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Social Support, Substance Use, and Mental Health Services Utilization Among African Americans

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Walden University
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Abstract

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Abstract

Mental illness is more prevalent among African Americans than their Non-Hispanic White counterparts; however, this population is less inclined to receive behavioral treatment. The purpose of this study was to examine the association between perceived social support, substance use, and gender with mental health care services utilization among African Americans. The social ecological model and social support theory grounded this study. The research design was a quantitative cross-sectional analysis of the 2016 Behavioral Risk Factor Surveillance Survey. The sample consisted of 486,3030 African American adults that represented the U.S. population using weighted estimates. The overall logistic regression models for the 3 research questions were significant ($p = .000$). Controlling for sociodemographic factors, logistic regression analyses indicated that receiving emotional and social support predicted (OR=2.294) use of mental health care services in the last 12 months. Similarly, not using substances in the prior 30 days (OR=1.309) and being female (OR=2.562) predicted use of mental health care services in the last 12 months. The findings from this study may be used to increase awareness among mental health providers to refer African Americans to emotional and social support resources. The findings may lead to positive social change through the development of interventions for those who use substances and for men.

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Dedication

Psalms 27:14 – “Wait on the LORD: be of good courage, and he shall strengthen thine heart: wait, I say, on the LORD.”

First, I want to thank my Chair, Dr. Mary Lou Gutierrez and Committee Member, Dr. Manoj Sharma for your guidance throughout my journey. I couldn’t have gone through this process without your guidance. You both challenged me to think critically and helped me realize my potential and for that I’m deeply grateful! I also want to thank Dr. Sanggon Nam, Dr. Michelle Burcin, and Dr. Tammy Root who worked behind the scenes to let me go through this process.

Most important, I want to dedicate this degree and milestone to my deceased parents, Edward Kine-Rabbin Bendu and Elizabeth Sinah Bendu Nee Will who helped instill in me the value of education and spiritually before their passing. I’m sure both of you are both looking down from heaven smiling!!!

Finally, I want to extend special praise and thanks to my support system especially my wife. You always believed in me and encouraged me in good and bad times. I can’t forget to extend thanks to my three children, especially my daughter who stayed up many nights with me to support me proofread and give feedback! The journey was long but I persevered and completed it with dedication throughout the process. All praises to God for helping me stay the course because I know He has great things that are in store for me. To God be the glory!!!

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Section 1: Foundation of the Study and Literature Review

Introduction

A growing number of researchers have addressed the influence of race and gender on mental health care services utilization. However, there is little that researchers know about the association between race and gender on mental health services use among African Americans. African Americans make up 13.3% of the U.S population; however, only one-in-three African Americans who need mental health care receive it (American Psychiatric Association [APA], 2020). Different reasons prevent African Americans from seeking mental health treatment and receiving quality care (Gaston et al., 2016) and **Blacks** with substance use disorders are less likely than their White counterparts to use specialty treatment (Pińedo, 2019). These issues are especially problematic given that deaths attributed to poor mental health and substance use can be preventable in African American communities. Previous researchers focused on the effects of ethnicity/race and gender on perceptions of substance abuse treatment engagement; however, it is still unclear which of the social factors influence treatment engagement within specific racial/ethnic minority groups (Keen et al., 2014; Shim et al., 2017). Among African Americans, it is unclear if poor adherence and dropping out from mental health treatment contribute to unequal mental health outcomes in individuals with serious mental illnesses (Kawaii-Bogue et al., 2017).

Previous studies on race and gender reported that African American men experience internalized and environmental barriers to mental health care access due to race and gender differences (Peeples et al., 2017). However, much of the research

identified common help-seeking patterns and barriers to effective mental health care outcomes (Kawaii-Bogue et al., 2017). Although less research is focused on examining the role and influence of social support and substance use on mental health care services use among African Americans, determining the association between mental health care services use and social support and substance use is an essential gateway to understanding the factors influencing the utilization of mental health care services among African Americans. Measuring the association between perceived social support and substance use with mental health care services use among African Americans is helpful because it explains the importance of social relationships in contributing to health and well-being.

The purpose of this section is to examine the literature on the association between perceived social support and substance use with mental health care services utilization among African Americans. In addition to the literature review, the section includes the problem and purpose of the study; the research questions (RQs) and hypothesis; and overview of the theoretical foundation, nature of the study, and literature search strategy. I also define key terms and discuss the assumptions, scope and delimitations, and significance of the study.

Problem Statement

The rates of mental illness in African Americans are similar with those of the general population; however, disparities exist, specifically regarding the utilization of mental health care services (APA, 2019). African American men specifically are less likely to engage in mental health services use (Keen et al., 2014). Pińedo (2019) reported

that Latinos and Blacks significantly underutilized specialty treatment relative to Whites. In comparison with non-Hispanic Whites, African Americans with mental illness have lower rates of mental health care services use including prescription medications and outpatient services, but higher use of inpatient services (APA, 2019). Shim et al. (2017) examined predictors of mental health treatment engagement and dropout and found that adherence was not affected by individual sociodemographic factors. Yet there is significant evidence that treatment access barriers disproportionately affect African Americans, who also face obstacles in obtaining effective mental health care (Kawaii-Bogue et al., 2017). Turner et al. (2019) found that religious beliefs may influence use of mental health care services by Blacks. According to Hankerson et al. (2015) despite increased awareness, depressed African American men continue to underutilize mental health treatment and have the highest all-cause mortality rates of any racial/ethnic group in the United States as African Americans are significantly more likely to utilize psychiatric emergency services compared with White American.

According to Powell (2019) existing studies of African American men's broad health services use attribute delays and underutilization to fatalism, socioeconomic barriers, limited health knowledge or awareness, sparse social networks, masculinity beliefs, medical mistrust, and perceived racism. Peeples et al. (2017) suggested that personal and social support networks may be linked to perception of the origin of mental illness, which in turn may influence African Americans' decision to seek treatment. At present, it is not known whether gender has an impact on mental health care service use

among African Americans; however, studies demonstrate that gender is not an exclusive reason for lack of treatment (Haavik et al., 2019).

One way to better understand why African American men are less likely to engage with mental health care services use is to learn what personal and social support networks perceive as the origin of mental illness (Peeples et al., 2017). A greater understanding of this concept is important because it may influence African Americans' decision to seek treatment. It is critical that the mental health treatment community have a better understanding of social support networks and etiology beliefs on mental health care services utilization among men with serious mental illness. Hansen et al. (2018) proposed that social support and networks are central in the process of accessing formal services as they commonly influence how and whether treatment is initiated or delayed through the interactions with care systems, health-care providers, and patient treatment expectations that lead to disparities when mismatched. In spite of the inconsistent findings regarding the role of social support in mental health services use, it is important to understand the potential long-term effects of positive and negative forms of socials support on drug use (Cucciare et al., 2016). As Shim et al. (2017) observed, adherence to mental health treatment is not affected by individual sociodemographic factors. A gap in the current literature exists on the influence and impact that perceived social support and substance use may have on mental health care services use among the African American population.

Purpose of the Study

The purpose of the study was to examine the association between perceived social support and substance use with mental health care services utilization among African Americans, controlling for gender, race, age, and socioeconomic status. Although the overall health of all Americans has improved over the past several decades, the racial health gap has remained relatively constant (Assari & Caldwell, 2017; National Center for Health Statistics, 2015). Given the barriers to effective mental health delivery and outcomes, it is critical that the mental health treatment community better understand how social support networks influence mental health care services utilization among African Americans. Since the adherence to mental health treatment engagement and dropout are not affected by individual sociodemographic factors, further research may help to understand gender differences in barriers to treatment within African Americans (Keen et al., 2014). Evidence suggests that African Americans, especially men, have a lower propensity to use health care services for mental illness (Evans et al., 2019), so it is important to learn why is it that African American men are less likely to use mental health services.

I examined the factors influencing utilization of mental health care services for mental illness among African American men. It is documented in the literature that the influence of race and gender on mental health care services utilization is inconclusive while adherence to mental health treatment is not affected by individual sociodemographic factors (Shim et al, 2017). With its conceptualization of gender and race differences and the role of social support networks and socioeconomic status, the

study can be used as a gateway to examine the influence of these factors on health service use among African Americans which may lead to improving mental health service delivery and health outcomes in this population.

Research Questions and Hypotheses

RQ1: Is there an association between perceived social support and mental health care services utilization controlling for race, gender, age, and socioeconomic status.

$H_0$1: There is no association between perceived social support and mental health care services utilization controlling for race, gender, age, and socioeconomic factors.

H_A1: There is an association between perceived social support and mental health care services utilization controlling for race, gender, age, and socioeconomic factors.

RQ2: Is there an association between substance use and mental health care services utilization controlling for race, gender, age, and socioeconomic status.

$H_0$2: There is no association between substance use and mental health care services utilization controlling for race, gender, age, and socioeconomic factors.

H_A2: There is an association between substance use and mental health care services utilization controlling for race, gender, age, and socioeconomic factors.

RQ3: Is there an association between gender and mental health care services utilization controlling for race, age, and socioeconomic status.

$H_0$3: There is no association between gender and mental health care services utilization controlling for race, age, and socioeconomic status.

H_A3: There is an association between gender and mental health care services utilization controlling for race, age, and socioeconomic status.

Theoretical Foundation

I relied on the social support theory, which is a useful theoretical framework to help understand the association between perceived social support and mental health service use. Perceived social support is conceptualized in the study as an element of the social support theory, which seeks to explain how social support influences the use of mental health care services. The social support theory postulates that people who receive emotional and social support are better able to cope in situations of illness or other physical ailments (Lo, 2019). Cassell (1996) theorized, based on his research with animals, that strengthening social support could positively influence the health of humans. Hupcey (1998) identified five categorizes within the major theoretical definitions of the social support theory: (a) social networks, (b) perceptions of support, (c) behaviors of the provider, (d) reciprocal support, and (e) types of support provided. Other researchers who have used the social support theory have focused on the relationships and interactions within those relationships (Feeney & Collins, 2014; Leahy-Waren, 2014). Pantridge et al. (2016) suggested that decades of research on social support has produced a body of literature identifying the four different ways in which this support is provided: (a) informational (information provided to another during a time of stress), (b) instrumental (the provision of tangible goods and services or tangible aid), (c) appraisal (the communication of information which is relevant to self-evaluation rather than problem solving), and (d) emotional support (the provision of caring, empathy, love,

and trust). Well-being is enhanced by involvement in social networks, the perceived availability of help and acceptance by others, and/or the exchange of support in interactions between people (Feeney & Collins, 2014).

