UNIVERSITY OF CALIFORNIA

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The Impact of Spiritual Coping and Resilience on Human Immunodeficiency Virus Infected Older African American Women with Substance Use Behaviors

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy in Nursing

by

Maisha Davette Parnell

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ABSTRACT OF THE DISSERTATION

The Impact of Spiritual Coping and Resilience on Human Immunodeficiency Virus Infected Older African American Women with Substance Use Behaviors

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Doctor of Philosophy in Nursing

University of California Los Angeles, 2024

Professor Janet C. Mentes, Chair

Objective: To determine if spiritual factors defined as positive spiritual coping, negative spiritual coping and spiritual resilience, are related to more positive health related outcomes (HROs), such as physical health, health related quality of life, well-being and CD4 counts and investigate if spiritual factors change the relationship between current substance use and parental substance abuse.

Background: In 2022 African American Women were the second highest group to be diagnosed with HIV/AIDS disease, largely driven by personal and parental history of substance use disorder in African American Women which contributes to an increase in condomless sex with men with HIV. This leads women who have acquired HIV to rely on spiritual factors to deal with the reality of managing HIV/AIDS and the use of substances.

Method: This study used a quantitative, cross-sectional internet survey design to understand the impact of spiritual factors related to specific health-related outcomes (HROs) in African American women with HIV. Regression analyses were conducted to examine the relationship between positive and negative spiritual coping, spiritual resilience and HROs. A moderation

analysis was used to examine the ability of spiritual variables to moderate the relationship between current substance use and parental substance use. Based on prior knowledge the assumption is there is an association between parental substance abuse and current substance abuse which could then be moderated by spiritual factors. This relationship was examined and analyzed.

Results**:** Thirty-eight Older African American Women (OAAW) from across the U.S. completed the internet survey. Significant results found that negative spiritual coping had a stronger impact in the research study than positive spiritual coping. In the unadjusted model, HRQOL and well-being both had inverse significant relationships with negative spiritual coping. When controlling for age and substance use, only HRQOL was statistically significant and inversely related. Positive spiritual coping was inversely related to HRQOL before controlling for age and substance use). After controlling for substance use and age, HRQOL was no longer significant. In the moderation analysis, positive spiritual coping moderated the relationship between current substance use and parental substance abuse. As positive spiritual coping increased, the relationship between current substance use and parental substance abuse strengthened.

Conclusion**:** In this study, negative spiritual coping had a stronger effect on HRQOL outcomes and well-being than positive spiritual coping or spiritual resilience, suggesting that the use of negative spiritual coping impaired HRQOL in the participants. In addition, the finding that positive spiritual coping strengthened the relationship between personal and parental substance use was unexpected, as it is widely cited in literature that positive spiritual coping as a protective factor helps prevent drug use within families of people who engage in drug use. A possible explanation is that families who use drugs and have a strong family connection influence the individual's risk of future substance use even when positive spiritual coping is practiced.

Another explanation for the results is OAAW with difficult family influences rely heavily on positive spiritual coping. The associations of positive spiritual coping with the relationship between parental and individual substance use have not yet been fully elucidated but may be clarified through a future prospective study to look at positive spiritual coping over time.

The dissertation of Maisha Davette Parnell is approved.

Mary-Lynn Brecht

Nina T. Harawa

Felicia S. Hodge

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2024

Dedication

I wish to thank Mrs. Suzanne F. Ward of the Ward Foundation for supporting my dissertation work and providing resources that allowed me to complete the study. I pray that you know your gracious contribution helped in more ways than I can convey. To my committee members: Dr. Felicia Hodge, Dr. Nina Harawa, Dr. Linda Phillips, and Dr. Brecht, thank you for all your help and encouragement along the way. Thank you for every email you answered, every meeting you scheduled to help me move forward in my work . . . Thank you Dr. Brecht for all the continuous revisions you were diligent in helping me to consider… God bless you! To Dr. Mentes, my chair, we have had a long journey together from my initial research studies to my current dissertation. Thank you for inspiring me to continue to move forward, being vigilant in my research study. "But as for you, be strong and do not give up, for your work will be rewarded."

(I Corinthians 15:58 Amplified Bible).

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Acknowledgment

Spirituality can reflect many beliefs and practices. It is difficult to describe distinctly what this specifically means for everyone's experience. Imagine going to a different planet and seeing the most beautiful flowers. In these flowers, you see vivid arrays of colors—blue, red, magenta, orange, yellow, and green—and these colors are not like any you have seen before, colors so awe inspiring that they take your breath away! Even still, it is hard to describe the flowers and their beauty because human language does not do justice to it. This is exactly what it is to describe spirituality and God to one's human experience. I can try to convey the wonders and mysteries of this lifelong event, but in the end, the only way I can convey its true meaning is to beseech you to experience it for yourself.

