online survey was anonymous, as participants completed the survey online and sent the results to my inbox without any qualifying information. The survey was available for participants to complete online for 45 days. I followed the guidelines according to the constraints set forth by the APA (2017), according to codes 8.01 Institutional approval and 8.02 Informed Consent to Research functions. I established and followed written procedures and ensured prompt reporting to the IRB while gathering the data. However, the surveys did not contain names to keep all information confidential regardless which surveys the participants respond to.

I ensured ethical practices when gathering data from the participants by following guidelines according to the APA (2017). Code 3.04 is addressed by avoiding harm. The ethical principles stressed for the study are (1) risks to subjects are minimized; (2) risks to subjects are reasonable concerning anticipated benefits, if any, to subjects, and the importance of the expected knowledge; (3) selection of subjects is equitable according to code 3.01 and will not engage in unfair discrimination based on age, gender, gender identity, disability or any basis prescribed by law; (4) informed consent is sought by code 3.10 Informed Consent, the researcher will clearly document written consent or consent through electronic transmission; (5) the informed consent is documented according to code 3.10 Informed Consent to protect the individual's rights, and according to code 3.11 Psychological Services Delivered to or Through organizations, the nature of the study is available for the potential participant before they begin the survey; (6) according to code 4.01 Maintaining Confidentiality there are adequate provisions to protect the anonymity and confidentiality of the participant by protecting the data from the survey and storing it in a secure location; The researcher will ensure that the data is accessible by conducting the study on online by following code 3.03 Other Harassments, (7) by not knowingly engaging in behavior that harasses or is demeaning to persons the researcher engages. The participants could access my contact information from the email invitation. All of the participants received the 988 national hotline number on the consent form. 988 became the free national three-digit phone number for all experiencing a crisis such as mental health, suicide, alcohol or substance use crisis. By calling or texting 988, one can be connected to a Crisis Specialist 24/7.

Printed hard copies of surveys, and all survey information, are saved to flash drive, are kept in a lock box that only I can access, following the code 6.02, Maintenance, Dissemination, and Disposal of Confidential Records of Professional and Scientific Work, (APA, 2017). The data on a need basis were examined and kept confidential on a secure computer with a password using Statistical Package for the Social Science [SPSS] software (IBM Corporation, n.d.). The data is stored on a flash drive in a locked box along with the printed surveys for 5 years to protect the confidentiality of the participants. I will take reasonable precautions to ensure that the flash drive and lockbox are secured and not vulnerable to theft. When the 5-year period expires, I will do the following: (1) delete the data, and (2) ensure the hard copies of the surveys are shredded.

Summary

Chapter 3 discussed the purpose of the study and concisely stated the variables of the study to gain an understanding of the possible relationship between (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area. Chapter 3 examined the methodology and explained how the research design connects to the research study and the threats to validity. The chapter also addressed data screening and ethical procedures. Using a cross-sectional research design of a survey method, the researcher used SPSS to conduct a multiple regression. The findings from the statistical test contributed to existing research on the possible effects of the opioid epidemic on families who have ongoing interactions suffering from addictions in rural communities. Chapter 4 discuss the data analysis and provides a concise report on the results.

Chapter 4: Results

Introduction

In 2020, drug overdose deaths increased 31% compared to 2019. The highest rates of deaths were adults between the ages 35-44 and the youngest were between the ages of 15-24. The CDC has noted that drug overdoses have continued to rise not only in urban areas but rural areas as well (United States Department of Agriculture [USDA], 2021). This devastation in communities has left a negative imprint in many rural communities. According to the (Health Resources & Services Administration [HRSA], n.d.), rural America is the home of 20 % of Americans. Rural America also has a disproportionate number of the population struggling with a prescription and an illicit drug abuse. They are also more vulnerable to painkiller abuse contributing to overdoses at a rate 45% in these rural areas which is much higher than urban areas. Research studies show links that a family member's addiction has many adverse effects on the family member (Kourgiantakis et al., 2020). The opioid epidemic has also created awareness of how the opioid epidemic has affected not just the lives of the individuals dealing with addiction but how it impacts the lives of their family members (Kidorf et al., 2016).

The purpose of this quantitative cross-sectional research design, using a survey, was to examine and provide an understanding of a possible relationship between (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area. The data acquired from the recovery center for the study increased awareness and understanding of opioid use in the family unit. The research study provided knowledge regarding the gap in the research study as it relates to the stress of the opioid user's family when addressing the family members' needs when dealing with opioid addiction. The following research question was used to gain understanding of the intent of the study. It explored the possible relationship between prescription or non-prescription addiction, opioid or another addiction, and the amount of family social support on the amount of stress of a family member that has ongoing interaction with an individual struggling with an addiction in a rural area. The targeted population came from a sample from a recovery center.

Research Question

Is there a statistical relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area?

Null Hypothesis (H_0)

There is no statistically significant relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area.

Alternative Hypothesis (H_A)

There is a statistically significant relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area.

This chapter describes the process used for recruitment as well as the data collections process. The findings of the study were derived using a multiple linear regression. The six IVs for the study were (1) the individual struggling with an addiction by the use of prescription or non-prescription substance as a categorial variable, (2) if the addiction is to opioids or another addiction as a categorial variable, and (3) the amount of family social support using three sub-scales, all as continuous with also one final continuous summation of the three sub-scales. The DV was the measurable stress of the family member that has ongoing interaction with an individual who is struggling with addiction as a continuous variable. Therefore, the measurement of the variables meets the variable assumptions for multiple linear regression. Lastly, Chapter 4 described the limitations to generalizability and/or trustworthiness, validity, and reliability that arose from execution of the study, and transition into Chapter 5.

Data Collection

IRB approval was granted on October 24, 2023, (Approval #10-24-24-0614739) Data collection started on December 1, 2023. On December 3, 2023, 25 participants had responded to the survey. On January 3, 2024, 10 additional participants had responded to the survey. The participation decreased; therefore, a reminder was sent on January 28, 2024. After that reminder, there were four more participants who responded survey. The survey was closed on February 4, 2024, with one response via the Survey Audience Panel tool. There was an error in the Survey Monkey in Question 29. The response was once or twice, sometimes, often, when it should have read never, once or twice, sometimes, or often. To address this error, two additional variables were added. The instrument addressed the error by using third - sixth IVs, which are Alcohol, Drug, and the Family Support Scale [ADF SSS] using three sub-scales: (1) positive functional support (Emotional and instrumental support for coping), (2) negative ADF support (Support for coping and attitudes and actions towards the using relative), and (3) positive ADF support (Informational-formal and informal – emotional support, support for coping and attitudes and actions toward the using relative) to measure. The variable mentioned will be treated as a continuous variable with a Likert scale with four responses: The ADF SSS items calculate the scale using the responses, 0=Never, 1=Once or Twice, 2=Sometimes, 3= Often.

Secondly, the intended recruitment sample was 102, and the response rate sample was 40. The error created a 63-sample size difference in the actual recruitment sample, creating a less detailed picture. In addition to the low participant rate could create a threat that impact the ability to establish experimental control and draw accurate conclusions from the data. These findings contributed to the conclusion that the error in the inclusion criteria was addressed and identified as margin of error in the study.

Descriptive Statistics

There were 40 participants. The gender specifics were as follows: 12.5% male, 87.5% female, and 0% another gender. The ages of the participants: 5.0% were 18-29, 15.0% 30-39, 22.5% were 40-49, 32.5% were 50-59, and 25.0% were 60 and over. In terms of ethnicity, 0% were American Indian or Alaska Native, 0% were Asian, 10%

were Black or African American, 0% were Hispanic or Latino, 0% were Hawaiian or Pacific Islander, 90% were White, and 0% were two or more races (Table 1).

Table 2

Frequencies for Gender, Age, and Ethnicity

Variable	*N*	%
Gender		
Male	5	12.5
Female	35	87.5
Another gender	0	0.0
Age		
18-29	2	5.0
30-39	6	15.0
40-49	9	22.5
50-59	13	32.5
60+	10	25.0
Ethnicity		
American Indian or Alaska Native	0	0.0
Asian	0	0.0
Black or African American	4	10.0
Hispanic or Latino	0	0.0
Hawaiian or Pacific Islander	0	0.0
White	36	90.0
Two or more races	0	0.0

Multiple Linear Regression Assumption Testing

It was necessary to ascertain that the assumptions for the multiple linear regression analysis were satisfied. Scatterplots, a histogram and performed calculations were used to assess the eight assumptions.

Assumption 1: Dependent Variable

There is an assumption that the DV is measured continuously (Laerd Statistics, n.d.). The DV is the measurable stress of the family member who has ongoing interaction with an individual struggling with addiction, measured as a continuous variable using the second instrument, the Stress Factor Questionnaire survey (Iqbal, et al., 2011a). There is only one continuous score. Higher scores mean more stress, and lower scores indicate less stress (Iqbal, et al., 2011b). Therefore, the measurement of the variables meets the variable assumptions for multiple linear regression.

Assumption 2: Independent Variables

There is an assumption that the IVs will consist of two or more independent variables that will be measured at the categorical or nominal level (Laerd Statistics, n.d.). The first IV is a family member who has an addiction to prescription or non-prescription substances. It specifically asks if the family member has an addiction to prescription or non-prescription substances. It is categorical and has two categories (opioid addiction or another substance addiction). The second IV is if the addiction is to opioids or another substance. The question will use a categorical question to measure it. The third through sixth IVs are the amount of family social support that a family member receives that has ongoing interaction with an individual struggling with an addiction, measuring as continuous variables. There will be three subscales that are all continuous and one final scale source.

Assumption 3: Independence of Observations

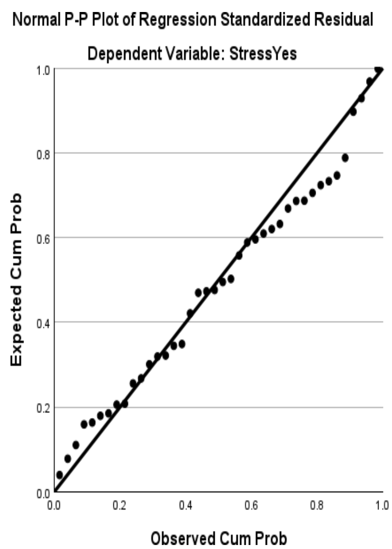
The assumption of independence of observation is used to test the first-order autocorrelation, meaning the adjacent observations are correlated (Laerd Statistics, n.d.). A Durbin-Watson Test tests the assumption. The value should be close to 2 and checked in the Model Summary SPSS output. The Durbin-Watson is 1.800 therefore the adjacent observations are correlated (See Table 4).