The social-ecological model (SEM) adapted from research by Bronfenbrenner's ecological systems theory provides the opportunity to address multiple factors at different levels as they may influence change. Bronfenbrenner's 1979 framework examines the complexities of the interaction between individuals and multiple levels of their environment. These levels include intrapersonal, interpersonal, organizational, community, and public policy that influence health behaviors (Glanz, Rimer & Viswanath, 2015, p.48). The most effective health behavior change occurs at multiple levels (Boucher, 2011). A consensus is emerging that those multilevel consistent with social ecological models are promising approaches in health behavior research and health promotion efforts (Fleury & Lee, 2006). A tenet of the SEM is that people cannot act in isolation and that people are influenced their beliefs and society (internal and external factors).

A social ecological perspective offered a framework for seeing interrelationships and complimented the use of social support theory. I focused on two constructs of SEM, the intrapersonal and interpersonal level. I did so for several reasons. First, change in individuals can occur because of the individual's beliefs, attitudes, perceptions, and knowledge. Prevention strategies at the interpersonal level promote attitudes, beliefs, and behaviors among individuals (Higgins et al., 2009). Second, interpersonal level of the SEM was examined because change in individuals can occur through social influences. In

the study, I examined human behaviors, which are measures at the individual and interpersonal levels (Fleury & Lee, 2006). The levels of the SEM are captured along a continuum from micro to macro levels, and each of the SEM is interrelated. The SEM is useful because it encompasses the multiple levels of influence on health behavior (Bronefenbrenner, 1979). For this reason, the SEM and the social support theory were applicable to examining the factors that influence health care use among African Americans.

Nature of the Study

I used a quantitative cross-sectional research design to examine the factors that influence utilization of mental health care services among the African American population controlling for race, age, gender, and socioeconomic status. In the study, I conducted a secondary analysis to test the hypotheses using a logistic regression analysis. A binary logistic regression analysis was conducted to test the nature of the relationships between the variables and a given outcome. The Pearson's coefficient *(r*) was used to test the strength of the relationship between the variables. In addition to substance use, age, gender, race and socioeconomic status, the influence of perceived social support on mental health care services utilization among African Americans was examined. In the study, I examined whether there is an association between perceived social support, substance use and mental health care services utilization controlling for race, age, gender, and socioeconomic factors.

Literature Search Strategy

I examined the association between perceived social support and substance use with mental health care services utilization among African Americans controlling for gender, race, age, and socioeconomic status. To examine the association between the variables, I searched for research articles from 2015-2020 that had social support and perceived social support as one of the study variables. These articles were selected from the Social Science Citation Index and PsycINFO databases. I also searched the website archives of the *Journal of Community Health*, *Community Mental Health Journal,* and *Health and Mental Health Services*. The search was limited to peer-reviewed scholarly journals using the following search terms: *social support theory and mental health services use, social support, mental health services, African American or African-American or black and disparities or disparity or inequality or inequity, sociocultural, help-seeking behaviors, substance abuse or substance use,* and *drug abuse or drug addiction.* I restricted the search to articles published in the English language. The literature review begins with an overview of the review related to social support and mental health utilization among African Americans as a theoretical framework for the current study. All available resources including librarians and my chair were utilized as well for detail instruction and guidance.

Literature Review Related to Key Concepts

The study of the association of perceived social support and substance use on mental health care services use among African American population is built on the social support theory (Cassel, 1998; Cohen et al., 2000). I review the literature related to social

support theory and mental health utilization due to the important role that social support plays in understanding mental health and substance use problems. Social support has become the focus of research attention in the last three decades. There is evidence that social support plays an important role in mental health or substance use problems such that the lack of social support and feelings of loneliness can make individuals more vulnerable to the onset of mental health or substance use problems like depression (Mental Health.gov, 2019). After a review of the current literature, it is logical and timely to explore the influence of perceived social support on help-seeking patterns and substance use behavior on mental health service utilization among African Americans.

Perceived Social Support

Although some literature has addressed the impact of social support on mental health, there is lack of clarity on the association between perceived social support and mental health services utilization among African Americans. Even though researchers have examined the role of social support and mental health utilization among other population, few have examined the association of perceived social support and mental health utilization among African American individuals solely despite the fact that African Americans make up 13.3% of the United States population (APA, 2019). Social support, according to Pilcher and Bryant (2016), is the collective structure for help or aid from a mixture of relationships such as friends, family, significant others, and acquaintances.

There is little that researchers know about the association between perceived social support and mental health care utilization among African Americans. For example, according to Planey et al. (2019), Black children and adolescents underutilize mental

health services. Mental health services are underutilized in the United States, with only one third of people diagnosed with mental illness receiving any professional treatment (APA, 2019). Researchers suggest that a myriad of factors, including psychological, social, and demographic factors, influence whether someone will seek treatment and to what extent factors further contribute to underutilization of mental health services (Nobiling & Maykrantz, 2017; Picco et al., 2016). Further, the importance of social support and mental health care use makes it a viable factor to explore in this study given the transition of mental health care toward more community-based care (Nobiling & Maykrantz, 2017). Although Linton et al. (2016) indicate that there is a complex interplay between social networks and neighborhood conditions among predominantly low-income African Americans, other researchers report that African American men experience internalized and environmental barriers to mental health care access due to race and gender (Peeples et al., 2017).

Social Support and Mental Health Care Utilization

There is limited research on the association between perceived social support and substance use with mental health care services utilization among African Americans. In African American communities and among individuals with lower socioeconomic background, it is unclear if there is a significant association between the factors influencing utilization of mental health care services for mental illness among African Americans (Keen et al., 2014). Several researchers have suggested that social support and positive social relationships have a beneficial impact on mental and physical health and subjective well-being among older adults (Nguyen et al., 2016), while other researchers

indicate that social support is a relevant component in mental health services use to manage mental health needs (Assari & Caldwell, 2017; Hansen et al., 2018). According to Hansen et al. (2018), positive attitudes in the family and support network increase service use of individuals with need of mental health care.

In order to examine the association between perceived social support and substance use with mental health care services utilization among African Americans, first it is essential that researchers consider racial and ethnic differences and outcomes in mental health services use. The explanation behind the various results and health outcomes is that there are differences in accessing mental health services, adherence to mental health services, and lack of social support (Kawaii-Bogue et al., 2017). Research suggests that with a sense of isolation from systems that offer help, African Americans and other ethnic minority groups are more likely than Whites to report feeling as though they would have received better care if they belonged to a different ethnic/racial group (Kawaii-Bogue et al., 2017).

Research on within-group differences in mental health care service utilization among minority groups in general is scant, but a careful analysis of available data clearly shows that most African Americans bear a disproportionately high burden of disability from mental disorders (APA, 2019). The literature shows that several factors contribute to the racial gap that has remained relatively constant among the African American population. In particular, the literature currently features a gap in knowledge on behavior change among African Americans as substance use and the role of social support have not been studied in terms of mental health care utilization among the African American

population. Although some researchers indicate that African Americans are more likely to seek help from informal and non-specialty sources such as health-care providers for their mental health concerns than non-Hispanic Whites (Hays & Lincoln, 2017), others have reported that misdiagnosis, overutilization of emergency and inpatient care services, isolation and lack of social support, and disempowerment in treatment constitute some of the barriers to effective mental health treatment for this population (Kawaii-Bogue et al., 2017).

Predictors of Mental Health Treatment Engagement and Dropout

Although previous researchers have examined treatment engagement in various populations, researchers have yet to understand the specific factors that predict ongoing engagement, mental health treatment, and utilization of other health care services among individuals with comorbid substance use disorders and serious mental illness (Shim et al., 2017). Some of the factors that have been identified by researchers as factors that predict ongoing engagement and mental services utilization include racism and discrimination, cultural mistrust of health care providers, misdiagnosis, and clinical bias, and use of informal support networks (Hankerson et al., 2015). Other researchers have found that sociodemographic characteristics such as lower income, younger age, and lack of insurance are significantly associated with treatment dropout (Shim et al., 2017). According to Shim et al (2017), alcohol and other substance use disorders have been associated with poor treatment adherence and premature discontinuation of treatment, but few researchers have examined these factors in a predominantly African American sample of individuals with serious mental illnesses.

Social support networks can either facilitate the use of professional services or be a barrier to seeking specialty care such that when African American men do seek help for mental health problems, they are more likely to rely exclusively on informal help (Hankerson et al., 2015). This has implications for clinical practice and ultimately public health (Hankerson et al., 2015). Most research shows that social connections are beneficial for health among older adults, but less is known about how social interactions influence health-care utilization (Brasher & Leedahl, 2018).

Mental Health Attitudes and Beliefs Among African Americans

African Americans seem to display different attitudes and beliefs in relation to their mental health in comparison to the general population. According to the National Alliance on Mental Illness (2020), African Americans experience increasingly serious types of emotional well-being conditions due to neglected necessities and different barriers. Research on the attitudes and beliefs towards mental health services utilization is still being investigated specifically to understand attitudes and belief among Americans on mental health service utilization. Although past research on race/ethnicity and perceived need was shown to be inconclusive in relation to the need for mental health care, some researchers have examined gender and age differences in beliefs, attitudes, and coping in relation to mental health use (Chikovani et al., 2015; Villatoro et al., 2018; Ward et al., 2013). According to Sagar-Ouriaghli et al. (2019), men are less likely to seek help for mental health difficulties in comparison to women while other researchers indicate that a person's belief system could influence health care seeking behavior (Turner et al., 2019). Turner et al. (2019) found that African Americans and Caribbean

Blacks who have stronger religious/spiritual beliefs were more likely to seek mental health care. In terms of the relationship between strength of religious/spiritual beliefs and mental health-care usage among African American and Caribbean Black older adults, the findings indicate that a strong religious/spiritual belief may promote mental health care usage (Turner et al., 2019).