— Dr. Keith Norris

Biographical Sketch

Name: Parnell, Maisha Davette. Title: Registered Nurse, Gerontology – Women's Studies

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
California Polytechnic State University, Pomona Ca.	BSN	12/1998	Biology
Loma Linda University, Loma Linda Ca.	MPH	12/2005	Health Education/Health Promotions.
2nd Lieutenant, Army National Guard, State of California	Commissioned Officer	09/2008	Health Administrative Officer
Chaffey Community College, Chino, Ca.	AD	2014	Licensed Vocational Nursing
Charles Drew University (CDU)	MSN	2017	Registered Nurse (RN)
Charles Drew University (CDU)	FNP	2023	Family Nurse Practitioner

A. Personal Statement

My research studies have focused primarily on the area of HIV among older African American women and health disparities related to medical mistrust in marginalized communities. I am also experienced with healthcare administration and healthcare in military and veteran populations. In 2016, I was responsible for research projects where I served as the PI addressing stigma among the Africa American church towards women who are HIV positive (Western Institute of Nursing), as well as addressing the burden of care, caregiver stress due to caring for chronic and terminal ill patients (Student Opportunity to Advance Research SOAR, 2016). As a graduate student I served as the presenter of a year-long study that was presented at the American Public Health Association (APHA) 2005, the stressors and challenges associated with pursuing graduate degrees entitled, "Is Studying Health Hazardous to Your Health?" I have also been involved as a student researcher and volunteer with the UCLA Mobile Enhanced Prevention Support (MEPS, 2018), for HIV-risk populations. As a student researcher, I attended weekly meetings to address targeted populations as well as inputting essential data to monitor and evaluate enrolled participants.

From 2020-2022 I was involved with providing education and knowledge to city of Los Angeles workers and law enforcement officers, to better address the efficacy of COVID vaccinations. This included providing Covid vaccinations to Los Angeles city employees. During 2021-2022, I was employed with the Department of Public Health as a Covid Nurse Analyst, responsible for ensuring that medical clinics, pharmacies and other public health locations were prepared and knowledgeable concerning Covid vaccines and how to maintain all vaccines at their medical locations. From 2020-2023, I also help to facilitate a weekly support group that helped to address issues related to HIV and substance disorder in older African American Women. It is my ultimate endeavor to help people to help themselves pertaining to health and well-being

especially among underrepresented populations of women and minority communities.

B. Positions and Honors

Positions and Employment
1999-Present - Police Service Representative - 911 Operator, City of Los Angeles, CA.
2005-2006 - Contract Teacher, Loma Linda University, Loma Linda CA.
2007-2011 - Health Educator, Brothers and Sisters In Action (BASIA), San Bernardino, CA.
2008-Present - Army National Guard - Patient Administrator (IRR), Medical Command, Los Alamitos
2020-2022 - Health Educator, LAPD COVID Task Force, Los Angeles, Ca.
2017-2023 -Teaching Assistant (TA) – University of California at Los Angeles

Other Experiences and Professional Memberships
2004 American Public Health Association (APHA)
2005 Police Officer Standings and Trainings (POST)
2006 Certified Health Education Specialist (CHEST #12937)
2013 California Public Safety Radio Association
2016 National Student Nurses Association
2016 Gerontological Society of America (GSA)
2018 Western Institute of Nursing (WIN)
2020 National Emergency Number Association (NENA 911)
2021 Sigma Theta Tau – International Honor Society
2022 American IV Association

Honors
2013 Outstanding Performance in a 911 Emergency Call - California Public Safety Radio Association (CPRA)
2014 Commander's Coin for Excellent Service Acting as Medical Liaison at Twin Cities Hospital during Annual Training (AT), Army National Guard
2015 Charles Drew Curriculum Committee Member - Student Representative
2017 Mervyn M. Dymally Charles Drew School of Nursing Honor Society of Nursing
2017 UCLA Cota Robles Scholarship
2019 UCLA Ward Scholarship
2020 UCLA Summer Fellowship
2022 UCLA Graduate Support Fellowship

C. Contributions to Science

My contribution to science focuses on two areas: 1) Addressing HIV/AIDS Among African American Women related to stigma related to stigma and substance use. 2) Medical Mistrust Among Marginalized Communities.

Chapter 1: Introduction

The purpose of the study is to investigate if spiritual factors defined as spiritual coping and spiritual resilience contribute to improving health-related outcomes (HROs) in human immunodeficiency virus (HIV)-positive older African American women (OAAW) with substance use disorders and to determine if spiritual coping and spiritual resilience change the relationship between current substance use and parental substance abuse. The research questions and aims of the study are the following:

Research Question 1: Do spiritual coping and spiritual resilience significantly predict HROs in HIV-positive OAAW with substance use?

Aim 1a. To test the association of HROs with positive and negative spiritual coping and spiritual resilience factors in HIV-positive OAAW with substance use.

Aim 1b. To test the association between positive and negative spiritual coping and spiritual resilience factors related to HROs in HIV positive OAAW with substance use when controlling for covariates: age and substance use.

Hypothesis #1a: Positive spiritual coping and spiritual resilience will both have positive associations (when considered together as predictors) with HROs in HIV-infected OAAW with substance use.

Hypothesis #1b: Negative spiritual coping will have a negative association and spiritual resilience will retain a positive association (when considered together as predictors) with HROs in HIV-infected OAAW with substance use.

Research Question 2: Do spiritual coping and spiritual resilience moderate the relationship between current substance use and parental abuse use in HIV-positive OAAW with substance use?

Aim 2a. To test the moderating effect of each spiritual factor (positive spiritual coping, negative spiritual coping, and spiritual resilience) on the association between current substance use and parental substance use in HIV-positive OAAW with substance use.