Assumption 4: Linear Relationship and Variables Collectively

The linearity in the regression has been tested in two parts (Laerd Statistics, n.d.). (1) It has been determined that the linear relationship exists between the dependent and independent variables collectively using plotting a scatterplot of the studentized residuals (see Figure 1).

Figure 1

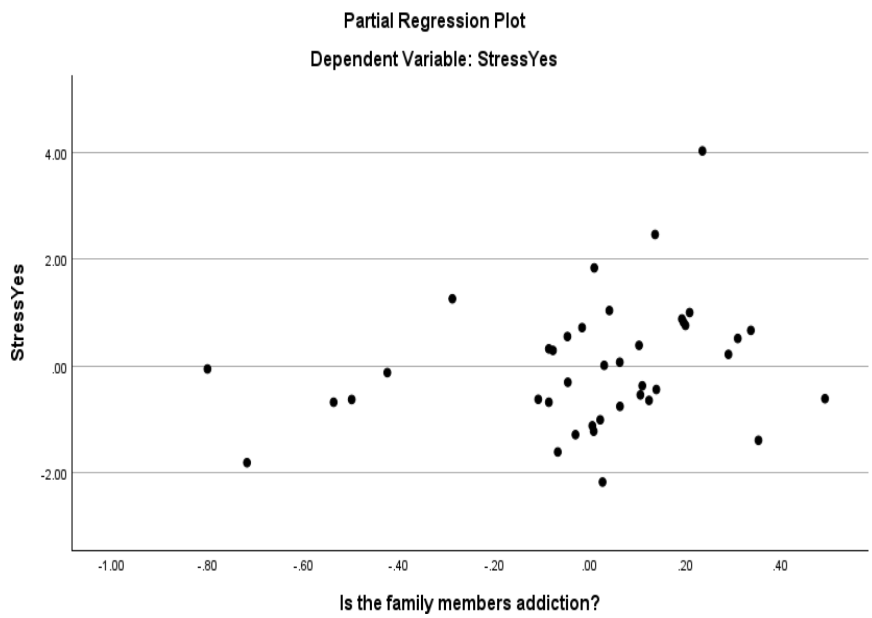
Normal P -Plot of Regression Standardized Residual



(2) Using partial regression plots between each independent variable and the DV, it was determined that it was a linear relationship exists between the DV and if each independent predictor variable correlates with the regression (see Figure 2).

Figure 2

Partial Regression Plot

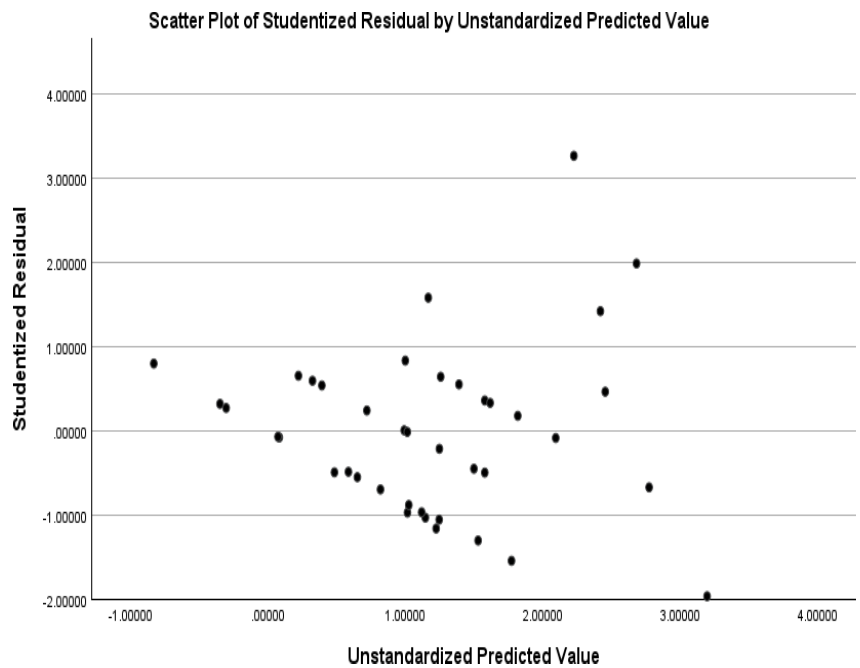


Assumption 5: Data Needs to Show Homoscedasticity of Residuals (Equal Error Variances)

The data showed homoscedasticity of residuals (equal error variances; Laerd Statistics, n.d.**).** There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values (See Figure 3).

Figure 3

Scatter Plot of Standardized Residual Unstandardized Predicted Values



Assumption 6: Data Must not Show Multicollinearity

The data must NOT show multicollinearity (Laerd Statistics, n.d.). The data was inspected to detect multicollinearity by inspecting the correlation coefficients and Tolerance/VIF values (See Table 2). The data possibly violates the assumption because there are values more than 0.1 and VIF's more the 10. This was corrected by removing the predictor variable(s) with a VIF value greater than 10. Both predictor variables of prescription/non-prescription and opioid or another substance were removed with the same errored results. Next, the support scales were removed in order to address possible VIF violation.

Table 3

Collinearity Statistics

	Column A Tolerance	Column B VIF
Row 1	.680	1.470
Row 2	.497	2.013
Row 3	.027	37.470
Row 4	.035	28.450
Row 5	.109	9.158

Assumption 7: There Should be No Significant Outliers, High Leverage Points or Highly Influential Points

There are three pieces to the assumption (Laerd Statistics, n.d.). The first part is the Casewise Diagnostics. The Casewise Diagnostics table (see Table 3) detects that there may be some outliers because the standard deviation slightly exceeds 3. Since these are not extreme, they are not considered outliers.

Table 4

Casewise Diagnostics

Column A Case Number	Column B STd. Residual	Column C StressYes	Column D Predicted Value	Column E Residual
5	3.023	6.00	2.2271	3.77285

The second piece of highly influential points is to determine whether any cases exhibit high leverage, one general rule of thumb is to consider leverage values less than

0.2 as safe, 0.2 to less than 0.5 as risky, and values of 0.5 and above as dangerous (Huber, 1981; Laerd Statistics, n.d.).

The third piece is Cook's Distance (see Table 4) is a measure of influence. As a rule of thumb, if there are Cook's Distance values above 1, they should be investigated. There are no values above 1, therefore the values do not have to be further investigated.

Table 5

Cook's Distance

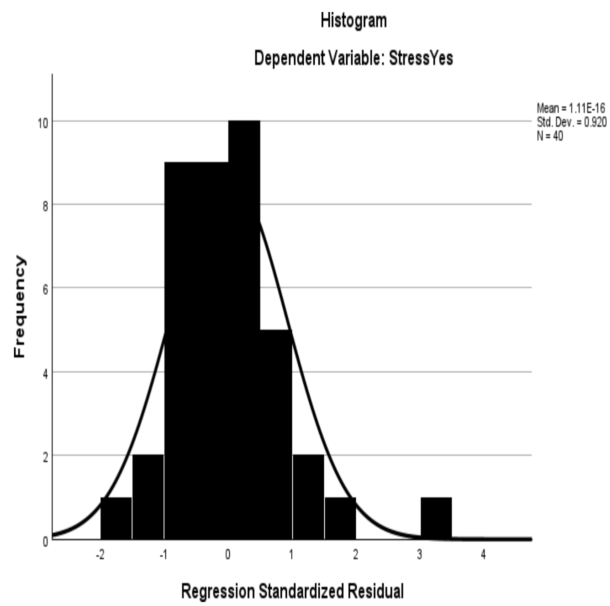
	Column A Minimum	Column B Maximum	Column C Mean	Column D St.d Deviation	Column E N
Cook's Distance	.000	.258	.028	.048	40

Assumption 8: Residual Errors are Approximately Distributed

The next assumption is if the residual errors are approximately distributed (Laerd Statistics, n.d.). The residual errors have been checked to determine if they are approximately distributed. The histogram demonstrates that the standardized residuals appear to be approximately normally distributed (see Figure 4).

Figure 4

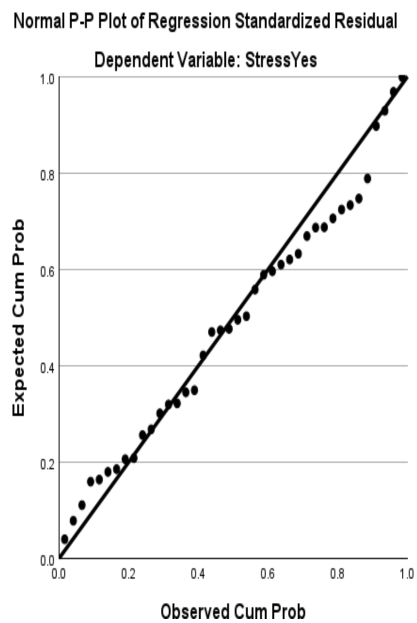
Histogram of Frequency by Standardized Residual



Secondly, the residual errors are approximately distributed (Laerd Statistics, n.d.) as the points are aligned along the diagonal line (see Figure 5). The multiple regression analysis is fairly robust against deviations from normality. The results are accepted, and no transformations needed to take place as there has been no violation to the assumption of normality.

Figure 5

Normal P- Plot of Regression Standardized Residual



Results

The data in multiple linear regression had data sufficiency problems because the sample size was not met. Data sufficiency problems can lead to the researcher unable to collect sufficient data to be able to run the analyses. A data sufficiency problem can lead to Type I and Type II errors. A Type I error can occur when in the research rejects the null hypothesis and a lower power, and a Type II error can occur from a smaller sample size. Power provides us with the ability to accurately reject the null hypothesis that is false. When studies lack sufficient power, the study should be presented as showing no significant differences and having inconclusive findings (Shreffler et. al., 2023). For the purpose of this study, the data sufficiency problem contributed to the multicollinearity affecting the coefficient and p-values. In addition to poor generalizability, because the results only could be applied to a very narrow population taken from the sample.

The multiple linear regression was used to examine six IVs: (1) the family member has an addiction to prescription or non-prescription substances. This is categorical and has two categories (opioid addiction or another substance addiction); (2) addiction is to opioids or another substance; (3-6) the family social support that a family member receives that has ongoing interactions with an individual struggling with an addiction, using three (3) sub-scales (1) positive functional support; (2) negative ADF support and (3) positive ADF support. The variable mentioned will be treated as a continuous variable with a Likert scale with four responses. The Likert scale along with four responses and the measurement of one DV stress of the family for the study. Then dependent variable is measured as a continuous variable using the second instrument.