Utilization of Mental Health Care Among African Americans

Although all ethnic/racial groups underutilize mental health services, only about one third of African Americans and Caribbean Blacks in need utilize mental health services (Evans & Sheu, 2019). The lack of information and misunderstanding of mental health in part contribute to the poor uptake of mental health services and prevent African American from seeking treatment and quality care (National Alliance on Mental Illness, 2020). Although researchers indicate that African Americans face significant disparity in terms of mental health disadvantages with respect to financial barriers to health seeking, other researchers suggest that racial/ethnic minority populations also face a constellation of life stressors that may have unique influences on mental illness and how it is perceived, especially whether treatment is needed (Holden & Xanthos, 2009; Villatoro et al., 2018). According to Hays and Lincoln (2017), cultural beliefs about the causes of mental illness, stigma, perceptions of symptom expression, and acceptable responses to mental illness contribute to the poor mental health outcomes of African Americans relative to other racial groups.

Although less is known whether there are unique subpopulations of African Americans that can be defined by their support and services, it is critical that the mental

health treatment community have a better understanding of social support networks and the etiology beliefs on mental health services utilization among African men with serious mental illness (Hays & Lincoln, 2017; Peeples et al. 2017). More studies are needed to elucidate facilitators and barriers to mental health service use and tailor interventions designed to improve the mental health of African Americans (Hays & Lincoln, 2017). Peeples et al. (2017) indicate that one way to better understand how African American men engage with mental health care services is to learn what they and their social support networks perceive as the origin of mental illness, which in turn may influence their decisions to seek treatment.

Definitions

Operational definitions include the following:

African American: As defined by the U.S. Census Bureau (2010), "a person having origins in any of the Black racial groups of Africa" (U.S, Census Bureau, 2010, p.2). The Black racial category includes people who marked the "Black, African Am., or Negro" checkbox. It also includes respondents who selected African American; Sub-Saharan African, such as Kenyan and Nigerian; and Afro-Caribbean entries, such as Haitian and Jamaican (U.S. Census Bureau, 2010).

Blacks: Various populations groups having dark pigmentation of the skin (Merriam-Webster, 2020).

Perceived social support: The perceived availability and exchange of psychosocial and/or physical resources (Cucciare et al., 2016).

Social network: The social relationship that surrounds the individual through which emotional support, information, and services are received (Isreal, 1982)

Social support: The collective structure for help or aid from a mixture of relationships such as friends, family, significant others, and acquaintances (Cohen & Wills, 1985). This help can be in the form of perceived social support, which is the sense of help being available or received (Bolger & Amarel, 2007).

Mental health: Individuals' emotional, psychological, and social well-being (Centers for Disease Control and Prevention [CDC], 2018). According to the CDC (2018), mental health affects how individuals think, feel, and act. It also helps determine how individuals handle stress, relate to others, and make healthy choices. Mental health is important at every stage of life, from childhood and adolescence through adulthood.

Mental illness: All diagnosable mental disorders or health conditions that are characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning (CDC, 2018).

Assumptions

One of the key assumptions applicable with the study is that people who receive social support are capable of better coping in situations of illness or other physical ailments (Lo, 2019). I used secondary data for the study. I assumed that there was no selection bias and that the participants were randomly selected, using the correct statistical method. In addition, I assumed that the participants of the study understood the questions and answered truthfully. More important, I assumed that participant

information was kept confidential such that participants provided information without any fear that their personal information would be shared with others.

Scope and Delimitations

For the study, I focused on the association of perceived social support and substance use on mental health care services use among African American population utilizing national data from the 2016 Behavioral Risk Factor Surveillance System (BRFSS) collected by the CDC. In this study, I tested the associations with the independent and control variables. Social support and substance use were chosen as the key independent variables for the study while sociodemographic variables include age, race, gender, and socioeconomic status. The dependent variables include the number of visits to mental health care services providers in the past 12 months.

Significance

The social change implications of this study relate to its potential to further understanding of behavior change patterns and contribute to a social change movement in mental health care service delivery. Research shows that poor mental health and drug-related deaths are preventable in African American communities (Rich, 2000). The findings from this study support improvement to the mental health care delivery for underserved and vulnerable populations. Improvements in mental health care delivery and understanding of mental health care management may lead to positive social change and improvements in quality of life for the African American population. The introduction of prevention intervention strategies that are evidence based may also help

improve public health practice by reducing the prevalence of mental illness and improving health trends in the African American population.

Summary and Conclusions

There has been a steady decline in the health status of African American communities due to an increase in mortality from substance use and gun violence. Researchers have identified a number of factors as contributing to poor mental health. These include health-seeking behavior; dropout from treatment; low compliance rate; neighborhood and social network characteristics; attitudinal barriers; structural barriers; readiness for change; and differences by gender, race, and ethnicity (D'Orio et al., 2015; Shim et al., 2017; Verissimo & Grella, 2017). In order to understand the declining health status trend in the African American population, there must be a greater understanding of the factors influencing utilization of mental health care. A greater understanding of these factors may contribute to the knowledge base and understanding of substance use and mental health issues among this population. This study may help to fill the research gap in mental health treatment by identifying social barriers to treatment in the African American population. The study may also provide practitioners and policy makers with useful information regarding service needs, programming, and alternative social support resources for this population. This evidence may also inform and complement systematic efforts to provide equitable and effective care to these growing underserved and vulnerable communities.

Section 2: Research Design and Data Collection

Introduction

The purpose of this study was to examine the association between perceived social support and substance use with mental health care services utilization among African Americans controlling for gender, race, age, and socioeconomic status. Analyses are based on a nationally representative sample of U.S. residents taken from the BRFSS. In this section, I provide a detailed description of the nature of the study, the research design and methodology, population, sampling and sampling procedures, threats to validity, and ethical concerns.

Research Design and Rationale

In this quantitative study, I used a cross-sectional research design with a secondary analysis approach. The cross-sectional research design is the ideal research design because the association between the variables can be determined and the prevalence in the outcomes can be estimated (Setia, 2016). I gathered the data for the study from the 2016 BRFSS data set collected by the CDC. The BRFSS includes data collected in all 50 states as well as the District of Columbia and three U.S. territories (CDC, 2019). For the survey, the CDC queried U.S residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services.

Methodology

In the quantitative study, I used survey data to answer the research questions; the answers to the questions provided basis for the findings and conclusions in the study. The CDC conducted the survey using random digit dialing techniques on both landlines and

cell phones (CDC, 2019). According to the CDC (2019), these questions were part of the core sets of questions for 1 year. Questions are evaluated during the year, or soon after the year concludes, to determine their potential value in future surveys. Information about the health of the participants in the survey was used to collect the data for analysis in this study. In this section of the study, I describe the target population, sampling and sampling procedures, sample size and power calculation, variable descriptions, data analysis, instrumentation and operationalization of constructs, threats to validity, and ethical concerns.

Population

The target population for the study included the African American men over 18 years who participated in the 2016 BRFSS conducted by the CDC. In the survey, respondents were asked: *Which one or more of the following would you say is your race?* The study sample was comprised of African American men over 18 years old. The U.S. Census Bureau (2010) defines African Americans as "a person having origins in any of the Black racial groups of Africa**" (p.2**).

Sampling Procedures

The study sample comprised participants who were African Americans men over 18 years old. The CDC collects a nationally representative sample of over 400,000 individuals yearly across 50 states as well as the District of Columbia and three U.S. territories (CDC, 2016). According to the CDC (2016), a sample record is one telephone number in the list of all telephone numbers the system randomly selects for dialing. For this study, I selected only cases that are Africans American men over 18 years of age and

that have complete responses for the nine variables. The 2010 Census showed that the U.S. population on April 1, 2010, was 308.7 million. Out of the total population, 38.9 million people, or 13%, identified as Black alone (U.S. Census Bureau, 2010). According to U.S Census Bureau (2010), the Office of Management and Budgets required federal agencies including the CDC to use a minimum of five race categories: White, Black, or African American, American Indian, or Alaska Native, Asian and Native Hawaiian or Other Pacific Islander. The Black or African American racial category was examined in the study

Sample Size and Power Calculation

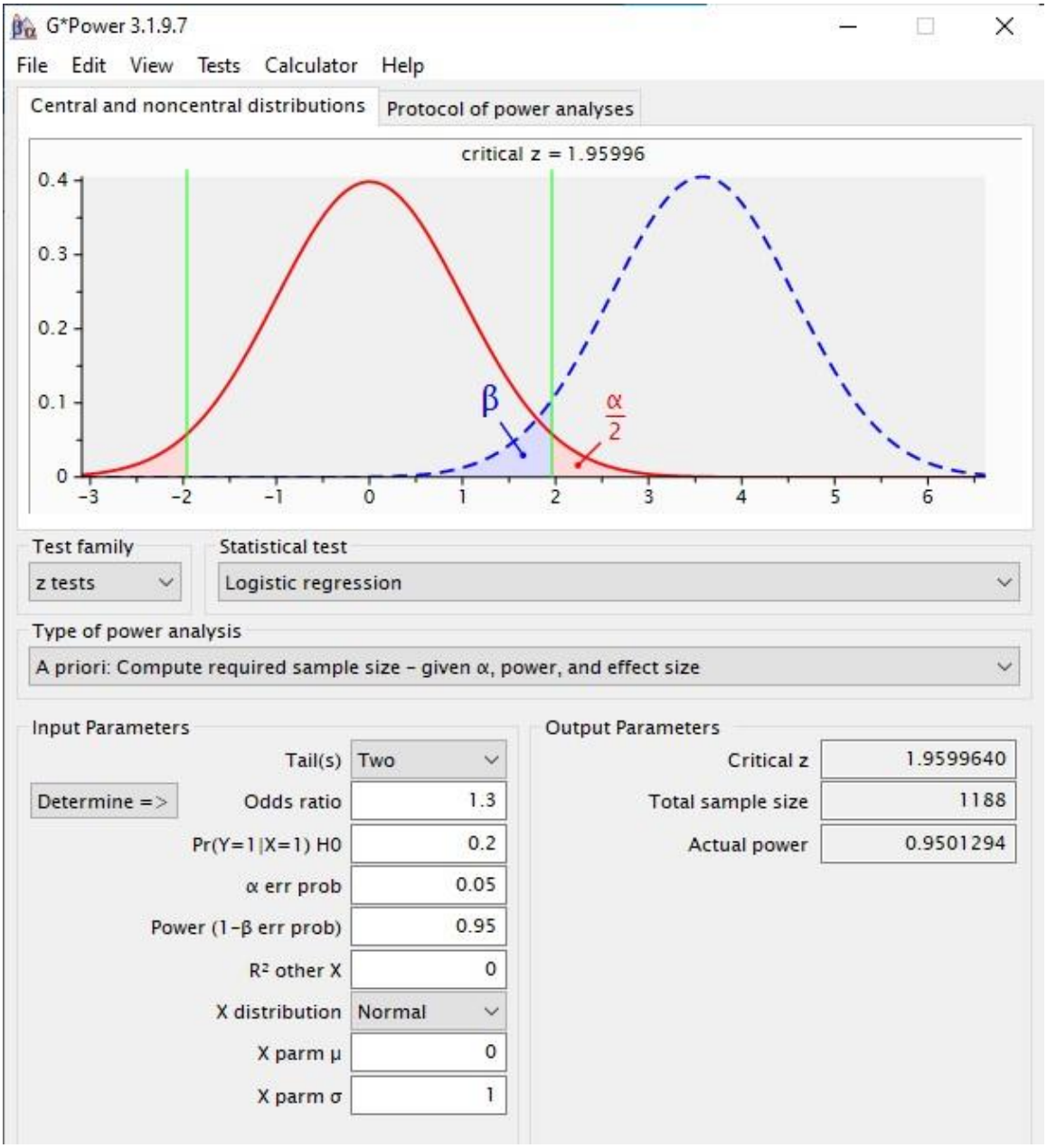
The sample size, which represents the portion of a population selected for research, plays a critical role in research credibility. It is generally accepted that a larger sample sizes are better because a small sample size may not represent the population from which the sample is drawn (Mundfrom et al., 2005). The data for this study consists of secondary data. I used a multivariate statistical analysis to determine the association between the variables; therefore, it was necessary to calculate the minimum sample size with adequate power and effect size for the study. The power size was determined by the size of the sample, alpha level, and effect size. G*Power (Faul et al., 2007) is a stand-alone power analysis program for many statistical tests commonly used in the social, behavioral, and biomedical sciences. In the study, a computer G *Power 3.1.9.7 software was used to calculate the sample size for the study. A power level of 0.80, effect size = 0.02 (for a small effect size), and $p < 0.05$ was used in the study (see Figure 1). The power number of 0.80 was selected for the calculation in the study because it is a