Hypothesis #2a: The association between current substance use and parental substance abuse weakens across higher levels of positive spiritual coping and spiritual resilience in HIV-positive OAAW with substance use.

Hypothesis #2b: The association between current substance use and parental substance use strengthens across higher levels of negative spiritual coping in HIV-positive OAAW with substance use.

Whereas HIV and polysubstance use have been extensively studied in the general population, few studies have looked at the relationship of spiritual coping and spiritual resilience in managing HIV and sobriety, and even fewer studies have looked at this phenomenon in OAAW (Fang et al., 2015; Sangaramoorthy et al., 2019). Among all populations, OAAW were the second-highest group to be diagnosed with HIV in 2020 second only to men of all races who have sex with men. It is reported that every 35 minutes, an OAAW tests positive for HIV. Approximately 47% of diagnosed HIV cases were in people 50 years and older. And among those, a greater proportion were African Americans (AAs). Several reasons have contributed to this racially disparate epidemic, including higher poverty rates, lack of access or no access to health care, higher rates of sexually transmitted infections (STIs) among smaller sexual

networks, lack of knowledge on HIV status, increasing stigma, and racial discrimination, all of which underscore the health inequity and disparity that exist (CDC, 2022; Fang et al., 2015; Sangaramoorthy et al., 2019).

This study hopes to extend research in HIV, substance use, and spirituality among OAAW and to provide essential data and research findings where gaps in the literature currently exist. This chapter will discuss the background and statistics of HIV and substance disorders in the population as well as how social determinants of health contribute to intensifying the problem. Last, the introduction will briefly discuss how spirituality and the framework used mitigate issues related to chronic diseases and disorders in the target population.

Background

HIV is a serious public health crisis that disproportionately affects marginalized and low socioeconomic communities. High levels of drug and alcohol use account for an increased risk of contracting HIV and lead to risky behaviors that can potentially pass the virus to others. Both HIV and drug use act syndemically and contribute to an undue burden of the disease in vulnerable populations such as OAAW (CDC, 2022; Compton et al., 2021). Older people living with HIV (OPLWH), such as OAAW, have higher rates of substance use, including the use of alcohol, tobacco, and other drugs (ATOD) than do those who are HIV negative. Many OAAW who have been diagnosed with HIV reported having a substance use problem that contributed to contracting the virus.

The deleterious effects of HIV and drug use perpetuate a proliferation of the disease both synergistically and psychosocially, including increased stress, stigma, and discrimination (Grodensky et al., 2015; Skalski, et al., 2013). Addressing ways to manage these health conditions is challenging because of substance disorders and other comorbid conditions that

interact with being able to take care of oneself and adhere to the HIV medication regimen (Deren et al., 2019). Studies also suggest that older populations are still at risk of transmitting the virus to other sexual partners because they do not always practice safe sex and rarely discuss sex with health care providers. These factors—including other psychosocial issues such as financial hardship, incarceration, homelessness, and discrimination—can contribute to higher rates of mental illness, polysubstance use, and eventual mortality (Gwadz et al., 2021; Deren et al., 2019; Compton et al., 2021).

When many of the OAAW were first diagnosed, they believed their lives were over and expected to die. Some even wished for death because they had little hope of any positive health outcomes until they began to depend on spiritual factors to help them endure their health circumstances (Grodensky et al., 2015; Saad & Medeiros, 2012).

Spirituality is a human experience that connects women to a higher power and conveys a reason and purpose for living (Saad & Medeiros, 2012). Positive and negative spiritual coping are two different ways that an individual responds to difficult life circumstances. Positive spiritual coping involves spiritual and or religious practices related to a positive relationship with God, a belief that provides meaning and purpose in life. Positive spiritual coping refers to spiritual practices that promotes life's stressors and adverse circumstances. Negative spiritual coping however reflects a less secure relationship with God, a religious struggle, ambivalence to God's power, and spiritual discontent (Pargament et al., 1998). Negative spiritual coping unlike positive spiritual coping involves engaging in spiritual practices that are harmful and detrimental to one's health and well-being (Medved-Kendrick, 2017).

Religion is an established means used by people to worship God (Saad & Medeiros, 2012). Historically, spirituality and religion have been fundamental aspects of help and guidance

in dealing with insurmountable odds in the AA community. To have a better understanding of the overall problem, it is essential to first discuss the statistics of both HIV and substance disorders in OAAW as well as specific conditions related to social determinants of health (SDOH) that contribute to this problem.

Statistics of HIV

HIV destroys the body's immune system. HIV has caused serious health crises, especially among low socioeconomic communities. Because there is no cure for HIV, it becomes a lifelong condition when an individual becomes infected (CDC, 2021). In 2018, AAs made up 43% of new HIV cases yet made up only 12% of the U.S. population. Further studies found that AAs account for a larger percentage of those both living with HIV (42%) and dying from the disease (44%) than do any other race (KFF, 2020). African American women (AAW) have been hit the hardest by HIV diagnoses compared to any other ethnic group of women. In 2018, AAW accounted for 58% of HIV diagnosis, a rate that was 15 times higher than that in Caucasian women and five times higher than that in Hispanic women. They also had the largest number of women living with the disease in 2017 (CDC, 2021; KFF, 2020).