As stated, the six IVs for the study are (1) the individual struggling with an addiction by the use of prescription or non-prescription substance as a categorial variable, (2) if the addiction is to opioids or another addiction as a categorial variable, and (3-6) is the amount of family social support as a continuous variable, there are three sub-scales and one final score. The DV is the measurable stress of the family member that had ongoing interaction with an individual who is struggling with addiction as a continuous variable.

Assumption 6 stated data must not Show Multicollinearity and it was not met, but the measurement of the variables did meet the assumption for the multiple linear regression. As stated, the data sufficiency problem that contributed to the multicollinearity affecting the coefficient and p-values. The data sufficiency issue also contributed to poor generalizability. The results only could be applied to a very narrow population taken from the sample of the first IV (prescription and non-prescription) was taken out and SPSS was analyzed with the same error, then the second IV (opioid and non-opioid) had the same error. Then all support scales were removed and the ADF total support scale and stress were analyzed, which resulted in non-significance, $F(1, 38) = .288$, $p = .594$. Therefore, showing no significant differences and having inconclusive findings. The results were not further analyzed.

Table 5

ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression		1	.616	.288	.594
Residual	.616	38	2.136		
Total	81.159	39			
	81.775				

a. Dependent Variable: StressYes
b. Predictors: (Constant), TotalADF

Summary

At the end of the process and interpreting the data in Chapter 4, the data revealed the multiple linear regression had data sufficiency problems because the sample size was not met. Data sufficiency problems can lead to the researcher unable to collect sufficient data to be able to run the analyses. The coefficient table revealed that the data were not significant. Per direction of Assumption 6, the data were checked for multicollinearity and all steps were taken and the data interpreted again, and the data still reveal that there was no significance between the correlation of prescription/non-prescription and opioid or another substance and stress. This could be because of not large enough sample size and can be taken into consideration for future researchers. In Chapter 5, I will provide a summary of the study’s findings, discuss how it is related to the previous literature and its correlation with the theory selected for the study, and make recommendations for further research and how the research can contribute to social change.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this non-experimental quantitative cross-sectional research study was to use survey methodology to gain understanding, increase awareness and generate knowledge of a possible relationship between (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area. The study used the cultural lens approach to BFST. The BFST is a prominent systemic perspective and has been used for guided research for decades (Erdem & Safi, 2018). According to Bowen (1983), one of the most effective mechanisms for reducing anxiety in families is having a relatively open relationship system in the extended family. The open boundary system allows elements and situations outside the family to influence it, such as the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction, which is one of the IVs, for the study. The BFST, for decades, has guided researcher's perspectives and therefore this study's perspective guided by BFST is warranted to be included along with the many scholars who impacted society with the goal of positive social change.

The results of this study provided valuable insight on the possible relationship between (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area, for families, community members and future researchers.

Furthermore, families with limited social support will be able to potentially understand their stress when they have ongoing interaction with a family member who struggling with addiction. The knowledge of lack of family and social support and stress will assist families better understand their experiences when they are experiencing ongoing interaction with a family member who struggling with addiction. Chapter 5 contains the interpretations of the findings, a discussion of the limitations of the study as well as recommendations, implications and conclusion of the study.

Key Findings

Consequently, all support scales were eliminated except for the ADF total support scale and stress measurements. Analysis of these remaining variables yielded non-significant results, $F(1, 38) = .288$, $p = .594$, indicating no significant differences between groups. Due to these inconclusive findings, no further analysis was conducted.

The inconclusive findings are not a means to an end; it simply means it does not lead to a conclusion or a resolution in this scientific study. The inconclusive finding possibly was linked to the sample size was not met. When this occurs, it can lead to non-significant results.

In situations such as this you can acknowledge the limitations. For this study the inclusive findings were addressed. In addition, you can also conduct further research. If there’s no major difference you can implement the variation you like the best. The study can also be used for researchers to build on for future research.

Interpretation of Findings

The cultural lens approach to BFST was used to provide not only the theory but the theoretical framework that supported the research study. There is limited research regarding addictions' impact on family members (McArdle & Stull, 2018). The theory was the structure that assisted with the underlying assumptions used to investigate the research problem as well as assisted the researcher in organizing and interpreting the data. Overall, the BFST guided the research process. Though this is a problem in the United States, it affects health more in vulnerable populations of adolescents and young adults, including those living in poverty in rural communities (Love et al., 2016). The study analyzed statistical relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area.

The results only could be applied to a very narrow population taken from the sample. The first IV (prescription and non-prescription) was taken out and SPSS was analyzed with the same error. The second IV (opioid and non-opioid) had the same error. Then all support scales were removed and the ADF total support scale and stress were analyzed, which resulted in non-significance, F (1, 38) = .288, p = .594. Therefore, showing no significant differences and having inconclusive findings. The results were not further analyzed.

According to Love et al. (2016), in rural communities, drug addictions appear to be unique in the empirical literature. Addictions affects the health more in vulnerable populations of adolescents and young adults, including those living in poverty in rural communities. With rural overdose rates are rising and surpassing urban areas (USDA, 2017), further study is warranted.

Interpretation of Findings in Relation to the Theoretical Framework

BFST (1978) has guided many research practices for decades and has been selected for the theoretical framework. According to Bowen (1985), one of the most effective mechanisms for reducing anxiety in families is having a relatively open relationship system in the extended family. According to Kerr (2019), understanding the link between patterns of emotional functioning and clinical symptoms depends on understanding a person's functioning position in a family relationship system. Therefore, an open relationship in any family dynamics is warranted.

The theory application and theoretical perspective also assisted in understanding human behavior and emotions and a tool to comprehend the dynamics of the impact on the family when dealing with individuals who have ongoing interaction with individuals dealing with various addiction in addition to cultivating emotional differentiation. This is contrary to the findings of non-significances for the first IV (prescription and non-prescription), which was taken out and SPSS and analyzed with the same error. The second IV (opioid and non-opioid) had the same error. Then, all support scales were removed and the ADF total support scale and stress were analyzed, which as stated with the result of non-significance. Although showing no significance and having inconclusive findings, I do feel the study is warranted to be analyzed in future research. This is based on Assumption 6, which stated data must not show multicollinearity and it was not met, but the measurement of the variables did meet the assumption for the multiple linear regression. As stated, the data sufficiency problem contributed to a non-significant result. Based on the role of anxiety and according to Bowen (1978), suggestions on managing anxiety is crucial for maintaining healthy boundaries. By understanding the anxieties of the family system within the family unit, emotional reactivity can be minimized. Gaining understanding will demonstrate how to respond more effectively to ongoing stressful experiences.

Bowen (1978) originated the BFST with eight concepts. These eight concepts are as follows: (1) triangles- based on the coercion and deception characteristics of emotional pressure; (2) differentiation of self- that addresses individuals, couples as well as their families function when dealing with anxiety; (3) nuclear family emotional process- describes relationship patterns, where problems develop within a family and the experiences that can drive them apart; (4) family projection process – when parents transmit their immaturity or unresolved issues onto their children; (5) the multigenerational transmission process – that highlights patterns that can be passed down through generations. These patterns can be the emotional relationships through time; (6) emotional cutoff- centered around emotional distancing or the way families manage unresolved issues within the family unit; (7) sibling position – focuses on the growth of siblings, the type of siblings in a household, how they impact the household, as well as the development of the siblings and how the family functions; and (8) societal emotional process – that applies to nonfamily groups as well as social organizations within a community. It is the emotional system that governs behavior on the societal level that can occur in progressive and regressive periods.

Concept 1: Nuclear Family Emotional Family

The nuclear family is an emotional family unit, according to Bowen (Gilbert, 2004). This concept addresses many things, but for research purposes, it is crucial to address (1) Whatever affects one affects each one in the system and (2) Family members trade “self” into family relationship and togetherness with the family. In this concept the focus is on the whole relationship (Gilbert, 2004). Daley et al. (2018) examined addictions in individuals 12 years and older. One hundred nineteen million people ages 12 or older used prescription drugs.

In addition, cases such as substance use addiction affected the individual’s family unit (Lander et al., 2013) demonstrating the affects one affects each one in the system and family members trade “self” into family relationships. Types of behaviors such as these can cause family members to feel worried, helpless, and ashamed. These types of emotions can create stress on family members and impacting family members' mental and physical health. According to Lander et al. (2013), the experiences of family members affect the other family members and family relationships. These experiences can contribute to a family member feeling worried, helpless, and ashamed. Emotions such as these can create stress on family members and impacting family members' mental and physical health.

The focus of the study was the possible statistical relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area. The results only could be applied to a very narrow population taken from the sample. The research findings from this study using the first IV (prescription and non-prescription) was taken out and SPSS was analyzed with the same error. The second IV (opioid and non-opioid) had the same error. Then, all support scales were removed and the ADF total support scale and stress were analyzed, which resulted in non-significance, $F(1, 38) = .288$, $p = .594$. Therefore, it showed no significant differences and having inconclusive findings. The results were not further analyzed.

Therefore, this study is warranted for future research to gain a better understanding as wells to provide a road map for future researchers to gain understanding of the opioid users' families' needs. It is also can create awareness of services needed for the family members who have ongoing interaction with a family member suffering from an addiction. Social change efforts are endless. Opportunities could prevent social isolation, family members removed from the home, decrease deaths and increase community involvement.

Concept 2: The Differentiation of Self Scale

Humans vary in their ability to adapt to all that life brings to them (Gilbert, 2004). The concept differentiation of the self, is addressed for individuals, couples as well as their family’s function when dealing with anxiety and how they adapt to all life brings to them. The relation of the study and the concept of the self is that the social support that we receive from our community and family can contribute to how an individual ranks its level of differentiation. According to Bowen (1985), the emotional functioning of people at different basic levels of differentiation is significantly different. It ranks from low to high, which is 0 being the lowest on the scale to 100 knowns as the highest level of differentiation and is known as the differentiation self-scale. This scale is a reliable instrument for making an evaluation of the course of life. It is also an accurate prediction about the possibilities of one's future. It is an effort to assess the level of self of an individual. It is established by a person's beliefs or convictions of who they are. The levels of self can change when an individual obtains new knowledge and experiences. Yet, it is not negotiable in the relationship system, meaning it is not changed by coercion or pressure or used to gain approval or stand with others. It is an experience(s) that often is develop through an experience(s) of interactions with cultures and or the family unit.