classical level in research (Cohen, 1988). By convention, 80% is an acceptable level of power. This means there is an 80% chance of detecting a difference as statistically significant, if in fact a true difference exists (Cohen, 1992).

To compute a sample size for a logistic regression, some pre-existing knowledge or assumptions about the model were required including that the dependent variable is binary and has a linear relationship (Statistics Solution, 2021). An alpha of 0.05 is the accepted significance level in research (Cohen, 1992). Using the previously described parameters in G*Power, I used a multivariate regression analysis with logistic regression and power of 0.95 to detect a small effect size. The minimum statistical power for the study was met. The G*Power graph of power as a function of the odds ratio is shown in Figure 1.

Figure 1

Sample Size and Power Calculation



Instrumentation and Operationalization of Constructs

The CDC collected the data on the variables for the study using health-related telephone surveys of U.S. residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive (CDC, 2019). The data are available publicly so there was no requirement to seek any permission to use any form of instruments for data collection. However, I sought permission from Walden University's Institutional Review Board (IRB) for analysis. In this quantitative study, the predictor variables were examined for the multivariate model calculations to include social support, marijuana use, age at admission, race, gender, level of education, income, and employment status, which are the nine variables used in the study.

Social Support

I examined the influence of social support on mental health care services utilization in addition to race, age, gender, and socioeconomic status. Perceived social support is a construct of the social support theory **(**Cohen et al., 2000). Social support was one of the key independent variables in the study. Social support is the collective structure for help or aid from a mixture of relationships such as friends, family, significant others, and acquaintances (Cohen & Wills, 1985). Social support frequently refers to the process through which social relationships promote health and well-being. The term "social support" was first coined by Cassel (1976) based on his research with animals; he theorized that strengthening social support could positively influence the health of humans. I measured social support as a binomial variable as shown in Table 1. However, for the purpose of the logistic regression, the model was operationalized as a

categorical variable. The amount of social and emotional support received by the respondents was collected as an ordinal variable; however, the variable was categorized into two levels with the never received emotional and social group used as the reference group. Data for social support in the study were drawn from participants surveys as noted in Model 24, Question 1. In the BRFSS survey, respondents were asked "How often do you get the social and emotional support you need?"

Substance Use

Substance use was another key independent variable in the study. In the study, substance use was characterized as the use of marijuana in the past 30 days. I measured the substance use variable on a scale level as shown in Table 1. Substance use was selected as a predictor variable. Data for substance use in the study were obtained from participant surveys as noted in Model 10, Question 1. In the survey, respondents were asked "During the past 30 days, on how many days have you used marijuana or hashish?"

Control Variables

The control variables selected for the study included race, age, gender, and socioeconomic factors. In the study, I selected the respondent's race as one of the control variables. The data for race were obtained from participants surveys as noted in Section 8, Question 9. In the survey, respondents were asked "Which one or more of the 5 level race or ethnic category would you say is your race?" In the survey, an individual's response to the race question was based upon self-identification. The U.S. Census Bureau collects information on race following the guidance of the U.S. Office of Management and Budget's 1997 Revisions to the Standards for the Classification of Federal Data on

Race and Ethnicity. These federal standards mandate that race and Hispanic origin (ethnicity) be separate and distinct concepts and that when collecting these data via self-identification, two different questions be used (U.S. Census Bureau, 2010).

I selected respondent's age as another control variable. Age was measured on a scale (see Table 1). The data for age were obtained from participants surveys as noted in Section 8, Question 8.3. In the survey, the respondents were asked "What is your age?" In the study, gender was selected as another control variable. The data for gender were obtained from participants surveys as noted in Section 8, Question 8.1. In the survey, respondents were asked "Are you male, female or refused?" In the study, socioeconomic status was determined by the respondent's level of education, income, and employment status. The level of income, income and employment status was measured as an ordinal variable. For level of income as noted in Section 8, Question 23, respondents were asked "What is your income category?" For level of education, respondents were asked "What is your level of education completed?" The respondent's level of education was obtained from Section 8, Question 22. The employment status was measured as an ordinal variable. The respondents were asked about their employment status as noted in Section 8, Question 8.15 of the survey questions.

Mental Health Care Service Utilization

Mental health care services utilization was the main dependent variable in the study. Mental health care service utilization, the main outcome variable, was measured by the number of visits to a doctor, nurse, or other health care professionals in the past 12-month. The number of visits to a health professional in the past 12 -months was

measured as a dichotomous variable (see Table 1). I initially measured the number of visits to the doctor, nurse, or other health care professional within the past 30 days on a continuous scale; however, because there was a high number of missing data for this variable and also because it was difficult to prove normality in the data, I transformed the variable into a binomial variable ("0" for no visits and "1" for one or more visits) to analyze the logistic regression more effectively. The number of doctor visits was measured as a dichotomous variable to determine whether or not respondents used health care services within the past 12 months. Data for the number of visits to doctor, nurse or other health professional within 30 days were used to measure health care utilization which was drawn from Model 4, Question 5 of the BRFSSS survey. In the study, respondents were asked "How many times have you been to a doctor, nurse, or other health professional in the past 12 months?"

The key independent variables tap into dimensions of social support and substance use. Although substance use was measured by marijuana use within 30 days, social support measured how often respondents received emotional and social support. There are a number of constructs and dimensions of the support theory (Pilcher et al., 2016). I selected the emotional support construct for the study. Furthermore, social support and the other variables were examined to determine whether an association existed with mental health care services utilization among African Americans. RQs 1 through 3 were used to measure how each of the variables outlined in the three RQs were associated with the dependent variable, which was health care services utilization among respondents.

For RQ1, I looked at social support to explain the influence on mental health care services utilization among African American men aged 18 years and older. With this question, I did a test for each of the independent variables in the RQ to see if there is a significant association with mental health care services utilization. For RQ2, I looked at substance use to explain the influence on mental health care services utilization among African American men aged 18 years and older. I conducted a test to see if there is a significant association with mental health care services utilization and health care access. For RQ3, I looked at the association between gender and mental health care services utilization among African American men aged18 years and older and socioeconomic status. In the study, socioeconomic status was measured by level of education, income, and employment status.

I used survey responses from this secondary data source to answer the RQs for this study (see Table 1 for operational measures of study variables). CDC researchers use these questions as part of the core survey for 1 year; they evaluate the questions during or soon after the year concludes to determine their potential value in future surveys (CDC, 2019). The key independent variables for the study were social support and substance use; sociodemographic variables included age, race, gender, and socioeconomic status.

Table 1

Description of Operational Independent, Dependent, and Control Measures

Variables	Description	Response category	Level of measurement
Mental health care services use	How many times have you been to a doctor, nurse, or other health professional in the past 12 months?	_ _ Number of times 00 = none	Scale Dependent variable
Social support	How often do you get the social and emotional support you need?	0 = Never received social support 1 = Received social support	Nominal Key independent variable
Substance use	During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage such as beer, wine, a malt beverage, or liquor?	_ _ Days per week _ _ Days in past 30 days 000 = No drinks in past 30 days	Scale Key independent variable
	During the past 30 days, on how many days did you use marijuana or hashish?	_ _ 01-30 Number of days _ _ None _ _ Don't know/Not sure _ _ Refused	Scale Key independent variable

(*table continues*)

Variables	Description	Response category	Level of measurement
Age at Admission	Identifies the client's age at admission. Derived from client's date of birth and date of admission.	_ _Age in years	Continuous
Race	Five-level race/ethnicity category	1.0 = White Only. non-Hispanic 2.0 = Black only, non-Hispanic 3.0 = Other race only, non-Hispanic 4.0 = multiracial, non-Hispanic 5.0 = Hispanic	Nominal
Gender	Identifies the client's gender	1 = Male 2 = Female	Nominal
Level of education	Level of education completed	1 = Did not graduate high school 2 = Graduated high school 3 = Attended college or technical school 4 = Graduated from college or technical school	Ordinal
Income	Income categories	1 = Less than $15,000 2 = $15,000 to less than $25,000 3 = $25,000 to less than $35,000 4 = $35,000 to less than $50,000 5 =$50,000 or more	Ordinal
Employment status	Are you currently…?	1 = Employed 2 = Unemployed 3 = Student	Ordinal

Data Analysis Plan

The statistical analysis performed for this research study was conducted with SPSS software for windows (SPSS Version 27.0). The analytic approach most appropriate for the three RQs in this study was a logistic regression. The data analysis plan in this study helped to answer the RQs for analysis. Demographic questions such as age at admission, gender, level of education, employment status, and income status were identified in the study. The data was collected from the questions which are part of the core for one year and are evaluated during or soon after the year concludes to determine their potential value in future surveys (CDC, 2019). Each of the questions were displayed in a table format to provide description of the operational independent, dependent and control measures. The table displayed the description of the data, names of the data sets, and the variable names of the final weight. In the study, a logistic regression analysis was utilized to model the relationship between a single dependent variable and one or more predictors. In the study, a test for correlation between the predictor variables or independent variables was conducted.