Regarding transmission rates, AAW has the highest by heterosexual transmission rates. As of 2018, the CDC reported that one in six reports of new HIV cases were among AAW 50 years and older. OAAW have a risk of morbidity and mortality that is nine times that of older Caucasian women. Research has suggested that distinct health disparities in the HIV care continuum—proper medical insurance, poverty, socioeconomics, stigma, and discrimination—continue to be the driving forces for lack of care and viral suppression among OAAW (Sangaramoorthy et al., 2019). Aging with HIV in OAAW presents special challenges when managing other chronic diseases. HIV and older age increase the risk for cardiovascular diseases,

COPD, osteoporosis, lung diseases, and certain cancers. Issues with HIV drugs and prescribed medication for other chronic diseases such as high blood pressure, high cholesterol, and diabetes have also caused interactions that make it difficult to treat both conditions (CDC, 2020; Sangaramoorthy et al., 2019).

Substance use disorder in older adults who are HIV infected is disproportionately high; those who suffer from substance use tend to continue to use drugs as they age versus their counterparts who are HIV negative (Skalski et al., 2013). Studies suggest that older adults who have experienced intergenerational drug use (parents and family members who used drugs) have contributed to a history of lifelong substance disorders.

The interconnection among race, older age, and health disparities throughout a woman's life span contributes heavily to the problem of older age, drug use, and race related to HIV (Suntai et al., 2020). For example, there are few studies that look specifically at older AA adult drug use disorders, although these women have an increased use of alcohol, tobacco, and other illicit drugs versus white older adults. Whereas statistics showed an increased use of drugs in older minority adults, AAs were 37% less likely to complete treatment program, have treatment programs in their communities that focus on essential cultural perspectives, and have adequate medical insurance to afford needed treatment to achieve sobriety (Deren et al., 2019; Edelman et al., 2014; Suntai et al., 2020). These problems have a profound impact on quality-of-life measures and health outcomes.

The following sections provide details of specific substances, both legal and illegal, that are often used among OAAW who are HIV positive.

Alcohol, Tobacco, and Other Drugs (ATOD)

As much as 38% of people living with HIV (PLWH) consume alcohol. Excessive alcohol consumption and binge drinking can be important risk factors for HIV transmission because they are linked to risky sexual behaviors and lifestyles that make it easier to transmit the disease. Unfortunately, because alcohol is not considered an illicit drug, studies do not always focus on its effects in HIV populations (Deren et al., 2019). OAAW often used alcohol as a means of self-medication in dealing with the stigma and psychosocial issues related to HIV, sexism, racism, and other stressors in their community. Although the initial consumption of alcohol can encourage stress relief and relaxation, the combination of HIV and alcohol use can alter moods, cause physiological damage to organs, further weaken the immune system, and contribute to physical violence and lack of consistent adherence to HIV medications (Deren et al., 2019; Lipira et al., 2020; Sangaramoorthy et al., 2019).

Research has also suggested that those with addictive behaviors often use multiple drugs or trade addictions, known as addiction replacement (such as drinking alcohol or smoking cigarettes in lieu of consuming crack or heroin) because they are less likely to be arrested. Although these women may stop using illegal drugs, they often project their addictive behavior onto different substances or activities that cause further harm (Edelman et al., 2014; Parson et al., 2014).

Tobacco is a dangerous substance that harms nearly all organs of the body. Those who are HIV positive and consume tobacco and related products have an increased risk of many comorbidities including lung, neck, cervical, and anal cancers; heart diseases; cerebrovascular accidents; COPD; fragility fractures; AIDS-related pneumonia; impaired immune response to antiretroviral medications; and a host of other HIV-related infections (Edelman et al., 2014;

HIV.gov, 2021). Much like alcohol, tobacco and nicotine substances are not often studied because they are legal. Therefore, their true effects on HIV populations is yet to be fully researched. Of the scant research available, statistics have shown that there is a higher prevalence of tobacco use in women living with HIV than in their HIV-negative counterparts. HIV-positive women are 1.3 times more likely to engage in tobacco smoking, are 2.1 times more likely to engage in smokeless tobacco and have a 3.6% increased risk of any tobacco use versus women who do not have HIV; and many of these women come from middle- and low-income countries (Mdege et al., 2017).

Marijuana, also referred to as pot, weed, or cannabis, is the most widely used illicit drug consumed by PLWH. People use marijuana for both therapeutic and recreational purposes. Approximately 60% of PLWH have reported using marijuana for therapeutic purposes including managing antiretroviral side effects, alleviating general pain, and managing depressive and anxiety issues related to living with HIV (Mannes et al., 2018). Some studies have indicated that marijuana can be detrimental to HIV patients because it contributes to anxiety, dizziness, psychosis, and disconnections from reality. Further studies have reported that marijuana among HIV patients was found to cause memory deficits and cognitive decline among those who consistently used the drug (Mannes et al., 2018; Skalski et al., 2013). The medicinal use of marijuana is recommended under the guidance of a physician, whereas its recreational use is discouraged due to the unintended side effects that could cause complications with HIV and other comorbid conditions as well as the side effects of the medications used to treat these issues. Although many PLWH consume medicinal marijuana to manage anxiety, depression, and stress, far more users smoke marijuana for pleasure and a feeling of relaxation and euphoria (Costiniuk et al., 2019; Skalski et al., 2013).