Bowen (1985) stated a family member who has lower levels of differentiation and have a higher level of unresolved emotional attachments to their parent, or parents establish barriers in order to function. A cut-off mechanism is often created by a family member to distance his or herself even if they live close. This behavior creates a physical distance established by cutting-off from the parents. In this case individuals often have an intense relationship. The cut-off mechanism will be discussed in more detail in concept four.

As stated previously, the differentiation self-scale ranks on a spectrum of between 0 and 100. Hypothetical, people traditionally live at points in between the two (Gilbert, 2004). On the differentiation scale, the lower end of the scale people is more infused in their relationships and the higher levels there is less relationship fusion. When there is less fusion, the relationship is better functioning, and the individual thinks clearer and when it is more fusion the relationship is less functioning.

The family member who ranks on a higher scale is able differentiate between thoughts and feelings clearer than those on a lower scale. They are also able to make better decisions. The family unit with better levels of differentiation keep the emotional needs of the family members contained within the family unit. There is limited amount of need to shift the burdens to outside entities or relationships outside the family.

The family member who ranks on a lower scale identified as a less differentiated person tends to seek relationships at work or other sources to satisfy emotional needs (Bowen, 1985). Similar tendencies appear in children experiencing ongoing interaction with someone with an addiction. Lynch (2019), Romanowicz (2019), Schak (2019), and Shekunov (2019) stated that children of parents with opioid use disorder display greater disorganization attachment that can lead to an increased risk of behavioral and emotional issues, as well as poor academic performance and poor social skills, and being more infused in their relationships. This group identified would rank lower on the spectrum, creating an atmosphere of poor performances, poor social skills, and poor decisions. This is also true of the family member(s) who has ongoing interaction with a family member that has ongoing interaction with an individual struggling with an addiction in a rural area.

Concept 3: Triangles

Triangles are a three-person configuration (Bowen, 1985). Triangle patterns conceptualize patterns of the emotional functioning in a relationship system. It is the building block to any emotional system. Triangles can build themselves. They can interlock and polarize, allowing the family or large organizations opportunities to get involved by taking sides over issues (Gilbert, 2004). When there is tension, the triangle can become too great for the three-person configuration and it has a tendency to involve others, creating the interlocking series (Bowen, 1985).

According to Bowen (1985), a family in great stress that uses the triangle by bring in more and more outsiders. This method reduces tension the family tension and creates a situation in which the family tension is fought by outside individuals. Their triangle system could involve neighbors, schools, clinics, and police. The use of triangles could also assist in understanding the mechanism of rural opioids are significant. This can also be taken into consideration, because of the toll that the epidemic has taken on rural areas (Chichester et al., 2020). In addition to gaining more understanding of research that demonstrates different capacities that contribute to and affect well-being and distress, which can help enhance effective mindfulness-based interventions (Roemer et al., 2021).

Concept 4: Cutoff

Cutoff is one way that people attempt to resolve attachments as well as the anxiety it engenders (Gilbert, 2004). Cutoffs are triggered from tension. Cutoffs are often results of unresolve tensions. Cutoffs can be triggered or occur with a family member(s) that has ongoing interaction with an individual struggling with an addiction in a rural area. According to Kerr (2019), this process is also a contributor to the generation gap. Generally, the term distance is used to describe the nuclear family emotional process. Atadokht et al. (2015) investigated the role of the families' expressed emotions and their perceived social support concerning addiction and relapse. These emotions and experiences can lead to poor communication with family members and a lack of understanding of the cruel and violent treatment of family members were factors of deterioration that lead to cutoffs. According to Kerr (2019), bridging the cutoff can tone down the intensity of current relationships enough to permit consequent progress and permit some objectivity. Bridging can occur with social support for a family member(s). Social support for a family that has ongoing interaction with an individual struggling with an addiction in a rural area can improve the dynamics and trajectory for the family unit.

Concept 5: Family Projection Process

The family projection process is when parents transmit their immaturity or unresolved issues onto their children (Bowen, 1985). The family projection process is the experiences of the family member that has ongoing interaction with an individual struggling with an addiction in a rural area. In a family unit one child may receive more focus than other siblings in a family allowing the other siblings to have more freedom from the family. The family allowed to have more freedom is given an opportunity to shift his emotions which contributes to their anxiety. Therefore, this group will receive less anxiety. They are less fused into the family emotional process. They do not cutoff from it; they shift the anxious focus on another family member (Kerr, 2019). The family does communicate and recognize the problem and carry some of the anxiety but not as much allowing them to develop basic self and do whatever their talents call for in society. There are limited amount of health research focuses on substance use, emphasizing nonmedical prescription opioids and how they impact mental health and parenting (Chan

& Trant, 2018). Additional research has demonstrated that different capacities contribute to and affect well-being and distress, which can help enhance effective mindfulness-based interventions (Roemer et al., 2021). Social change programs can be implemented in communities for social support for family member(s) that have ongoing interaction with an individual struggling with an addiction in a rural area. The focus of these programs could be centered around non-judgement feelings, and objectivity of all thoughts.

Concept 6: Multigenerational Transmission

The family projection process continues through the multigenerational transmission process (Gilbert, 2004). The individual that grows outside the family unit traditionally develops higher levels of differentiation. The child who the primary focus emerges with a lower level of differentiation than the parents and does less well in life. Research has explained how the quality of family relationships can influence the well-being of the family unit (Kourgiantaki et al., 2021; Lander et al., 2013; Romanowicz et al., 2019). Transparency through behavioral, psychosocial, and physiological pathways by providing care, showing love, and giving advice (Thomas et al., 2017). This can be implemented through communication of families that life changing experiences that may cause chapters to close and new memories to be made. Experiences of the family member with a higher level of differentiation can be shared with other family members creating an opportunity for a higher level of differentiation for the family unit.

Concept 7: Sibling Position

There are different positions siblings have within a family (Gilbert, 2004). Each position often comes with different responsibilities and at times disruptions. Disruptions such as the opioid epidemic has devasted families, leaving parents unable to care for their children often leading to role changes in the family unit. A few notable examples are teenagers caring for younger siblings (Daley et al., 2018).

Substance abuse disorder can lead to many stressors, such as death, loss of the role of the functioning parent, incarceration, and loss of separation (Daley et al., 2018). The study explored the possible relationship between prescription or non-prescription addiction, opioid or another addiction, and the amount of family social support on the amount of stress of a family member that has ongoing interaction with an individual struggling with an addiction in a rural area. Experiences such as these create disruptions that cause the family members to help with the necessary responsibilities. Often these responsibilities fall on the older siblings. When these disruptions occur, the older siblings often assume responsibilities, nurture and cares for the younger siblings. The idea of the sibling position is that birth order predicts certain roles in the family. It can be used to understand the personal steps as well as the responsibilities in life that an individual has or takes in his or her own life. It can also be used to work on the behavior of the individual self. In addition to learning about others which helps us remove roadblocks to achieve goals. Gaining more understanding of community needs and implementing programs could offset stressors on families that would assist in helping the family maintain a higher level of differentiation for the family unit.

Concept 8: Societal Emotional Process

Societal emotional process was originally named societal regression (Gilbert, 2004). This concept addresses society in a less anxious fashion. Dolbin-MacNab et al.

(2021) revealed societal issues, such as substance abuse and opioids, have had devasting effects on the family unit. An example of this is grandparents raising their grandchildren. As stated, the study explored the possible relationship between prescription or non-prescription addiction, opioid or another addiction, and the amount of family social support on the amount of stress of a family member that has ongoing interaction with an individual struggling with an addiction in a rural area. Many grandparents, because of societal issues, have been positioned in parenting roles and are having to raise their grandchildren because of unforeseen crisis such as addictions. As previously mentioned, these grandparents have been able to differentiate themselves, separate their own needs, and recognize the needs of their grandchildren. They understood the importance of staying connected but made a rational decision to care for the children (Bowen, 1978).

According to Kerr (2019), emotional regression has been addressed at the family relationship level. This concept of societal emotional process extends the application to groups as large as an entire society. During the societal emotional process, there is more irresponsibility and chaos in people (Dolbin-MacNab et al., 2021). This is an escalating process that creates more anxiety that led to problems in society. The triangle is the geometric connection in all relationships. The BFST is based on fact and not feelings, through feelings are given a great deal of attention (Gilbert, 2004). Connecting generations, educating oneself on facts in society and taking a stand could make a huge difference in creating a line of highly functioning and successful people. This study explored the possible relationship between prescription or non-prescription addiction, opioid or another addiction, and the amount of family social support on the amount of stress of a family member that has ongoing interaction with an individual struggling with an addiction in a rural area. Connecting with generations, grandparents, and the community who are dealing with societal issues such as addiction can create opportunities to assist in decreasing chaos in the family's lives.

Interpretation of Findings in Relation to the Literature Review

In 2018, in the United States, 20.3 million people 12 years or older reported having a SUD, and 2 million had an opioid use disorder (Kalin, 2020). It is estimated that 93,000 drug overdoses occurred in 2020. The COVID-19 pandemic exacerbated this drug crisis (Chacon et al., 2021). In 2021, there was a dramatic increase over previous decades totaling 80,411 deaths. One of the five recommendations of the NIH was strengthening our understanding of the COVID-19 epidemic through better public health surveillance (NIH, 2021). The drastic increase in deaths in 2021 affected so many people. Per recommendations of the NIH to strengthen our understanding of the epidemic, it demonstrates the need of the research study to assist in gaining more understanding, increase awareness and generate knowledge of a possible relationship between (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area, therefore this study is warranted for future research.

Substance abuse and the opioid crisis continue to effect families (Brundage et al., 2019). In 2020, drug overdoses increased to 31% compared to 2019 at the rate of 21.6 % (USDA, n.d.). The United States has had a steady increase in the rates of drug overdoses, with opioids being the major contributor (Amiri et al.,2020). In a 12-month period, it is estimated that the overdose deaths increased by 35% from 56.064 to 75, 673 deaths compared to the same period before (CDC, 2022). The epidemic has been devasting not just for the users, but for their families. Approximately 4.7 million veterans live in rural areas. Although living rural has many benefits it can be an opportunity of multiple challenges, such as prescription opioid diversion, which can lead to opioid abuse (Liu et al., 2020). This study is warranted for future research. It can create social change initiatives providing education and awareness of the proper disposal of unused opioid pain medications because of the risk to communities and families keeping unused opioids in the home. These efforts can assist in decreasing opioid overdoses, deaths and stress on the family unit.