Correlation analyses is a statistical method used to measure the linear association between two continuous variables (Asuero, Sayago, & González, 2006; Lodico et al., 2010). Correlational research is a non-experimental methodology that measures the strength and direction of relationship or correlational coefficient between two or more variables. A correlation coefficient measures the strength of that relationship. Four things must be reported to describe a relationship: 1) The strength of the relationship given by the correlation coefficient. 2) The direction of the relationship, which can be positive or

negative based on the sign of the correlation coefficient. 3) The shape of the relationship, which must always be linear to compute a Pearson correlation coefficient. 4) Whether or not the relationship is statistically significant, which is based on the p-value (Moore, Notz, & Flinger, 2013). In the study, a p value < 0.05 was considered statistically significant and the null hypotheses was rejected if p < .05 (Shim, el al, 2017).

Calculating a Pearson correlation coefficient requires the assumption that the relationship between the two variables is linear and the relationship between two variables is generally considered strong when their r value is larger than 0.7 (Moore, Notz, & Flinger, 2013). A correlation coefficient measures the strength of the relation. Pearson's coefficient *(r*), Spearman's rho coefficient (r_s), and Kendall's tau coefficient (τ) are the three most popular measures of the correlation coefficient (Hauke & Kossowski, 2011). The Pearson's coefficient *(r*) and Spearman's rho coefficient (r_s) are widely used in social research with Pearson's coefficient *(r*) being prevalent. Pearson's coefficient *(r*) is used with continuous variables having samples sizes of thirty (30) and above while Spearman's rho coefficient (r_s) is used for small samples or ranked data (Lodico et al., 2010). Although both Pearson's coefficient *(r*) and Spearman's rho coefficient (r_s) measure correlation, Pearson's coefficient *(r*) is used to measure the degree of linearity while Spearman's rho coefficient measures their degree of monotonicity (de Winter, Joost, Gosling, & Potter, 2016).

Pearson's coefficient (r) is the most popular parametric correlation test (Hauke & Kossowski, 2011). Pearson *r* correlation makes several assumptions including linearity of the relationship between variables, normal distribution of the variable, the level of

measurement, the absence of outliers, related pairs, and homoscedasticity (Allen, 2017; Hauke & Kossowski, 2011). Pearson *r* correlation assumes that related pairs of variables are normal distribution and the relationship between the variable is a straight line. Pearson *r* correlation also assumes the absence of outliers and equal variance or homoscedasticity. The level of measurement in Pearson *r* correlation should be continuous using interval or ratio scale data.

Data Management

Data for the study data was aggregated for each variable such that respondent data were weighted. The 2016 BRFSS data sets include data that respondents provided by landline telephone or cellular telephone. According to CDC (2019) potential bias resulting from selection probabilities and noncoverage among segments of the population can be reduced through weighting. In the study, I provided a description of the level of potential benefits in the data management because the level of risks and the level of benefits was ultimately weighed by the IRB before approval of the data analysis plan.

Descriptive Analysis

Descriptive analytical statistic was utilized to interpret the data. The descriptive statistical analysis included the use of frequency distributions or means and standard deviations of the key study variables. The data was displayed using a histogram or bar chart to illustrate the proportions. A scatterplot was also used to display the relationship between the variables. The values of one variable appear on the horizontal axis, and the values of the other variable appear on the vertical axis. Each individual in the data appeared as a point on the graph.

Multivariate Analysis

A binary logistic regression analysis was used to analyze the relationship between the independent and dependent variables. In the multivariate analysis, a binary logistic regression analysis was the appropriate test to run the multivariate analysis to predict the relationship between predictors (independent variables) and a predicted variable (dependent variable) where the dependent variable is binary (Sperandei, 2014). The predictor variables include substance use, race, gender, age, and socioeconomic factors. The dependent variable is the number of visits to doctor, nurse, or other health care professional in the past 12 months. This variable was measured as a dichotomous variable.

Research Questions and Hypotheses

Research Question 1. Is there an association between perceived social support and mental health care services utilization controlling for race, gender, age, and socioeconomic status?

$H_0$1: There is no association between perceived social support and mental health care services utilization controlling for race, gender, age, and socioeconomic factors.

H_A1: There is an association between perceived social support and mental health care services utilization controlling for race, gender, age, and socioeconomic factors.

***Statistical Plan*.** To investigate the RQ, I conducted a simple logistic regression analysis. The predictor variables included perceived social support, substance use, race,

gender, age, and socioeconomic factors. The dependent variable was the number of visits to doctor, nurse, or other health care professional in the past 12 months.

Research Question 2. Is there an association between substance use and mental health care services utilization controlling for race, gender, ager, and socioeconomic status?

$H_0$2: There is no association between substance use and mental health care services utilization controlling for race, gender, age, and socioeconomic factors.

H_A2: There is an association between substance use and mental health care services utilization controlling for race, gender, age, and socioeconomic factors.

***Statistical Plan*.** To investigate the RQ, I conducted a simple logistic regression analysis. The predictor variables included substance use, race, gender, age, and socioeconomic factors. The dependent variable was the number of visits to mental health care services providers in the past 12 months.

Research Question 3. Is there an association between gender and mental health care services utilization controlling for race, age, and socioeconomic status?

$H_0$3: There is no association between gender and mental health care services utilization controlling for race, age, and socioeconomic status.

H_A3: There is an association between gender and mental health care services utilization controlling for race, age, and socioeconomic status.

***Statistical Plan*.** To investigate the RQ, a simple logistic regression analysis was conducted. The predictor variables include gender, substance use, race, age, and

socioeconomic factors. The dependent variable is the number of visits to a doctor, nurse, or other mental health care professional in the past 12 months.

There were assumptions met to ensure the accuracy of statistical findings of logistic regression analysis. In particular, the assumptions are different from those of multiple linear regression analysis in some areas (McDonald, 2014; Sperandei, 2014). The assumptions of a logistic regression include correct specification of the logistic regression model, specified absence of multicollinearity absence, inclusion of all relevant predictors, and large sample size (McDonald, 2014; Pituch & Stevens, 2016; Sperandei, 2014). When conducting a logistic regression analysis, a linear relationship between the dependent and independent variables is not required as well as residuals are not required to be normally distributed; there is no requirement for homoscedasticity (McDonald, 2014; Sperandei, 2014).

Threats to Validity

Validity is the degree to which a survey item and its response alternatives measure the phenomenon they are supposed to measure (Crosby, DiClemente, & Salazar, 2006). Given there are two main types of validity, internal and external validity, this study addressed both types of validity. The internal validity of a study is the extent to which clear, accurate conclusions can be derived from the study and the external validity is the extent to which the result of the study can be generalized to a specific population or other populations beyond those involved in the study (Crosby et al, 2006).

Ethical Procedures

The ethical considerations were extensive and part of the ethical procedures. The ethical considerations occurred prior to conducting the study from the beginning of the study, collecting the data, analyzing the data, and reporting the data. Most important in relation to the ethical procedures is that the data analysis plan was reviewed by an IRB to assess the potential for risk to the participants. To proceed with the study, an application was submitted to the IRB to allow reviewers to review the extent to which participants were placed at risk during the study. Ethical reviewers confirmed compliance with each ethical standards and procedures.

Summary

The purpose of the study was to examine the association between perceived social support and substance use with mental health care services utilization among African Americans controlling for gender, race, age, and socioeconomic status. The study research design and specifics of the methodology were discussed including the variables that operationalize the theoretical constructs and the data analyses plans to test the hypotheses will consist of logistic regression analyses.

Section 3: Presentation of the Results and Findings

Introduction

The purpose of this study was to examine the association between perceived social support and substance use with mental health care services utilization among African Americans controlling for gender, race, age, and socioeconomic status. Each research question was designed to determine these associations. In this section, I describe the weighted characteristics of the sample and present the results of the hypothesis testing. A complex logistic regression was used to analyze the relationship between the predictor variables of social support, substance use, gender, race, age, and socioeconomic status and mental health care utilization.

The section is divided into three parts: description of data management and missing data; descriptive analysis and descriptive characteristic of the study population including the frequency distribution by demographic characteristics and bivariate analyses by mental health care use status; and assumptions and associated hypotheses. I tested three sets of hypotheses using a binary logistic regression analysis. The hypotheses for Research Questions 1-3 were tested using complex logistic regression controlling for socioeconomic and demographic variables to evaluate if there was a relationship between perceived social support and substance use with health care services utilization among African Americans.

Accessing the Data Set for Secondary Analysis

I used secondary data collected from a U.S. survey of randomly selected individuals from the population (CDC, 2017). All statistical analysis as well as cleaning

of data and constructing variables, which included examination of outliers and missing data analysis, was done initially. To ready the raw data for analysis, I imported the data from the SAS format on the CDC website into SPSS and opened a new data file. To answer the RQs, data for some of the variables initially collected in the survey were transformed and recoded into new variables, including mental health care use and social support, substance use, and sociodemographic variables.

Using the data collection tool that was identified in Section 2, I pulled a total 486303 cases that met one or more of my inclusion criteria from the data set. Scores for the variables of interest (health care service use, perceived social support, substance use, and the sociodemographic variable) were computed and the data screened for normality. A frequency distribution and descriptive statistics bar chart and box plot of variables were used to examine normality in the data set. All study-related procedures and collection of secondary data performed for the purposes of the presented secondary data analysis were in accordance with the ethical standards of the IRB.