Marijuana, even when used for medicinal purposes, can be a double-edged sword in that it can contribute to an increased tendency to use other illicit drugs and minimize consistent HIV medication adherence, and have negative health outcomes (Costiniuk et al., 2019; Mannes et al., 2018; Skalski et al., 2013). What is still unknown is the ill effects and/or therapeutic effects that marijuana has on specific groups who suffer from HIV, such as OAAW.

Heroin is an opioid drug produced from morphine, a natural substance found mostly in Southeast and Southwest countries. Many AAW with a heroin addiction often obtain the drug through illicit sales. Those who use heroin consume it by smoking and/or injecting the substance (CDC, 2021). Heroin is associated with increased poor health outcomes in HIV-infected individuals because it causes an increased adverse response in the innate immune system, the first line of defense that recognizes and quickly responds to infection. Even more problematic is the current use of a powerful drug called fentanyl, which is often laced with both heroin and cocaine for a more intense feeling of euphoria that increases risk of death by 50 times that of heroin use alone (CDC, 2021; National Institute on Drug Abuse [NIDA], 2022).

Heroin also enhances HIV infection of macrophages, meaning it causes increased HIV infection and further proliferation of the disease compared to other substances (Medina-Perucha, 2018; CDC, 2021; Welty et al, 2019). One important factor that perpetuates ongoing heroin use is withdrawal and reported pain and weakness that occur from attempting to stop using. As a result, only 5%–10% of users are ever successful in quitting, even with medical intervention (Welty et al., 2019).

Methamphetamine is a highly addictive stimulant that can be smoked, inhaled, injected, as well as ingested. Smoking and injecting allow the substance to be quickly absorbed into the blood, causing harmful effects to the central nervous system. The use of methamphetamines in

general contributes to HIV infection and continues to rise in AAW as well African American population. This phenomenon continues to increase and contributes to the confluence of the drug with physical and sexual violence by intimate partners (Welty et al., 2019; Stockman et al., 2021). Research on substance disorders has supported bidirectional relationships between substance disorders, intimate partner violence, and gender power dynamics. This lifetime of violence is often seen in AAW who continue to use methamphetamines or other addictive drugs such as heroin and cocaine even well after an HIV diagnosis (Stockman et al., 2021).

Crack cocaine and powdered cocaine, from a chemical standpoint, are the same drug, yet the difference lies in how the substance is taken and perceived in society. Powdered cocaine is often ingested, inhaled, and injected, whereas crack is almost always smoked. Crack produces an immediate high, lasting about 10 minutes, whereas cocaine, which is much more expensive, requires 5 minutes or more to produce any euphoric effect, which lasts about 30 minutes (Drug PolicyAlliance.Org, 2023). Crack is much cheaper to purchase than cocaine; therefore, it is often the drug of choice among less affluent communities and marginalized people of color. Cocaine has had a historical prominence in poor AA communities starting in the 1960s and 1970s. AAW addicted to crack cocaine can become so overwhelmed by its influence that it subsequently can contributed to the total breakdown of their families (Sharpe, 2005; Stockman, 2021).

Similar to heroin, crack contributes to a lifetime of sexual and physical intimate partner violence that continues even after the diagnosis of HIV infection. The prevalence of violence is three times as high in women who are addicted than it is in those who are not. This is thought to occur due to the diminished and perceived worth of AAW addicted to crack and their low perceived status. Women who exchanged sex for crack are even further stigmatized and seen as less respected and dishonorable in their communities, making it difficult to find support and help

among other AAs (Sharpe, 2005). It is important to note that to date, drug use among older adults, especially minorities, remains heavily understudied (Skalski, 2013).

How Does Spirituality Relate to HIV and Substance Use?

Addictive drugs and the ill effects of persistent institutional racism that contribute to AAW's risk of substance use and HIV infection in poor communities shed light not only on the connection of HIV and substance use but also how it continues to perpetuate itself (Sharpe, 2005). Gaining insights from this matter might paint a picture of overwhelming challenges. However, the idea of spirituality, particularly resilience and coping mechanisms, can empower individuals to abstain from drugs and navigate HIV management by seeking guidance from a higher power, especially when societal support seems lacking. David Hodge (2000) wrote specifically about a theoretical framework of spirituality and how it delineates many mechanisms by which spirituality promotes individual change. The theoretical framework focuses on how positive, health-promoting aspects of spirituality contribute to life satisfaction and contentment despite past circumstances. Chapter 2 will dive further into this discussion of the theory of spirituality, which I use as a framework for this study.

How is Depression and Mental Health Related to HIV and Substance Use?

The relationship between depression, HIV and substance use is complex and complicated. It is hard to find literature in the area of HIV and substance use without the research study including a discussion about depression related to mental illness (Ebor, 2020). Rightly so, receiving a diagnosis of HIV can be a significant stressor that causes the burden of chronic illness, embarrassment, shame, stigma, and fear of discrimination. The use of substances to cope with the trauma from one's reality and the, high the risk of other comorbidities related to aging can easily bring about distress and depression. It is important to note that this process can

occur in both directions with HIV contributing to depressive symptoms, and depression causing a susceptibility to contracting HIV, by impairing judgment and increasing the risk of substance use and contracting HIV infections (Ebor, 2020; Oliveira, 2020).