Many researchers have addressed the topic of addiction (Amiri et al., 2021; Chan & Trant, 2018; McArdle & Stull, 2018). According to Chan and Trant (2018), the child welfare system has observed the effects of the opioid epidemic as well as the misuse to mental health problems. Chan and Trant stated that public policies targeting this health crisis must consider how resources should address opioid use within the family systems. McArdle and Stull (2018) expressed the need to equally provide services for the one's struggling with addiction and their family members. The family members experiences are often anxiety and depression. Yet, there is limited research regarding addictions' impact on family members. Research and social change programs addressing the opioid epidemic and the at- risk populations, as well as the need to learn more about the family members experiences, is imperative.

In rural communities, drug addictions appear to be unique in the empirical literature (Love et al., 2016). According to the CDC (2024), 46 million people live in rural areas. This is 15% of the U.S. population. Many social factors may put rural residents at risk of death than people in urban areas. These risk factors have a distinct phenomenon (Love et al., 2016). Moreover, Chichester et al. (2020) found that the comprehension of the mechanism of rural opioids is significant, considering the toll that the epidemic has taken on rural areas. The result of this study indicated a nonsignificant relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area. This differs from Chichester et al.'s conclusions. Throughout the United States, rural regions have been disproportionately affected by opioid overdose in some rural areas. With a larger sample, the findings from the study would possibly suggest there is a statistical relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area. With these results coming from a very narrow population taken from a sample that possibly contributed to the inconclusive findings as well as the data sufficiency problem linked to poor generalizability, this study is warranted for future research.

Furthermore, the United States is amid a severe opioid epidemic (Stuart et al., 2018). Unfortunately, many users get these drugs from family, friends, and dealers, not physicians (Daley et al., 2018). In addition, prescription opioids offer acute pain management, their use, misuse, and abuse have contributed to significant economic and health burdens for the patient's and their family's mental health (Hagemeier, 2018). These experiences can position families in a state of servitude. Yet, the data findings demonstrated no significant differences and had inconclusive findings. In addition, the data was not recommended for further analysis. The determination and lack of recommendation appeared to be egregious considering many researchers, including Lund et al. (2019), stated rural states have the most significant mortality risk, opioid misuse, and high-risk prescription use. These findings demonstrate the need for researchers to further analyze the statistical relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area.

The opioid epidemic has been devasting not just for the users but for their families (Liu et al., 2020). Patients and their families face many challenges due to their geographical isolation. Chan et al. (2018) investigated the connection between nonmedical prescription opioids, their use, and the impacts on relationships across systems, including the impact on families with children. These connection between non-medical prescription opioids use in adults is connected to family relationships and psychological well-being Chan et al. Therefore, the study to research the relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area should be considered for future research.

The opioid epidemic has devasted families, leaving parents unable to care for their children and the children being cared for by their grandparents. According to Dolbin-MacNab et al. (2021), societal issues such as substance abuse and opioids have had devasting effects on the family unit. Rapier et al. (2019) stated that social support resources for families and a shield against substance and alcohol abuse are beneficial in the outcome of addiction treatment. Social support is essential when an individual is in a crisis. Peck et al. (2018) analyzed the importance of family and social support for adolescents and young adults with cancer-related pain. Peck et al. did not address the needs of the families, to investigate the connection between social support, substance use and treatments, and the families' needs**.** Therefore, future research is warranted to gain more understanding of the need for social support when a family or individual is in crisis when they have ongoing interaction with someone with an addiction.

Further, researchers have revealed the need for social support when addressing substance abuse disorders (Atadokht et al., 2015; Chou et al., 2018; Dolbin-MacNab et al., 2021; Kourgiantakis et al., 2021; Rapier et al., 2019). The researchers emphasized the importance of social support for individuals dealing with substance abuse disorder. Kourgiantakis et al. (2021) stressed the increased impact on families of addictions on individuals and on affecting more than 100,000 million family members. Unfortunately, despite the negative impact on the family unit addictions and treatments has focused on the on the individual and not the family members. These lack of services and attention on the family member often creates a significant barrier to family involvement in addictions. The family unit involvement is important because first the family unit is negatively affected, and the family-focus service can help reduce the harm to individual family members and the entire family unit. Second, compelling reasons to involve families in addiction treatment is that family involvement increases treatment entry and completion of programs creating an atmosphere with a better completion rate for the individual and creating a better home environment for the family unit (Kourgiantakis et al., 2021). The recommendations of these researchers demonstrate the great need for future research as well as social change programs. The current study did have data sufficiency issue that contributed to poor generalizability that led to discordant findings. Taking into consideration of these researcher’s scholarly expertise, future research is warranted to explore the relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area.

Also, researchers have shown that anxiety and stress can contribute differently to an individual's emotions (Basile et al., 2015; Souza et al., 2017). One of these emotions that deserve to be highlighted in this study is generalized anxiety. Generalized anxiety is excessive anxiety and worry linked to activities of daily lives that have manifested. Additional problems that are contributed to generalized anxiety is excessive worry and anxiety extending to different levels of emotions. Emotions are linking to these waves of frustration are tiredness, irritability, tension and sleep problems which has the potential to interfere with daily activities and responsibilities that can lead to a high degree of discomfort and unhappiness (Basile et al., 2015). These emotions can trigger different stressors when responding to threatening or dangerous situations. Caregivers, who are often women, find themselves caring for family members with physical, mental and dependency issues. These family members are at potential risk for burden and consequent decrease in health status which can be the gateway to mental health problems that lead to depression, anxiety, and burnout in an addition to physical health deterioration as well as family disfunction, financial problems and social isolation (Souza et al., 2017). These stressors also create a feeling of being overwhelmed, fatigued, angry, and anxious.

According to Kerr (2019), understanding the link between patterns of emotional functioning and clinical symptoms depends on understanding a person's functioning position in a family relationship system. In addition to the experiences of adverse physical and mental health outcomes (Doblin-MacNab, 2021), these stressors affect the physical and psychological well-being of the family unit. Our emotions can trigger different stressors when responding to threatening or dangerous situations. These stressors also create a feeling of being overwhelmed, fatigued, angry, and anxious (Howson, 2021). According to Howson (2021), strains occur from competing demands that overlap through time. Bowen understood that all people have some form of anxiety and possibly all living creatures (Kerr, 2019). Bowen's (1985) research has assisted in gaining more understanding of the emotions that family members experience when having ongoing interaction with an individual suffer with an addiction.

This study's findings contradicted previous studies. Although, according to assumption 6 the data must not show multicollinearity and it was not met, the measurement of the variables did meet the assumption for the multiple linear regression. Aforementioned, the poor generalizability and the data sufficiency problem contributed to the researcher unable to collect sufficient data to be able to run the analysis with the finding being inconclusive. It is unrealistic to think that the research to explore the relationship between prescription or non-prescription addiction, opioid or another addiction, and family social support on the stress of a family member that has ongoing interactions with an individual struggling with an addiction in a rural area has reached its evolution. Considering the variables met the assumption for the multiple linear regression and the study contributed to existing, the contributions are warranted for consideration for future.

Limitations of the Study

The limitations of this study also became contributors and challenges. There were seven limitations to the study. The first limitation was the researcher had limited access to the respondents because only one local organization participated in the research study. Secondly, Assumption 6 was violated. Assumption 6 stated data must not show multicollinearity, and it was not met. Thirdly, the data in multiple linear regression had data sufficiency problems because the sample size was not met. Contributors to these limitations possibly were family members', family members' dependency or they did not address the addiction issue as readily as well as they did not respond accurately or were hesitant to participate. These hesitations and incorrect responses possibly contributed to these challenges in identifying the relationship between the following: (1) prescription or non-prescription addiction; (2) opioid addiction or another addiction; (3) the amount of family social support of a family member who has ongoing interactions with the individual struggling with addiction; and (4) stress of the family member in a rural area.

Data sufficiency problems can lead to the researcher unable to collect sufficient data to be able to run the analyses. Fourth, the data sufficiency problem contributed to the multicollinearity affecting the coefficient and p-values. The coefficient is any number or numerical value being multiplied to a variable. It can be real or imaginary. The p-value is the probability that the observed effect within the study would have occurred by chance if, in reality, there was no true effect. When studies lack sufficient power, the study should be presented as showing no significant differences and having inconclusive findings (Shreffler et al., 2023).

Fifth, the study used quantitative cross-sectional research design, using a survey, to examine and provide an understanding of the research but the findings were inconclusive. Surveying a specific sample from an organization that caters to the needs of individuals dealing with substance addictions can created limitations in a study which contributes to the researcher being faced with issues within the sample and selection causing an insufficient sample size for statistical measurement**.** Sixth, the study had poor generalizability and was unable to explain the phenomena of emotions that the family experiences when addressing the needs of an individual who engages in opioid and other addictions, as well as the family's emotional process. The generalizability is important is because it provides the validity for the research study. The seventh and final limitation is that Survey Monkey was used to collect the data. There was limited control of the response as well as limited ability to confirm the legitimacy of the responses.

Recommendations

Based on the finding for this study, there are many recommendations for future researchers. First, although questions remain about the patterns of social media emerging among adults, the social media platform can create opportunities for larger sampling sizes because it increases engagement by social media participants (Keum et al., 2022). There are some concerns using social media could lead to physiological effects or vulnerability, but the benefits can outweigh the risk for the greater good. Therefore, future researchers should consider social media to gather data. It also can beneficial because of the ease of recruitment. Social media also positions you to engage with stakeholders as well as receive feedback from the community.

Secondly, future researchers should consider using random sampling. Random sampling is widely accepted as the best design for evaluating the efficacy of the data. Randomization provides a base for allowing the use of probability theory and it eliminates accidental bias. Random sampling allows for generalizing the results observed through sample the sample. Therefore, the sample by random sampling is very important and again widely accepted (Anesthesiol, 2019).

The third and final recommendation is for future studies to use the results of this study to examine the current variables and related variables. Although the study did have many limitations, the measurement of the variables did meet the assumption for the multiple linear regression. The multiple linear regression is beneficial because it can be applied as a fundamental building block. In addition, the multiple linear regression enabled analysts to determine the variation of the model as well as the relative contribution of the independent variable in the total variance.