Data and Variable Derivation

To derive the data for the study, I transformed and recoded some of the variables into fewer categories relative to the RQs, hypotheses, statistical plan, and the number of responses in each category. These changes were reflected in the table of operational measures (see Table 1). Starting with the number of visits to doctor, nurse, or other health care services professional in the past 12 months, the variable was recoded into one binary variable with “0” for zero or no visit and “1” for 1 or more visits to the doctor, nurse, or other health care service professional within the past 12 months. After recoding the

doctor visit variable into a new variable, I conducted a statistic analysis including a bar chart and box plot of doctor visits to examine normality in the data set from the output. The social support variable, which measured how often respondents received social and emotional support, was recoded into a nominal scale level with “1” for never and “2” for all other levels (rarely, sometimes, usually, and always) of social support received.

Management of Missing Data

In the data set, there were missing data (N = 1,950, 3.9%) for the dependent variable health care status use for respondents, which measured the number of visits with doctor, nurse, or other health care professional within the past 12 months. The missing data for the dependent and independent variables were not included in the data analysis to ensure validity of variables and accurate results in the study analysis. There was a large amount of missing data due to an earlier lead question in the survey that directed respondents to answer yes/no to the question such that the "no's" may be branching off past the doctor office visit within the past 12 months and that could be why the missing are so high. The distribution of the health insurance access was traced with the doctor visits as illustrated in the health insurance coverage demographic characteristics of the study sample (see Table 2). According to the data analyzed, there were 2,122 (80.8%) respondents who had 1+ visit < 12 months and 395 (15.0%) who did not have a visit (no visits) among the respondents who had health insurance. In comparison with respondents who did not have health insurance, there were 44,060 (88.3%) respondents who had one or more visits within the last 12 months and 3,861 (7.7%) who did not have a visit (no

visits) among the respondents. Table 2 displays the distribution of the health insurance access as reported in a previous question of the survey utilized for the study.

Table 2

Health Insurance Coverage Demographic Characteristics of Study Sample

Doctor visits within the past 12 months	Has health insurance coverage *N*	%	No health insurance coverage *N*	%
No visit	395	15.0	3,861	7.7
1 or more visits	2,122	80.8	44,060	88.3
Subtotal	2,517	95.8	47,921	96.1
Missing	110	4.2	1,950	3.9
Total *N*	2,627	100.0	49,871	100.0

Note. The data are from the BRFSS 2016 data set. The data set includes adults aged 18 and older (*N* = 486,303).

Management of missing data in the study also included recoding the social support variable to report the data while recoding the variable as dichotomous variable. Substance use status, another key independent variable, was also recoded as a dichotomous variable. I measured this variable on a nominal scale with two categories for the number of days of marijuana use within 30 days, which were classified as “1” for number of days of use between 1-30 days and “0” for no use in 30 days. There were 355 respondents who refused to respond to marijuana use within the past 30 days. In addition to the health-care service use variable, social support, and substance use variables, the questionnaire covered sociodemographic information. I recoded the dependent and independent variables and sociodemographic variables to remove the missing data in the analysis.

Descriptive Characteristics of the Study Population

I conducted a univariate and bivariate analyses to describe the study population. The final sample consisted of 486,303 adults from a randomly selected population in the United States. Descriptive statistics were calculated for the dependent and independent variables. The weighted and unweighted frequencies are presented in Table 3. The respondents' age ranged from 18-65 years with a mean age of 3.68 (*SD* = 1.691). The age variable had enough data to be included in the analysis. More than half of the respondents were women (51.4%), and more than a fifth (20.1%) of respondents were 65 years or older. More than half (61.9%) were White only, non-Hispanic, who represented the highest racial group in the survey. In comparison to other racial groups, Black, non-Hispanic individuals under participated in the survey representing a little over one fifth (12.0%) of the respondents. In the survey, more than a third (36.5%) of the respondents graduated from college or technical education, and more than half (56.5 %) of the respondents were employed while fewer respondents reported as students (5.7%). A greater proportion (63.8%) of the respondents reported making an income of $50,000 or more.

Table 3

Unweighted and Weighted Demographic Characteristics of Study Sample

Characteristic	Unweighted frequency	Unweighted percentage	Weighted percentage
Doctor visits within the past 12 months			
0 visit	5,475	1.2	1.4
1+ more visits	48,411	10.7	10.3
Emotional social support			
Never received support	1,408	0.3	0.3
Received support	27,508	6.1	4.5
Marijuana use			
1-30 30 days	5,280	1.2	1.2
No use within 30 days	96,612	21.4	14.2
Age			
18 to 24	24,578	5.5	12.6
25 to 34	44,687	9.9	17.4
35 to 44	50,650	11.2	16.3
45 to 54	71,637	15.9	16.9
55 to 64	99,629	22.0	16.7
65 or older	160,691	35.6	20.1
Race			
White only, non-Hispanic	345,452	76.4	61.9
Black only, non-Hispanic	37,984	8.4	12.0
Other race only, Non-Hispanic	19,356	4.3	6.7
Multiracial, non-Hispanic	8,766	1.9	1.4
Hispanic	32,111	7.1	16.0
Gender			
Male	195,538	41.3	48.6
Female	256,268	56.7	51.4
Level of education			
Did not graduate high school	34,494	7.6	13.9
Graduated high school	126,680	28.0	28.0
Attended college or technical school	124,106	27.5	30.9
Graduated from college or technical school	164,948	36.5	26.8

(*table continues*)

Characteristic	Unweighted frequency	Unweighted percentage	Weighted percentage
Income			
Less than $15,000	37,318	8.3	2.8
$15,000 to less than $25,000	63,327	14.0	9.1
$25,000 to less than $35,000	40,869	9.0	8.8
$35,000 to less than $50,000	54,391	12.0	15.5
$50,000 or more	180,086	39.9	63.8
Employment status			
Employed	221,106	48.9	56.5
Unemployed	215,441	47.7	29.7
Student	11,534	2.6	5.7

Note. Data are from the 2016 BRFSS data set. The data set includes adults aged 18 and older (N = 486,303).

Demographic Characteristics by Health Care Use Status

The dependent variable of mental health care use was a binary response variable. Respondent's response on the amount of emotional or social support received was assessed with mental health care use status. I assessed the number of visits to doctor, nurse, or other health care professional to examine mental health care service utilization among African Americans. The mean number of doctor visit of the respondents studied was 0.8774 (*SD* = 0.32798) with a minimum value of 0.0 (1.4%) and maximum value of 1.0 (10.3%). The number of doctor visits was measured as dichotomous variable indicating whether respondents utilized health care services within the past 12 months. For the descriptive analysis, two categories were used for the number of visits to the doctor, nurse, or other health care professional, which were classified as "0" for no visits and "1" for 1 or more visits.

The mean number of social and emotional support received by respondents of the population studied was .9449 (*SD* = .22824) with a minimum value of 1.0 and maximum value of 5.0. For social and emotional support received by respondent, the variable was initially measured as an ordinal scale with five categories for the amount of social or emotional support respondents received, which were classified as "1" for never, "2" for rarely, "3" for sometimes, "4" for usually, and "5" for always. In the analysis, respondents who received any level of emotional and social support (responses included always, usually, sometimes, and rarely) were compared with those who never received emotional and support. The substance use variable was measured on a nominal scale. The

number of days of marijuana use within 30 days were classified as “1” for number of days of use in 30 days and “0” for no use in 30 days.

I conducted a bivariate analysis with health care use as the dependent or outcome variable to identify potential associations among the independent or predictor variables and covariates. Female respondents reported a higher health care use status (47.3%) in comparison to males (40.0%) while more Whites, non-Hispanic (63.4%) reported meeting with a doctor, nurse, or other health care professional one or more times within the past 12 months. Respondents who received emotional and social support (84.1%) and those who had a visit with a doctor, nurse, or other health care professional within the past 12 months were more than respondents who reported never receiving emotional and social support (3.3%) and meeting with a doctor, nurse, or other health care professional during this time frame. Respondents with an income of $50,000 and more (42.0%) reported meeting the most with a doctor, nurse, or other health care professional meeting in comparison to those with an income of $50,000 or less. Respondents with an income of less than $15,000 were less likely to meet with a doctor, nurse, or other health care professional within the past 12 months (8.8%). Respondents who graduated high school were more likely to meet with a doctor, nurse, or other health care professional within the past 12 months. Key findings from the bivariate analysis were statistically significant at $p < .05$.

Goodness of Fit Test. I examined the association between demographic variables and health care services use using Pearson’s $\chi 2$ analysis. Also referred to the goodness of fit test, the $\chi 2$ test can be used to test for independence in a relationship (Frankfort-

Nachmias et al., 2015). Chi-square is used to examine the statistical relationship between two categorical variables (Sullivan, 2012). All key independent variables and demographic factors were statistically significant (p = .000) with mental health care use.

Table 4

Distribution of Demographics by Health Care Use Status

Characteristic	No visit (%)	1 or more visits (%)	Chi-square	*p*-value
Social and emotional support			30623.077	0.00
Never received support	1.0	3.3		
Received support	11.6	84.1		
Marijuana use			3248.741	0.000
1-30 number of days	1.1	5.4		
No use within 30 days	12.4	81.1		
Gender			597920.618	0.000
Male	8.4	40.4		
Female	3.9	47.3		
Age			679372.205	0.000
18 to 24	1.9	9.9		
25 to 34	2.9	12.9		
35 to 44	2.7	13.3		
45 to 54	2.4	15.3		
55 to 64	1.6	16.3		
65 or older	0.9	20.0		
Race			251771.578	.000
White only, non-Hispanic	7.6	63.2		
Black only, non-Hispanic	2.0	14.5		
Other race only, non-Hispanic	0.8	3.1		
Multiracial, non-Hispanic	0.1	0.9		
Hispanic	1.6	6.0		
Level of education			325204.532	.000
Did not graduate high school	2.7	10.7		
Graduated high school	4.3	28.0		
Attended college or technical school	3.0	26.4		
Graduated from college or technical school	2.2	22.7		
Income			37257.318	.000
Less than $15,000	1.4	8.8		
$15,000 to less than $25,000	2.4	15.6		
$25,000 to less than $35,000	1.4	9.0		
$35,000 to less than $50,000	1.8	12.5		
$50,000 or more	5.1	42.0		

(*table continues*)

Characteristic	No visit (%)	1 or more visits (%)	Chi-square	*p*-value
Employment status			326899.238	0.000
Employed	8.6	48.3		
Unemployed	3.0	35.0		
Student	0.5	4.6		

Note. The data are from the 2016 BRFSS data set. The data set includes adults aged 18 and older (*N* = 486,303).