Chapter 2: Conceptual Framework

In this chapter, I will present the philosophical underpinnings and the conceptual framework that provide the foundation for this proposed research study one specific tenet of Critical Race theory (CRT) provides the justification for the focus of spirituality in the population for this study, OAAW with HIV and substance use. The theoretical model of spirituality, developed by Hodge (2000), explains the discrete pathways and mediating outcomes of spirituality model (DPMOS) on health and well-being and guided selection of both dependent and independent variables for this study.

Critical Race Theory (CRT) and Spirituality

CRT (Delgado & Stefancic, 1998) does not fully explain the challenges and lived experiences of HIV-positive women with substance use, however, it does provide a link to the importance of spirituality in the lives of AA. A basic tenet of CRT is that social structures have discrimination and racism embedded such that minority populations are continuously disadvantaged. Of the five tenets that comprise CRT, one principle best explains the study population's experience of microaggressions and perceived discrimination – the permanence of racism. Permanence of racism states that racism is so intrinsically interwoven into Western society that it is used to control all aspects of life including health-related quality of life (HQOL) and health care. By perpetuating the pervasiveness of discrimination, those in power maintain their influence and authority (Curry & Curry, 2018; Hiraldo, 2010). The ongoing experience of racism and lack of societal support for AA have strengthened the need for another type of support that has historically been achieved through religious affiliation and spirituality.

Spirituality Theoretical Framework

A modified theoretical framework of spirituality and its mediating influence on health as revised from Hodge (2000) research guided this study. This theoretical framework is especially salient as AAW historically have used spirituality and religion as a means to manage difficult times in life. By using spiritual tools such as praying, reading the Bible, listening to inspirational music, and receiving support from other spiritually minded people, seemingly insurmountable circumstances in life become more tolerable and life more meaningful despite obstacles or challenges such as HIV and substance use (Dalmida et al., 2012; Hodge, 2000; Hodge & Wolosin, 2012).

Hodge (2000) proposed seven pathways through which spirituality promotes beneficial health and well-being outcomes: (1) health-promoting behaviors and lifestyles, (2) social support, (3) psychodynamics of ritual, (4) psychodynamics of cognitive schemata, (5) ego challenge, (6) quantum effects, and (7) supernatural effects. Of the seven pathways five are proposed to explain the influence of spiritual coping and resilience on the outcomes: health-promoting behaviors and lifestyles, social support, psychodynamics of ritual, psychodynamics of cognitive schemata, and ego challenge.

Health-Promoting Behaviors and Lifestyles

Spirituality and spiritual practices often foster healthy behaviors and lifestyles that are positive and beneficial to those individuals who live by them. Spiritual behaviors provide protective guidelines for living life and refraining from activities that can lead to negative health outcomes (Hodge, 2000). For example, many religious ideologies oppose indulging in ATOD that can lead to chronic health-related conditions. Although substance use affects Americans from all different cultures and backgrounds, as well as AA and Hispanic minorities, experience

more negative health consequences than their white counterparts (Hodge, 2000). As individuals such as OAAW come to terms with substance use and other chronic health conditions, they often attempt to redefine their relationship with their higher power by practicing principles that lead to improved health behaviors and decreased reliance on ATOD (Hodge, 2000; Medved-Kendrick, 2017).

Social Support

Spirituality is strengthened by the support of like-minded people who encourage one another. Galatians 6:2 in the Bible states that believers should support others in times of pain and struggle and provide help to those in need. Social support occurs in many ways, including church and fellowship, support groups, and the gathering of those who have mutually agreed to improve their quality of life (Hodge, 2000; Szaflarski,2013). There are two benefits to social support that prove valuable for those who struggle with sobriety and managing HIV. The first step in the journey to sobriety is the knowledge that one is not alone. By keeping this in mind throughout life's difficulties, one can learn to manage challenges with encouragement from others suffering from the same or similar problems, which helps cultivate self-determination and resilience (Hodge, 2000). Second, social support helps individuals feel that life is important and meaningful. Spiritual women with substance use issues and HIV infections have often conveyed that their lives were insignificant and of little value before actively engaging in spiritual practices. When an individual who is suffering choses to look at all the blessing or benefits that their life has afforded them rather than focusing on the negative aspects (known as the attitude of gratitude), this behavior often results in increased coping and resilience (Hodge, 2000; Szaflarski, 2013). AAW historically have used spirituality and religion as means to manage difficult times in life.; Hodge, 2000; Hodge & Wolosin, 2012).

Psychodynamics of Ritual

Ritual in spirituality includes consistency of prayer and meditation, reading scripture, listening to motivational music, observing ceremonial customs, as well as maintaining fellowship with others, which help nurture spiritual engagement on an ongoing basis. These acts, when practiced, contribute to positive outcomes and effective behavior changes (Hodge, 2000; Kremer et al., 2016). Spiritual rituals also bolster an ongoing connectedness to a higher power and the ability to cope with life circumstances. An important aspect of the construct that relates to the population of OAAW who are HIV infected and face substance use challenges is the focus of the individual on her transcendent power. By focusing on the individual and connection to the divine, the expression is less about the routine of spirituality and more about what is essential to live a stable life that fosters sobriety and maintaining undetectable HIV viral loads (Hodge, 2000; Kremer et al., 2015; Szaflarski, 2013). Research has suggested that the psychodynamics of ritual lead to further increases in resilience and coping as well as mental health-protective factors (Hodge, 2000).