Conclusion

Lack of social support and stress are multitudinous in many communities. Lack of social support is when a person has limited relationships, contact or support. Stress is the emotion that an individual may feel. It can also be described as social isolation. These multitudinous experiences can be an individual who engages with someone who is an alcoholic, and they provide ongoing care and/or the family member who is recruited to provide additional support to the family and adjusts their lives to assist, but it is too late, and the patients transitions and the family member grieves because the family member transitioned before they could help to make the situation better. These experiences endured create a stress level contributing to acute stress disorders and social support would be warranted.

In addition to the lack of social support, when the family members grieve after their loved one transitions has many similarities to when they provide care. The feelings of “could I have done more” or the “what if’s” creates unbearable stress that only is eased by social support. It is easy to make observations and decide, but unless you experience the stress, the sadness and emptiness is impossible to truly be able to grasp the true emotions. The research study could also be used for caregivers caring for a loved one and the lack of social support and stress they endure as they care for an aging parent in addition to the caregiver and the lack of support as they grieve their parent once they transition.

It is inevitable that a community will be faced with adversity. Adversity can be created by a family's crisis that triggers stress. These unforeseen adversities could be ongoing interactions with a family member that has an addiction to alcohol, drugs, in addition to gambling, chronic illnesses or other diseases, as well as, the community members experiencing abuse or financial strain, food insecurity, the aging population suffering from social isolation, or someone faced with homelessness or a veteran in need as well as a struggling farmer or single parent. Additional stressors could consist of the caregiver caring who cares for an aligning parent, child, or other family member who is experiencing grief that occurs as they engage in the process of transition or after a family members transitions. These stressors mentioned are warranted for social change programs in any community and this study would be an excellent guide to create programs to improve community moral.

When faced with any adversity, having a support system in place or services available in a community can make a difference how families thrive or fail. Creating a community environment with social support programs can improve a community moral and it creates healthier communities. Improving the standards of living for community members to have access to social change programs it creates resources for community members to benefit from, although they are in crisis to use as social support to assist them through their crisis.

Social support is the key to elevate some stress in any situation to psychologically be able function and address daily challenges. Overall, this study offers many opportunities to address social change. Lack of social support is deficient in many communities and stress negative or positive is infringed on communities especially in rural areas where services are limited. Social support programs created to address social support for families with limited social support would enhance any community by improving the community culture from beginning of life to the end. Therefore, this study is warranted for future research.

References

Alcohol and Drug Abuse Statistics. (n.d.). *Statistics on drug addiction*. https://americanaddictioncenters.org/rehab-guide/addiction-statistics

Amari, S., McDonell, M.G., Denney, J.T., Buchwald, D., & Amram, O. (2020). Disparities in access to opioid treatment programs and office-based buprenorphine treatment across the rural-urban and area deprivation continua: A US nationwide small area analysis. Value in health*: The Journal of the International Society for Pharmacoeconomics and Outcomes Research*, *24*(2), 188–195. https://doi.org/10.1016/j.jval.2020.08.2098

Amato, P. (2014, Summer). *What is a family? NCFR report magazine: Early childhood*. https://www.ncfr.org/ncfr-report/past-issues/summer2014/what-family

American Academy of Pediatrics, (n.d.). *Addressing the opioid epidemic.* https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Subtance-Use-and -Prevention/Pages/addressing-the opioid-epidemic.aspx

America Medical Association. (2021). *Biden administration boosts access to overdose prevention, treatment.* https://ama.assn.org/delivering-care/opioids/biden-administration-boosts-access-overdose-prevention-treatment

American Psychiatric Association. (n.d.). *Addiction and substance use disorder. What is substance use disorder?* https://www.psychiarty.org/patients-families/addiction

American Psychiatric Association. (n.d.). *Addiction and substance use disorder. Opioid use disorder*. https://www.psychiarty.org/patients-families/addiction

American Physical Therapy Association. (2018). *Beyond opioids: How physical therapy* *can transform pain management to improve health.* https://www.apta.org/contentassets/8cd3b503ca3b42dfbdf3c29b42232eea/apta-position-paper-beyond-opioids.pdf

American Psychological Association. (2017). *Ethical principles of psychologists and code of conduct.* https://www.apa.org/ethics/code

American Public Health Association. (2014). *Opioid epidemic highlights White House's 2014 drug control strategy*. http://www.publichealthwire.org

Anesthesiol, K. J. (2019). Randomization in clinical studies. *Korean Journal of Anesthesiology, 72*(3), 221–232. https://doi.org/10.4097/kja.19049

Atadokht, A., Hajloo, N., Karimi, M., & Narimani, M. (2015). The role of family expressed emotion and perceived social support in predicting addiction relapse. *International Journal of High Risk Behaviors Addiction, 4*(1), e21250. https://doi.org/10.5812/ijhrba.21250

Basile, S. Carrassco, M. A., & Martorell, J. L. (2015). Preocupacious excesivas en la Adolescenia: Descripcion, evaluacion y tratamiento de un caso de ansiedad Generalizada. *Clinical and Health*, *26*(3),121–129. https://doi.org/10.1016/j.clysa.2015.09.001

Benson, W., Kuehn, K., & Weirich, M. (2019) Why are rural older adults turning to opioids? *Generations: Journal of American Society of Aging, 43*(2), 55–61. https://www.jstor.org/stable/26760115

Bowen, M. (1978). *Family therapy in clinical practice*. Rowman & Littlefield Publishers, Inc.

Bowen, M. (1985). *Family therapy in clinical practice*. Rowman & Littlefield Publishers, Inc.

Brooks, B., McBee, M., Pack, R., & Alamian, A. (2017). The effects of rurality on substance use disorder diagnosis: A multiple-groups latent class analysis. *Addictive Behaviors, 68*, 24–29. http://doi.org/10.1016/j.addbeh.2017.01.019

Centers for Disease Control and Prevention, Morbidity and mortality weekly report. (2018)a. *Occupational Patterns in Unintentional and Undetermined Drug-Involved and Opioid-Involved overdose deaths-United States, 67*(33), 925-930. https://www.cdc.gov/mmwr/volumes/67/wr/mm6733a3.htm?s_cid=mm6334a3_w

Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report. (2019). *Opioid Prescribing rates in Nonmetropolitan and Metropolitan Counties, United States.* 2014-2017, *68*(2), 25-30. https://www.cdc.gov/mmwr/volumes/68/wr/mm6802al.htm?s_cid=mm6802a1_w

Centers for Disease Control and Prevention. (n.d.). *Opioid Overdose Understanding the epidemic.* https://www.cdc.gov/drugoverdose/epidemic/index.html

Centers for Disease Control and Prevention. (n.d.). *Rural Health. Death Leading Causes*. https://www.cdc.gov/ruralhealth/causes-of-death.html

Centers for Disease Control and Prevention. (2022). *U.S. Overdose Deaths in 2021 Increased Half as much as in 2020 – But are still up 15%.* https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2022/202205.htm#

Centers for Disease Control and Prevention. (2024). *Rural Health.* https://www.cdc.gov/rural-health/php/about/index.html

Chacon, N.C., Walia, N., Allen, A., Sciancalepore, A. Tiong, J., Quick, R., Mada, S., Diaz, M. A., Rodriguez, I. (2021). Substance use during COVID-19 pandemic: impact on the underserved communities. *Discoveries (Craiova, Romania)*, 9(4), e141. https://doi.org/10.15190/d.2021.20

Chan, K., Trant, J. (2018). The relationship of psychological distress and living with children and adolescents for adult non-medical prescription opioid users. *Child and Adolescent Social Work Journal, 35,* 391-405. https://doi.org/10.1007/s10560-018-0534-8

Chatterjee, A., Jin Yu, E., Tishberg, L. (2018). Exploring opioid use disorder, its impact, and treatment among individuals experiencing homelessness as part of a family. *Drug and alcohol dependence, 188,* 161-168. https://www.sciencedirect.com/science/article/abs/pii/S0376871618302710

Chichester, K., Drawve, G., Gimenez-Santana, A., Sission., M., McCleskey. B., Dye, Walker, J., Mrug, S., Cropsey, K. (2020). Pharmacies and features of the built environment associated with opioids overdose: A geospatial comparison of rural and urban regions in Alabama, USA. *International Journal of Drug Policy,79,* 102736. https://doi.org/10.1016/j.drugpo.2020.102736

Chou, J. L., Pierce, K. J., Pennington, L. B., Seiler, R., Michael, J., Mc Namara, D., & Zand, D. (2018). Social support, family empowerment, substance use, and perceived parenting competency during pregnancy for women with substance use disorders. *Substance Use & Misuse*, *53*(13), 2250–2256. https://doi.org/10.1080/10826084.2018.1467456

Cooper, H. L., Cloud, D. H., Freeman, P. R., Fadanelli, M., Green, T., Van Meter, C., Beane, S., Ibragimov, U., & Young, A. M. (2020). Buprenorphine dispensing in an epicenter of the U.S. opioid epidemic: A case study of the rural risk environment in Appalachian Kentucky. *The International Journal On Drug Policy*, *85*, 102701. https://doi.org/10.1016/j.drugpo.2020.102701

Daley, D. (2013). Family and social aspects of substance use disorders and treatment. *Journal of Food and Drug Analysis, 21*(4), 73-76. https://doi.org/10.1016/j.jfda.2013.09.038

Daley, D., Smith, E., Balogh, D., & Toscaloni, J. (2018). Forgotten but not gone: The impact of the opioid epidemic and other substance use disorders on families and children. *Commonwealth: A Journal of Pennsylvania Politics and Policy, 20,* 2-3. https://doi.org/10.15367/com.v20i2-3.189

Dasgupta, N., Beletsky, L., & Ciccarone, D. (2018). Opioid crisis: No easy fix to its social and economic determinants. *American Journal of Public Health*, *108*(2), 182–186. https://doi.org/10.2105/AJPH.2017.304187

Davis, M. A., Lin, L. A., Liu, H., & Sites, B. D. (2017). Prescription opioid use among adults with mental health disorders in the United States. *Journal of the American Board of Family Medicine: JABFM*, *30*(4), 407–417. https://doi.org/10.3122/jabfm.2017.04.170112

Denomme, W.J., & Benhanoh, O. (2017). Helping concerned family members of individuals with substance use and concurrent disorders: an evaluation of a family member-oriented treatment program. *Journal of Substance Abuse Treatment, 79,* 34-45. https://doi.org/10.1016/j.jsat.2017.05.012

Dirks, A. (2018). The opioid epidemic: Impact on children and families. *Journal of Psychiatry and Psychiatric Disorder, 2*(1). http://www.fortunejournals.com/ articles/the-opioid-epidemic-impact-on-children-and-families.pdf