Social Support by Mental Health Care Use Status

The association between the different categories of emotional and social support received by respondents and mental health care use was examined by Pearson's $\chi 2$ (See Table 4). A significant association was observed between respondents in all categories who received emotional and social support (p = .000) and health care use status. Respondents who reported receiving emotional and social support met with a doctor, nurse, and other health care professional more frequently (84.1%) in comparison to respondents who never received emotional and social support (3.3%). More respondents reported receiving emotional and social support (84.1%) and meeting with a doctor, nurse, or other health care professional within 12 months than respondents who reported never receiving emotional and social support (3.3%) and meeting with a doctor, nurse, or other health care professional within 12 months.

Race by Health Care Status Use

The association between the different racial group categories among respondents and health care use was examined by Pearson's $\chi 2$ (See Table 4). A significant association (p = .000) was observed between respondents in all racial categories and health care use. Among the respondents in the different racial groups, White only, Non-

Hispanic reported a higher frequency (63.4%) of meeting with a doctor, nurse, or other health care professional in comparison to those who did not meet with a doctor, nurse, or other health care professional (7.6%). Blacks only, Non-Hispanic also reported a higher frequency of meeting with a doctor, nurse, or other health care professional (14.5%) in comparison to those who did not (2.0%). Similarly, all the other racial categories examined reported a higher frequency of meeting with a doctor, nurse, or other health care professional in comparison to those who did not meet with a doctor, nurse, or other health care professional.

Substance Use by Mental Health Care Status Use

The association between substance use among respondents and mental health care use was examined by Pearson's $\chi 2$ (See Table 4). A significant association ($p = 0.000$) was observed between substance use and health care use. Respondents who reported meeting with a doctor, nurse or other health care professional reported a higher frequency in both categories of substance use in comparison to those who did not meet with a doctors, nurse, or other health care professional. Respondents who reported no use of marijuana reported a higher frequency (81.1%) of meeting with a doctor, nurse, or other health care professional in comparison to those who did not meet with a doctor, nurse, or other health care professional (12.4%).

Multivariate Logistic Regression Analyses

I analyzed data using SPSS version 27.0 software. To answer the research questions, a logistic regression was conducted with the health care services use as the dependent variable and perceived social support, substance use, and gender as the

predictor variables to determine the likelihood of significance. The dependent variable was a binomial variable. A Pearson's $\chi 2$ test showed statistical significance in the mental health utilization among the three independent variables.

In order to determine whether there were differences in the utilization of mental health services by each of the predictor variables (social support received, substance use, and gender) among African American, bivariate analysis were performed to determine the likelihood of significance. Previous studies used this method to test correlations between the variables as the significance levels were comparable to those presented in this study (Evans et al., 2019 & Williams, 2014).

Assumptions and Hypothesis Testing

A simple logistic regression analysis was used to predict the categorical dependent variable given one or more independent variables. This test is appropriate for this model analysis because there is no need for a linear relationship between the dependent and independent variable (Sperandei, 2014; Evans et al, 2019). A nonparametric statistic was appropriate for this analysis as mental health care use was transformed into a binomial variable and not a continuous variable. Assumptions associated with logistic regression such as the correct specification of the logistic regression model, the inclusion of all relevant predictors, large sample size, and absence of multicollinearity were met (McDonald, 2014; Pituch & Stevens, 2016; Sperandei, 2014). Multicollinearity generally occurs when there are high correlations between two or more predictor variables (Statistics How To, 2021). As with other types of regression, there should not be collinearity between the independent variables and homoscedasticity

is not a concern. The absence of multicollinearity in the analysis was necessary and appropriate as multicollinearity can adversely affect the regression results.

To effectively carry out the analysis, a two-step complex simple logistic regression analysis was conducted to answer each research question (Sperandei, 2014). The first step in the analysis was a model to investigate the relationship between the main predictor variables and the dependent variable of mental health care use where this model served as the beginning model of goodness of fit (Sperandei, 2014). Once a significant association was established between the main predictor variable and the dependent variable of mental health care use, the predictor variables of age, gender, level of education, level of income and employment status were then included in the analysis in the second step. The second step was a full model to determine the strength of the effect of multiple independent variables (main independent variables and covariates) on the dependent variable (Sperandei, 2014).

Research Questions and Hypotheses

Research Question 1. This question assessed whether there is significant association between perceived social support and mental health care services utilization. To answer the research question, mental health care use was the outcome of interest to determine whether there is an association between perceived social support and mental health care services utilization. The predictor variables were perceived social support, age, gender, with level of education, level of income, and employment status as confounding variables.

A multivariate logistic regression was performed to ascertain the effects of social support, age, gender, level of education, level of income, and employment status on the likelihood that respondents met with a doctor, nurse, or other health care professional within 12 months to address mental health needs. As illustrated in Table 5, the overall model resulted the emotional or social support received was significant (p= .000). Social support made a statistically significant contribution to the model. The null hypothesis was rejected at p = .000. The estimated odds ratio (OR = 2.294; CI, [2.271, 2.317]) favored a positive relation with never receiving emotional or social support as the reference group. In the model, the odds of respondents receiving emotional and social support was 2.294 times more likely to receive health care services compared to respondents who never received emotional and social support. Table 5 displays the results of the reduced and full model for the logistic regression for the association between perceived social support and mental health care use among respondents.

Table 5

Complex Samples Logistic Regression for Association Between Social Support and Mental Health Care Status Use

Step	Variable	B	SE	Wald x^2	Sig	OR	95% CI for OR Lower	Upper
	Social support							
1	Never received*							
	Received social support	.830	.005	26069.092	.000	2.294	2.271	2.317
2	Gender	.842	.003	86315.828	.000	2.322	2.309	2.335
	Imputed age group	.159	.001	31715.036	.000	1.173	1.171	1.175
	Level of education	.055	.002	1316.458	.000	1.056	1.053	1.060
	Employment status	.704	.003	55915.815	.000	2.021	2.010	2.033
	Racial category	-.043	.001	991.459	.000	0.958	0.955	0.960
	Level of income	.076	.001	4879.374	.000	1.072	1.077	1.081
	Constant	-1.823	.010	34450.201	.000	0.162		

Note. Data are from the 2016 BRFSS data set. The data set includes adults aged 18 and older (N = 16,030).
* Never received social support is the reference group. Received social support includes the following options: always, usually, sometimes, and rarely.

Research Question 2. This question assessed whether there is significant association between substance use and mental health care services utilization. To answer the research question, mental health care use was the outcome of interest to determine whether there is an association between substance use and mental health care services utilization. The possible predictor variables were substance use, age, gender, level of education, level of income, and employment status. A multivariate logistic regression was performed to ascertain the effects of substance use age, gender, level of education, level

of income, and employment status on the likelihood that respondents met with a doctor, nurse, or other health care professional within 12 months to address mental health needs.

As illustrated in Table 6, the overall model resulted that substance use was significant (p= .000). The null hypothesis was rejected at p=.000. Substance use made a statistically significant contribution to the model. Substance use was a predictor of health care service use. The estimated odds ratio (OR =1.309; CI, [1.293, 1.325]) in this model favored a positive relation with substance use for 1-30 days as the reference group. In the model, the odds of respondents identified as not using substances was 1.309 times more likely to receive health care services in comparison with respondents who used substances. Respondents who did not use substances were 1.309 times more likely to meet with a doctor, nurse, or other health care professional within 12 months in comparison to those who used substances (95% CI, [1.293, 1.325], $p = .000$). Table 6 displays the results of the reduced and full model for the logistic regression for the association between substance use and mental health care use status in African Americans.

Table 6

Complex Samples Logistic Regression for Association Between Substance Use and Mental Health Care Status Use

Step	Variable	B	SE	Wald x^2	Sig	OR	95% CI for OR Lower	Upper
1	Substance use							
	1-30 days*							
	No use	.269	.006	1903.991	.000	1.309	1.293	1.325
2	Gender	.867	.004	56693.133	.000	2.381	2.364	2.398
	Imputed age group	.154	.001	18248.299	.000	1.166	1.163	1.169
	Level of education	.167	.002	7261.817	.000	1.181	1.177	1.186
	Employment status	.659	.004	30450.193	.000	1.932	1.918	1.946
	Racial category	-.130	.002	6510.955	.000	.878	.876	.881
	Level of income	.060	.001	1719.107	.000	1.062	1.059	1.065
	Constant	-1.221	.012	9865.933	.000	.295		

Note. Data are from the 2016 BRFSS data set. The data set includes adults aged 18 and older (N = 12,706).
* Substance use 1-30 days is the reference group.

Research Question 3. This research question assessed whether there is significant association between gender and mental health care services utilization. To answer the research question, mental health care use was the outcome of interest to determine whether there is an association between gender and mental health care services utilization. The possible predictor variables were gender, age, level of education, level of income, employment status, and race. A multivariate logistic regression was performed to ascertain the effects of gender, level of education, level of income, employment status,

and race on the likelihood that respondents met with a doctor, nurse, or other health care professional within 12 months to address mental health needs.

As illustrated in Table 7, the overall model indicated that gender was significant (p= .000). The null hypothesis was rejected at p = .000. Gender made a statistically significant contribution to the model. The variable gender was a predictor of health care service use. The estimated odds ratio (OR = 2.562; CI, [2.555, 2.569]) favored a positive relationship at $p < .05$. The odds of female respondent receiving health care service from doctor, nurse or other health care professional within the past 12 months was 2.562 times more likely to occur in comparison to males while controlling for race, gender, age, and socioeconomic status (95% CI, [2.555, 2.569], $p = .000$). Table 7 displays the results of the comparison and reduced models for the logistic regression for the association between sex and mental health care use status in African Americans.

Table 7

Complex Samples Logistic Regression for Association Between Gender and Mental Health Care Status Use

							95% CI for OR	
Step	Variable	B	SE	Wald x^2	Sig	OR	Lower	Upper
1	Gender							
	Male*							
	Female	.941	.001	475241.206	.000	2.562	2.555	2.569
2	Imputed age group	.248	.000	340780.959	.000	1.281	1.280	1.283
	Level of education	.279	.001	142637.329	.000	1.321	1.319	1.323
	Employment status	.460	.001	131333.587	.000	1.585	1.581	1.589
	Racial category	-.089	.001	28820.102	.000	.915	.914	.916
	Level of income	.066	.001	16058.416	.000	1.068	1.067	1.069
	Constant	-.687	.004	35001.376	.000	.503		

Note. The 2016 BRFSS data set includes adults aged 18 and older. *N* = 44,718.
* Male is the reference group.