Psychodynamics of Cognitive Schemata

Psychodynamics of cognitive schemata, or the interrelation of spiritual and emotional aspects of life, emphasizes the importance of a spiritual structure to discern and live by. Psychodynamics of cognitive schemata is as important as the necessity of sunlight, the nutrients we eat to survive, and the need to be loved. A schemata or spiritual guideline fulfills the spiritual need for significance in those who often feel a lack of love and appreciation (Hodge, 2000). HIV stigma, or social shame and humiliation related to HIV, continues to present barriers and leads to efforts geared toward eliminating HIV infections. People who are HIV infected are often marginalized and discriminated against and are less likely to access consistent health care

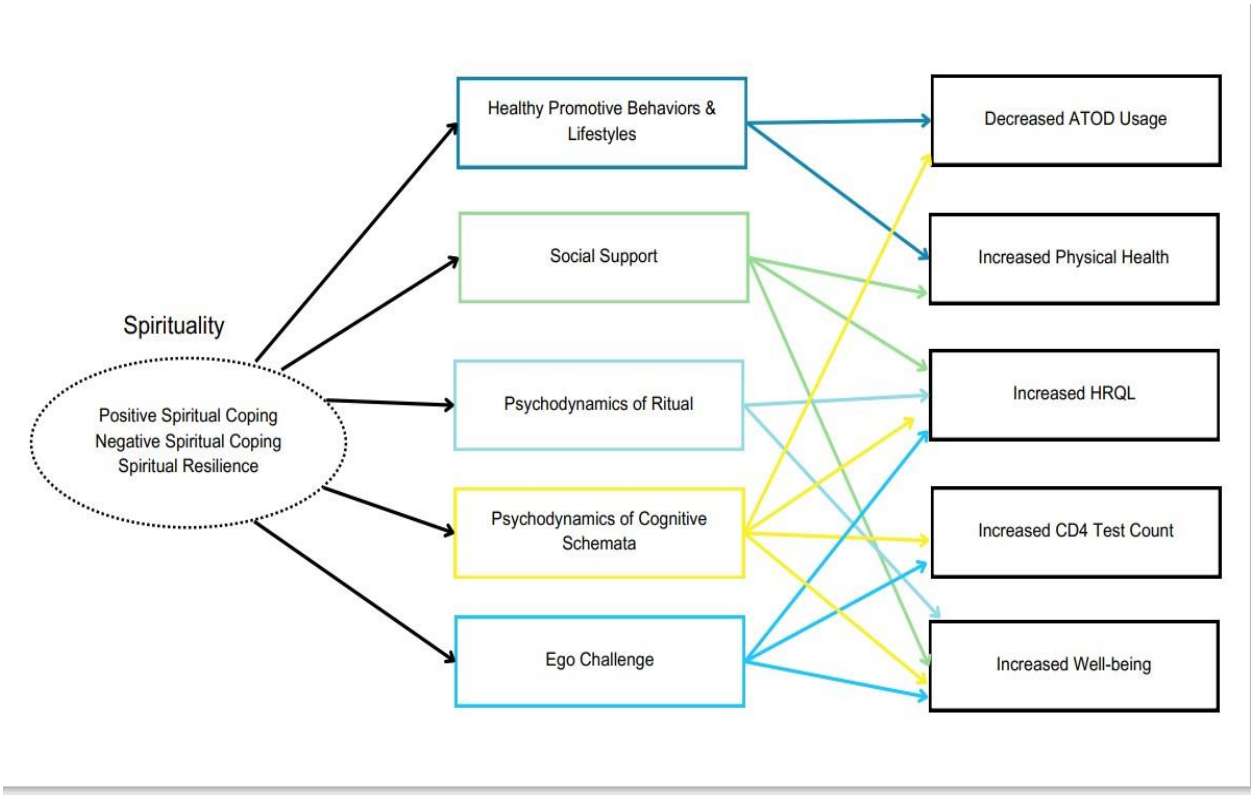
services and to adhere to HIV medication (Earnshaw & Kalichman, 2013). Substance users also share similar prejudices and experiences of criminalization, making it progressively more difficult for them to receive the necessary treatment to maintain sobriety (CDC, 2021; Surratt, 2014). By following spiritual guidelines, individuals gain increased self-efficacy and improved autonomy to make healthier life choices (Hodge, 2000).

Ego Challenge

The importance of ego or self and how one examines themselves in regard to a higher power is crucial in consistently modifying behaviors. The great minister John Calvin stated that "without knowledge of self, there is no knowledge of God." In light of this fact, learning more about the self and how we connect to God is an exploration of life and what we want from it as well as our purpose in life (Lillback, 2008; Hodge, 2000). Challenging one's ego helps modify any inappropriate patterns of behavior that contribute to substance use and HIV noncompliance because it causes the individual to seek an ongoing relationship with the Most High, thereby dying to one's self-recklessness and cultivating spiritual resilience and coping (Hodge, 2000). The premise of ego challenge is that by learning more about oneself, useful qualities such as increased pro-social attitudes and behaviors emerge. These new characteristics help foster a positive mind-set and promote a lifestyle conducive to sobriety and HIV adherence (Hodge, 2000).