Dolbin-MacNab, M. L., & O'Connell, L. M. (2021). Grandfamilies and the opioid epidemic: A systemic perspective and future priorities. *Clinical Child and Family Psychology Review*, *24*(2), 207–223. https://doi.org/10.1007/s10567-021-00343-7

Erdem, G. & Safi. O.A. (2018). The cultural lens approach to Bowen family systems theory: Contributions of family change theory. *Journal of Family Theory Review, 10*(2), 469-483. https://doi.org/10.1111/jftr.12258

Farm Bureau. (2018, March). *Opioids: rural America live, explores a devastating epidemic.* https://www.fb.org.new

Feingold, D. Brill, S., Goor-Aryeh, I., & Delayahu, Y. (2017). Depression and anxiety among chronic pain patients receiving prescription opioids and medical marijuana. Opioid overdose crisis. *US National Library of Medicine National Institutes on Health. 218*, 1-7. https://ncbi.nlm.nih.gov/pubmed/28453948

Franklin, G., Jones, C., Sabel, J., & Tauben, D. (2015). A comprehensive approach to address the prescription opioid epidemic in Washington stat: milestones and lessons learned. *American Journal of Public Health*, *103*(3), el-e7. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC43330848/

Gillian, B., Winstanley, E., Ryan, S., & Lyons, M. (2014). Moving beyond misuse and diversion: The urgent need to consider the role of latrogenic in the current opioid epidemic. *American Journal of Public Health, 104(*11*),* 2023-2029. https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2014.302147

Glerum, K., & Choo, E. (2015). Gender and prescription opioid abuse. *America medical association.* https://www.amwa-doc.org/sghc/sghc-case-studies/gender-and-prescription-opioid-abuse

Hagemeier, E., & PharmD. (2018). Introduction to the opioid epidemic: The economic burden on the healthcare system and impact on quality of life. *The American Journal of Managed Care, 24*(10 Suppl), S200-S206. https://www.ajmc.com

Hart, L. G., Larson, E. H., & Lishner, D. M. (2005). Rural definitions for health policy and research. *American Journal of Public Health*, *95*(7), 1149–1155. https://doi.org/10.2105/AJPH.2004.042432

Haefner, J. (2014). An application of Bowen Family Systems Theory. *Issues in Mental Health Nursing, 35(*11), 835-841. https://doi.org/10.3109/01612840.2014.921257

Health Resources & Services Administration. (n.d.). *How we define rural.* https://www.hrsa.gov/rural-health/about-us/what-is-rural

Hilliard, M. E., Powell, P. W., Anderson, B. J. (2016). Evidence-based behavioral interventions to promote diabetes management in children, adolescents, and families. *American Psychological Association, 71*(7), 590-601. https://doi.org/10.1037/a0040359

Howson, A. (2014, October 24). Role conflict and role strain, individual and society, MCAT, Khan Academy. [Video]. YouTube. https://www.youtube.com/watch?v=Tkt6unUlso

Iqbal, Kring, SI., Barefoot, J., Brummett, B. H., Boyle, S. H., Siegler, I. C., Toubro, S., Hansen, T., Astrup, A., Pedersen, O., Williams, R. B. & Sorensen, T. I. A. (2011). *Stress Factors Questionnaire.* https://doi.org/10.1037t28471-000

Iqbal, Kring. SI., Barefoot, J., Brummett, B. H., Boyle, S. H., Siegler, I. C., Toubro, S., Hansen, T., Astrup, A., Pedersen, O., Williams, R. & Sorensen, T. I. A. (2011). *Associations between APOE Variants and Metabolic Traits and the Impact of Psychological Stress. PLoS ONE, 6*(1), e15745. https://doi.org/10.1371/journal.pone.0015745

Kalin N. H. (2020). Substance use disorders and addiction: Mechanisms, trends, and treatment implications. *The American Journal of Psychiatry*, *177*(11), 1015–1018. https://doi.org/10.1176/appi.ajp.2020.20091382

Kaur, A., Mahajan, S., Deepti, S.S., & Singh, T. (2018). Assessment of role of burden in caregivers of substance abusers: a study done of Swami Vivekanada drug de-addiction center, govt. medical college, Amritsar. *International Journal of Community Medicine and Public Health, (5)*6. http://dx.doi.org/10.18203/2394-6040.ijcmph20182162

Kelly, J., Fallah-Sohy, N., Cristello, J. & Bergman, B. (2017). Coping with the enduring unpredictability of opioid addiction: An investigation of a novel family-focused peer-support organization. *Journal of Substance Abuse Treatment, 77,* 193-200. https://doi.org/10.1016/j.jsat.2017.02.010

Kerr, M. (2019). Bowen theory's secrets. W.W. Norton & Company, Inc

Keum, B.T., Wang, Y.W., Callaway, J., Abebe, I., Cruz, T. & O'Connor, S. (2022).

Benefits and harms of social media use: A latent profile analysis of emerging adults. *Current Psychology,* 1-13. https://doi.org/10.1007/s12144-022-03473-5

Kidorf, M., Latkin, C., & Brooner, R. (2016). Presence of drug-free family and friends in the personal social networks of people receiving treatment for opioid use disorder. *Journal of Substance Abuse Treatment, 70,* 87-92. https://doi.org/10.1016/j.jsat.2016.08.013

Kourgiantakis, T., & Aschcroft, R. (2018). Family-focused practices in addictions: a scoping review protocol. *British Medical Journal, Open 8*(1), e019433. http://dx.doi.org/10.1136/bmjopen-2017-019433

Kourgiantakis, T., Aschcroft, R., Mohamud, F., Fearing, G. Sanders, J. (2021). Family-focused practices in addictions: a scoping review. *Journal of Social Work Practice in the Addictions, 21*(1), 18-53. https://doi.org/10.1080//1533256X.2020.1870287

Lander, L., Howsare, J., & Byrne, M. (2013). The impact of substance use disorders on families and children: from theory to practice. *Social Work in Public Health*, *28*(3-4), 194–205. https://doi.org/10.1080/19371918.2013.759005

Le, V.T., Turner, A.N., McDaniel, A., Hale, K.M., Athas, C., Kwiek, N.C. (2018). Nonmedical use of over-the-counter medications is significantly associated with nonmedical use of prescription drugs among university students. *Journal of American College Health 66*(1)*,* 1-8. https://doi.org/10.1080/07448481.2017.1356312

Liu, J. Y., Franklin, J. S., Gesek, F. A., & Anderson, J. C. (2020). Buyback program of unused prescription opioids in US rural communities, 2017-2018. *American Journal of Public Health*, *110*(9), 1318–1324. https://doi.org/10.2105/AJPH.2020.305730

Love, M. M., Cohn, T.J., Pierce, & Hastings, S. L. (2016). Trends in injection use among prescription opioid-misusing individuals in the rural US. *Journal of Rural Mental Health, 40(3-4),*180-192. https://dx.doi.org/10.1037/rmh0000055

Lund, B. C., Ohl, M. E., Hadlandsmyth, K., & Mosher, H. J. (2019). Regional and rural-urban variation in opioid prescribing in the Veterans Health Administration. *Military Medicine*, *184*(11-12), 894–900. https://doi.org/10.1093/milmed/usz104

Madras, B. K. (2017). The surge of opioid use, addiction, and overdoses responsibility and response of the US health care system. *Journal of American Medical Association of Psychiatry,74*(5), 441-442. https://doi:10.1001/jamapsychiatry.2017.0163

McArdle, E.A. & Stull. L.G. (2018). Anxiety and depression in family members of people struggling with addiction. *Modern Psychological Studies, 23*(2). https://scholar.utc.edu/mps/vol23/iss2/10

McCann, T., & Lubman, D. (2017). Adaptive coping strategies of affected family members of a relative with substance misuse: A qualitative study. *Journal of Advanced Nursing, Leading Global Nursing Research*, *74*(1), 100-109. https://doi.org/10.1111/jan.13405

McCance-Katz, E. (2018). National survey on drug use and health: 2018 NSDUH Annual national report. *Substance abuse and mental health service administration.*

https://www.samhsa.gov/data/release/2018-national-survey-drug-use-and-health-nsduh-releases

McEwen, B., & Sapolsky, R. (2006). Stress and your health. *The Journal of Clinical Endocrinology & Metabolism, 91*(2). https://doi.org/10.1210/jcem.91.2.9994

Mirick, R., & Steenrod, S. (2016). Opioid use disorder, attachment, and parenting: key concerns for practitioners. *Child and Adolescent Social Work Journal*, *33*, 547-557. https://doi.org/10.1007/s10560-016-0449-1

Missouri Department of Health and Human Services. (n.d.). *Drug overdose dash board.* http://hfealth.mo.gov/data/opioids/

Missouri Hospital Association. (2017). *Opioid epidemic*. https://www.mhanet.com/mhaimages/adovacy/PolicyBrief_MO%20KS%Opioid.pdf

Morley, G., & Ives, J., Bradbury-Jones, C., & Irvine, F. (2019). What is 'moral distress'? A narrative synthesis of the literature. *Nursing Ethics, 26*(3)*,* 646-662. https://doi:10.1177/0969733017724354

Morris, B., & Mir, H. R. (2015). The opioid epidemic: impact on orthopaedic surgery. *Journal of the American Academy of Orthopaedic Surgeons*, *23*(5), 261-271. https://doi.org/10.5435/JAAOS-D-14-00163

National Advisory Committee on Rural Health and Human Services. (2016). *Families in crisis: The human service implications of rural opioid misuse policy brief July 2016.* https://www.hrsa.gov/sites/default/files/hrsa/advisory-comitees/rural/publications/2016-opioid-abuse.pdf

National Institute of Health. (2018). *Medications to treat opioid use disorder research* *report. National institute on drug abuse*. https://www.drugabuse.gov/dowload/21349/medications-to-treat-opioid-use-disorder-resarch-report.pdf

National Institute of Health. (2019). Opioid overdose crisis. *National institute on drug abuse.* https://www.drugabuse.gov/drugs-abuse/opioid-overdose-crisis

National Institute of Health. (2021). *Medications to treat opioid use disorder research report. Overview.* https://nida.nih.gov/publications/research-reports/medications-to-treat-opioid-addiction/overview

National Rural Health Association Policy Brief. (2016). *Rural communities in crisis: Strategies to address the opioid crisis.* https://www.ruralhealthweb.org