Summary

There were three two-step complex samples logistic regression (reduced and full models) conducted to address the three research questions. The null hypotheses for all three research questions were rejected because of the main predictor variables of emotional and social support received, substance use and sex respectively were significant. The overall models in the analysis were significant (p = .000). Covariates of age, race, level of education, income, level of education were also statistically significant in all the models. There is evidence that the amount of emotional and social received, substance use and gender were associated with health care utilization. In the next section,

I will discuss the implications of the results relative to similar studies or publications. There will also be discussions on recommendations for the professional practice among public health professionals, public mental health community, advocates, policy makers, and clinicians, which should result in a positive social change with the reduction of mental and socioeconomic burdens of substance use and mental health issues in Blacks/African Americans.

Section 4: Application to Professional Practice and Implications for Social Change

Introduction

The purpose of this study was to examine the association between perceived social support and substance use with health care services utilization among African Americans controlling for gender, race, age, and socioeconomic status. The results of the present study are consistent with previous literature on social support, substance use, and health care service utilization (e.g., Hansen et al., 2018). I anticipated that there would be an association between perceived social support and substance use with mental health care services utilization among African Americans. This hypothesis was based on the findings of other studies that demonstrated that Blacks significantly underutilized specialty treatment relative to Whites (Pinedo, 2019). The section is divided in four parts: interpretation of findings, limitations of the study, recommendations, and implications for professional practice and social change. The section also includes a conclusion to the study.

Interpretation of the Findings

Research Question 1

Results of the present study revealed that respondents who received emotional and social support were 2.294 times more likely to meet with a doctor, nurse, or other health care professional within 12 months. Evidence from previous studies (e.g., Evans et al, 2019 & Williams, S, 2014) has established association between emotional and social support received with health care utilization among African Americans. The findings in the study are consistent with previous studies linking social support to health-related

outcomes including health behavior, adherence to medical regimens, and all-cause mortality (Glanz et al., 2015, p. 190). The importance of social relationships in contributing to health and well-being has been the focus of research by scientists and practitioners across large number of social, behavioral, medical, and nursing disciplines (Cohen et al., 2000). The findings of the present study suggest that social support and socioeconomic and demographic factors of race, age, level of education, income status, and level of employment can predict and determine health-care use among African American. These findings can be explained by the empirical evidence of health effects of social support. There is now a relatively large body of literature and strong evidence for the protective effect of social support on health, with stronger evidence for perceived support than received support (Glanz et al., 2015, p. 190).

Perceived social support was conceptualized in this study as an element of social support theory, which seeks to explain how emotional and social support received influences the use of mental health services (Lo, 2019). The findings of this study suggest that social support; gender; and socio-economic and -demographic factors of race, age, level of education, income status, and level of employment can predict and determine health-care use among African Americans. Cohen and Wills (1985) concluded that perceived availability of social support is more important for health and well-being than actual support received.

According to Keen et al (2014), there are disparities on factors associated with African Americans not attending to treatment, initiating substance use treatment, and having access to, or utilizing, substance use treatment facilities, and being less likely to

complete treatment in comparison to their White counterparts. However, Keen et al.'s findings were limited to factors influencing utilization of mental health care services and relapse of mental illness among African Americans. Although in my study, receiving emotional and social support did fully explain the different results compared to Keen et al., there are other possible explanations and factors including race, age, and socioeconomic status that contributed to the difference in results. Differences in health care utilization might be explained by social determinants of health and emotional or receipt of social support as predictors of health care utilization.

Research Question 2

Results of the present study revealed that respondents who did not use substances were 1.309 times more likely to meet with a doctor, nurse, or other health-care professional within the past 12 months in comparison to those who used substances. Recently, researchers have examined the relative importance of understanding the impact of substance use and health care use in the general population. Evidence from this study showed significant association between individuals who do not use substance and health care use. These findings are consistent with previous studies that suggest individuals in the general population with substance use disorders often access the health-care system for reasons other than their substance use disorder (Calcaterra et al., 2015). Individuals may use substances but use health care services; however, the majority of those of those with substance use disorders do not seek specialty treatment (Calcaterra et al., 2015).

Research Question 3

I examined the effect of gender and sex on health care services utilization. Results of the present study revealed that women were 2.562 times more likely to receive health care service from a doctor, nurse, or other health-care professional within the past 12 months in comparison to men. Evidence from this study suggests that gender difference has an impact on health-care service use among African Americans; however, studies demonstrate that gender is not an exclusive reason for lack of treatment (Haavik et al., 2019). The data from the survey for Among African American suggest there was a low response of participants who utilized health care services. The results also suggest males under participated in the survey while females were 2.373 times more likely to meet with a doctor, nurse, or other health care professional with 12 months in comparison to male respondents in the survey. The evidence suggests that gender and sex were predictors of health-care use among respondents who participated in the survey.

Findings from this study suggest that gender and sex were significantly associated with heath care utilization. Although the relationship between gender and health care use was statistically significant, the evidence itself does not give much information about the strength of the relationship or its significance in the population (see Frankfort-Nachmias et al., 2015, p. 358). According to Frankfort-Nachmias et al. (2015), statistical significance only helps to evaluate whether the null hypothesis that the observed relationship occurred by chance is reasonable. Further examination of the strength of the relationship may explain the association in the relationship.

Limitations of the Study

This study has several limitations that should be considered. A key limitation was missing data which could lead to low power calculations in the analysis and ultimately affect the results in the study. Even in a well-designed and controlled study, missing data are common. According to Kang (2013), missing data can reduce the statistical power of a study and can produce biased estimates, leading to invalid conclusions. In the data set, there were missing data for some of variables in the survey that could not be accounted in the model analysis but may have affected the analysis and results of the study. Second, the study was limited by the order in which the questions were asked in the survey, which lends itself to response bias and could result in different findings on the basis of chance (see Schutt, 2004, p. 271). For example, the selection order in how questions were asked by investigators and nonresponses can result in what appear to be inconsistent results (Criswell, 2009, p. 162). The pattern in which the questions were asked may have affected the responses from the respondents and resulted in different findings.

In addition to missing data and selection order of the questions, another limitation in this study is the interaction effects between the main predictor variables examined. It could be possible there was an interaction effect in this model analysis because of more than two or more independent variables; in this case three independent variables including perceived social support, substance use and gender. It may be possible that the interaction effect between these three variables could produce less reliable probability in the model. In the next sections, I addressed recommendations in the study and implication for social change implications.

Recommendations

Researchers should also focus on exploring the impact of the different sources of social support to understand if any form of social support received is in fact related to positive health outcomes. This knowledge may be beneficial to understand how the perception of support can be improved. Increasing the representation of people of color as medical providers and developing health education approaches that address health risks that are unique to men may improve health outcomes for this population (Rich, 2000). Studies addressing the effect of substance use on health care use remain inconclusive for the general population (e.g., Calcaterra et al., 2015). Future researchers could examine behavior change patterns and the relative impact of substance use on health outcomes in the general population to support additional findings on the effect of substance use and social support on health care use. Further research is needed to identify which educational and public health interventions designed to change beliefs and behavioral skills are likely to work better when policies and environment supports the targeted behavior changes (Glanz et al., 2015, p. 53).

Implications for Professional Practice and Social Change

The underutilization of health care services among different populations has implications at the individual and community level. Although all ethnic/racial groups underutilize mental health services, only about one third of African Americans and Caribbean Blacks in need utilize mental health services (Evans & Sheu, 2019). Despite significant investment in health behavior and health education research, challenges remain in assessing the association between emotional and social support and substance

use on health care utilization. Evidence from this study may provide information to researchers and the mental health community about the effect of social support and substance use on the management of mental illness and mental health issues in communities that are underserved. The findings from this study may aid in the development of evidence-based intervention that incorporates gender and racial differences. It is well documented that use of empirically supported treatment may be helpful with a caveat that these interventions must appropriately match cultural traditions and respect the values of the clients (Blume, 2016).

One of the implications for social change based on the results in this study is the impact on racial inequity in vulnerable and underserved African American communities without health insurance and access to health care. The implications are more so evident in African American communities where residents may have a distrust of the mental health treatment community. There might be implications for practice based on the results of findings from the study to examine the reasons why racial and ethnic minorities receive less mental health treatment. It may also be reasonable to examine the inequity in service delivery in African American communities where there are limited resources and distrust of the public health care system. This distrust in the health care system may have a serious impact in communities with vulnerable population and limited health care providers who target the African American population. Jacobs et al (2006) suggested that distrust inhibits care-seeking behavior, compromises medical care, and may lead to patient nonadherence. To further complicate the issue, research shows that African

American patients are more at risk to receive lower quality health services (Powell et al., 2019) with poor health outcomes among this population.

Another implication for social change is the impact of distrust in the health care system in African American communities and disadvantaged population. Individual's level of trust in any community can influence how residents respond to health care providers (Powell et al, 2019). According to Powell et al (2019) mistrust of health-care organizations and professionals is reportedly higher among African Americans and associated with negative health-related outcomes such as decreased care satisfaction, treatment adherence, and utilization of health services. The mistrust factor undermines the legitimacy of mental health providers, and without legitimacy health care providers lose their ability and authority to provide health care services. By application, these factors have implications and serious consequences. As such, it is important to understand the relationship between an individual's trust in the health care system and implementation of health care policies within the health care system to ensure confidence in the health care system and effectiveness in the delivery of health care.

Conclusion

In this study, I examined whether perceived social support, substance use, and gender are significant predictors of mental health care services utilization among African Americans controlling for gender, race, age, and socioeconomic status. Based on the results of this study and the limitations discussed in this section, further research in this area may be needed to understand the relationship between emotional and social support and substance use on health care service utilization. The correlational results from the

study are inadequate to characterize the complex relationship between social support, substance use, and health care utilization among African Americans. A growing research base has addressed the influence social support, substance use, age, race, and socioeconomic factors on health care utilization (Hansen et al., 2018; Pińedo, 2019); however, more research is needed to understand the effects of emotional and social support received and substance use on health care utilization. If perceived social support, age, race, and socioeconomic factors are in fact associated with mental care use and related to positive health outcomes, it may be beneficial to understand what specific features of the relationship between these factors could be target for intervention.

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