Nelson, L., Juurlink, D., & Perrone-Jama, J., (2015). Addressing the opioid epidemic. *Journal of the American Medical Association*, *314*(14), 1453-1454. https://doi.org/10.1001/jama.2015.12397

Ochalek, T. A., Cumpston, K. L., Wills, B. K., Gal, T. S., & Moeller, F. G. (2020). Nonfatal opioid overdoses at an urban emergency department during the COVID-19 Pandemic. *Journal of American Medical Association*, *324*(16), 1673–1674. https://doi.org/10.1001/jama.2020.17477

Ólafsdóttir, J., Hrafnsdóttir, S., & Orjasniemi, T. (2018). Depression, anxiety, and stress from substance-use disorder among family members in Iceland. *Nordic Studies on Alcohol and Drugs*, *35*(3), 165–178. https://doi.org/10.1177/1455072518766129

Peck, K. R., Harman, J. L., & Anghelescu, D. L. (2018). Family and peer-group substance abuse as a risk-factor for opioid misuse behaviors for a young adult with cancer-related pain-a case study. *Journal of Adolescent and Young Adult*

Oncology, *7*(1), 137–140. https://doi.org/10.1089/jayao.2017.0055

Piper, B.J., Shah, D.T., Simoyan, O.M., McCall, K. L., & Nicholas, S. D. (2018). Trends in the medical use of opioids in the U.S, 2006-2016. *American Journal of Preventive Medicine, 54(5)* 652-660. https://doi.org/10.1016/j.amepre.2018.01.034

Rapier, R., McKernan, S., & Stauffer, C. S. (2019). An inverse relationship between perceived social support and substance use frequency in socially stigmatized populations. *Addictive behaviors reports*, *10*, 100188. https://doi.org/10.1016/j.abrep.2019.100188

Roemer, A., Sutton, A., Grimm, C. & Medvedev. O.N. (2021). Differential contribution of the five facets of mindfulness to well-being and psychological distress. *Mindfullness,12*(3), 693-700. https://doi.org/10.1007/s12671-020-01535-y

Romanowicz, M., Vande Voort, J. L., Shekunov, J., Oesterle, T. S., Thusius, N. J., Rummans, T. A., Croarkin, P. E., Karpyak, V. M., Lynch, B. A., & Schak, K. M. (2019). The effects of parental opioid use on the parent-child relationship and children's developmental and behavioral outcomes: a systematic review of published reports. *Child and Adolescent Psychiatry and Mental Health*, *13*(5). https://doi.org/10.1186/s13034-019-0266-3

Scherbaum, N., & Specka, M. (2008). Factors influencing the course of opiate addiction. *International Journal of Methods In Psychiatric Research*, *17 Suppl 1*(Suppl 1), S39-S44. https://doi.org/10.1002/mpr.244

Shipley, A. (2018, January 11) Opioid crisis affects all Americans, rural America and urban. *United States Department of Agriculture.* (2018*).* https://www.usda.gov/media/blog/2018/01/11/

Statista Research Department. (2024*). Substance abuse treatment and rehabilitation in the U.S. – Statistics & Facts Statista.* https://www.statista.com/topics/3997/substance-abuse-treatment-and-rehabilitation-in-the-us/#topicOverview

Substance Abuse and Mental Health Services Administration. (n.d.). *Resources for families coping with mental and substance use disorders***.** https://www.nimh.nih.gov

Substance Abuse and Mental Health Services Administration. (n.d.). *2017 National survey on drug use and health (NSDUH) releases.* https://www.samhsa.gov/data/release/2017-national-survey-drug-use-and-health-nssduh-releases

Souza, A. L. R., Guimaraes, R.A., de Araujo Viela, D., de Assis, R. M., de Almedia Cavalcante, Oliveria, L. M., Souza, M.R., Nogueira, D.J., Barbosa, M. A. (2017). Factors associated with the burden of family caregivers of patients with mental disorders: cross-sectional study. *BioMed Central Psychiatry, 17*(1), 353. https://doi.org/10.1186/s12888-017-1501-1

Stuart, G. L., Shorey, R. C., France, C. R., Macfie, J., Bell, K., Fortner, K. B., Towers, C. V., Schkolnik, P., & Ramsey, S. (2018). Empirical Studies Addressing the Opioid Epidemic: An Urgent Call for Research. *Substance Abuse: Research and Treatment*, *12*, 1178221818784294. https://doi.org/10.1177/1178221818784294

Thomas, P., Liu, H., & Umberson, D., (2017). Family relationships and well-being.

Innovation in aging, 1(3). https://doi.org/10.1093/geroni/igx025

Toman, W., (1961). *Family constellation*. Springer Publishing Company, Inc. database

Toner, P., & Velleman, R. D. B. (2014). Initial reliability and validity of a new measure of perceived social support for family members of problem substance users. *Addiction Research & Theory*, *22*(2), 147-157. https://doi.org/10.3109/16066359.2013.779675

Toner, P., & Velleman, R. (2014). *Alcohol, Drugs and the Family Social Support Scale* [Database record]. American Psychological Association PsycTests. https://dx.doi.org/10.1037/t46063-000

United Hospital Fund. (2019). *The ripple effect: the impact of the opioid epidemic on children and families*. https://media.uhfnyc.org/filer_public/9c/db/9cdb3497-1232-42ed-87c5-5a1234e704f8/ripple_effects_of_adolescent_behavioral_health_crisis_report.pdf

United States Department of Agriculture. (2017). *Opioid misuse in rural America.* https://www.usda.gov/topics/opioids

United States Department of Agriculture. (n.d.). *Opioid misuse in rural America.* https://www.usda.gov/topics/opioids

U.S. Department of Health and Human Services. (2018). *Substance use, the opioid epidemic, and the child welfare system: key findings from mixed methods study.* https://aspe.hhs.gov/sites/default/files/private/pdf/258836/SubstanceUseChildWelfareOverview.pdf

Vashishtha, D., Mittal, M. L., & Werb, D. (2017). The North American opioid epidemic:

current challenges and a call for treatment as prevention. *Harm Reduction Journal*, *14*(1), 7. https://doi.org/10.1186/s12954-017-0135-4

Zin, C. S., & Ismail, F. (2017). Co-prescription of opioids with benzodiazepine and other co-medications among opioid users: differential in opioid doses. *Journal of Pain Research*, *10*, 249–257. https://doi.org/10.2147/JPR.S122853

Appendix A: Email Invitation

Subject Line:
Interviewing family members who have had and are involved in ongoing interactions with the family member struggling with addiction.

Email message:
There is a new study about family members who have had and are involved in ongoing interactions with the family member struggling with addiction. For this study you are welcome to describe your experiences.

About the study:
- Approximately 35 minutes to complete the online.
- To protect your privacy, your participation will be kept anonymous and confidential.

Volunteers must meet these requirements:
- 18 – 100 years old
- History of ongoing interactions with the family member struggling with an addiction.

This interview is part of the doctoral study for Adrienne Hunter-Green, a Ph.D. student at Walden University. Surveys will take place during 2023.

If you are interested, please click on the following link:
https://www.surveymonkey.com/r/27V28PN

You are welcome to forward it to others who might be interested. If you are interested in completing the survey in person, email the researcher at [redacted].

If you are distressed the 988 national hotline number is free and available. The free national three-digit phone number is for all experiencing a crisis; such as mental health, suicide, alcohol or a substance use crisis. By calling or texting 988 you can be connected to Crisis Specialist 24/7.

Appendix B: Demographics Questions

1. What is your age?

(A) 18 - 29, (B) 30 – 39, (C) 40 – 49, (D) 50 – 59, (E) 60 or over

2. What is your gender?

(A) Male, (B) Female, (C) Another Gender

3. What is your ethnicity?

(A)American Indian or Alaska, Native, Asian, (B) Black or African American, (C) Hispanic or Latino, (D) Hawaiian or Pacific Islander, (E) White, (F) Two or more races

Appendix C: Research Question 1 and 2

Items

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4. The first IV - If the individual with the addiction uses prescription or non-prescription substances? This categorical and dichotomous variable will be measured by asking if the family member’s substance addiction is prescription or non-prescription.
5. The second IV - If the addiction is to opioids or another substance? This categorical and dichotomous variable will be measured by asking if the family member’s addiction is to opioids or another addictive substance.

Appendix D: Alcohol, Drugs and the Family Social Support Scale

Items

The following survey asks about what has happened to you in the last 3 months. The words friends/relations mean anyone that you have met in that time, and relative means the person with the drinking and/or drug taking problem. Please select one answer to each question.

Never **Once or Twice** **Sometimes** **Often**

1. Friends/relations have understood what it is like for me to live with my relative's drinking or drug taking.

2. Friends/relations have helped to cheer me up.

3. Health/social care workers have given me helpful information about problem drinking or drug taking.

4. I have friends/relations whom I trust.

5. Friends/relations have listened to me when I have talked about my feelings.

6. Friends/relations have backed the decisions that I have taken towards my relative and their drinking or drug taking.

7. Friends/relations have put themselves out for me when I needed practical help (i.e. aid or assistance).

8. Friends/relations have advised me to focus on myself and my own needs.

9. Friends/relations have questioned my efforts to stand up to my relative's problem drinking or drug taking.

10. Friends/relations have been too critical of my relative.

11. Friends/relations have given me space to talk about my problems.

12. Friends/relations have said that my relative should leave home.

13. Friends/relations have said things about my relative that I do NOT agree with.

Items

14. Friends/relations have avoided me because of my relative’s drinking or drug taking.

15. Health/social care workers have made themselves available for me.

16. Fiends/relations have blamed me for my relative’s behavior.

17. Friends/relations have said that my relative does NOT deserve help.

18. I have identified with the information within books/booklets about people living with a problem drinker or drug taker.

19. Friends/relations have told my relative off on my behalf.

20. Friends/relations have advised me to leave my relative.

21. Friends/relations have been there for me.

22. Friends/relations have provided support for the way I cope with my relative.

23. Friends/relations have talked to me about my relative and listened to what I have to say.

24. Friends/relations have said nasty things about my relative.

25. I have confided in my health/social care worker about my situation.

Appendix E: Stress Factors Questionnaire

ITEMS

The following responses to the 7 items are provided using Yes/No format. Positive responses are summed to create a stress item score (range: 0-7)

Yes or No

1. Do you have long-term conflicts with children?

2. Do you have long-term problems with children?

3. Do you have long-term illness of children?

4. Do you have long-term economic problems?

5. Do you have long-term illness of yourself?

6. Do you have long-term martial problems?

7. Do you have long-term illness of family member?