People can use spirituality to promote coping and resilience needed to manage HIV and substance use (Hodge, 2000) through the pathways discussed. For the purposes of this research, this study examines the relationship between spirituality defined as spiritual coping and resilience to physical and mental health, HQOL, substance use in OAAW living with HIV, and managing sobriety, as shown in Figure 1.

Figure 1. Linkage Between Positive and Negative Spiritual Coping with Mental & Physical Health (Adapted from Hodge, 2000)



In the above figure you start with the independent variable of Spirituality that lead to the five dependent variables: Healthy promotive behaviors & lifestyles, social support, psychodynamics of ritual, psychodynamics of cognitive schemata and ego challenge. The outcome results in decreased ATOD usage, increased physical health, increased HRQOL, Increased CD4 test count and increased well-being.

Chapter 3: Literature Review

From January 2019 to August 2023 I conducted a comprehensive literature review to identify articles providing a thorough understanding of spiritual coping and resilience among HIV-infected OAAW with substance use challenges. I used the Preferred Reporting Item for Systematic Review and Meta-Analysis (PRISMA) (Appendix C) to detail literature articles used in the study (Moher et al., 2010). Articles identified in the study were taken from several database search engines, including EBSCO host, CINAHL, PubMed, PsycINFO, and Google Scholar. I used specific key words to find essential articles, including "religion or spirituality," "HIV and AIDS," "substance use or drug use," "older African American women," and "older Black women." The search yielded a total of 189 potential journal articles.

Screening and Eligibility Criteria

Among the 189 potential journal articles related to the study, I applied specific screening criteria to exclude irrelevant articles including articles not published in the last 10 years (n=131); articles that included men who have sex with men, bisexual men, and women as part of the study population (n=119), articles that included adolescents and did not include AAW 50 years and older (n=107), studies that were primarily systematic reviews and meta-analyses (n=97), and research that focused on populations that included those with mental illness (n=76). Other exclusionary criteria comprised work that did not focus on HIV and substance use preventions strategies (n=63), articles that did not focus on spiritual and religious strategies (n=48), studies that were not conducted in rural and urban areas of the United States (n=36), research work that was exclusively dissertation work (n=22), as well as work not in English (n=20). Two reference articles were included because research revealed a shortage of relevant articles that addressed the

phenomenon of HIV and drug use among OAAW and how spiritual resilience and coping is used to improve health and well-being outcomes.

The result of the exclusion process yielded a total of 22 articles—quantitative, qualitative, and mixed methods—including two reference works (used to provide further in-depth understanding but not analyzed in the table of evidence). I studied these additional articles to achieve a better understanding of what is being discussed in the dissertation. Each journal article was analyzed for thoroughness using Beck's General Criteria for Evaluating a Research Report, as well Barbour's Checklist for Improving Rigor in Qualitative Research (Barbour, 2001; Beck, 1990). I reviewed all works to explore the research question, "Do spiritual coping and spiritual resilience significantly predict health related outcomes (HROs) in HIV infected OAAW with substance disorder?" I documented each article in a table of evidence and if I deemed it to be of sufficient quality to be included in this review. Then, I synthesized the articles, focusing on information as it relates to spiritual coping and resilience among the study population.

Appraisal of Articles

The topic of spiritual resilience and coping among HIV-positive OAAW with substance use challenges is multifaceted in that no single issue or circumstance details a full understanding of the problem. This was widely represented in the body of research from different academic disciplines. The journal articles selected represented different fields, including religion, criminal justice, social work, education, psychology, epidemiology, public health, sociology, and health services. Most notable was the scarcity of research in the field of nursing addressing the topic. Communities where researchers carried out their work were located mainly in southern and eastern areas of the United States. Few studies were conducted on populations in western areas of the United States; furthermore, no studies took place in Southern California among HIV-

positive OAAW in urban areas, even though two support groups in South Los Angeles existed. Among the review of journal articles, only two authors represented the field of nursing (Dalmida et al., 2012; DeGrezia & Scrandis, 2015). Further assessment revealed study designs comprising qualitative and quantitative articles with only one mixed-method study represented in the appraised articles. To obtain a better understanding of the body of work that exists in the literature, I evaluated the articles based on methodology, with an overall synthesis including all articles.

Qualitative Literature

The research studies included diverse designs, including descriptive and grounded theory qualitative works as well as hermeneutics, thematic analysis, and constant comparison analysis. Of the 20 research articles, eight were qualitative research designs. Among the eight articles, four focused on successful aging (Emlet et al., 2018; Grodensky et al., 2015; Psaros et al., 2015; Warren-Jeanpierre et al., 2014). Six authors concentrated their research efforts on identifying stressors and coping strategies related to older women with HIV (DeGrezia et al., 2015; Grodensky et al., 2015; Psaros et al., 2015; Qiao et al., 2019; Warren-Jeanpiere et al., 2014; Sprague et al., 2021). Four studies (Emlet et al., 2018; Grodensky et al., 2015; Qiao et al., 2019; Sprague et al., 2021.) examined the benefits of spirituality and/or resilience strategies and how they contribute to living with HIV in women. An ongoing concern that was clearly observed in the literature was a lack of confluence addressing the effects of spiritual coping and resilience in AA women who suffer with HIV infections as well as drug use. Three authors (DeGrezia et al., 2015; Psaro et al., 2015; Qiao et al., 2019) focused mainly on HIV and mentioned minor issues related to drug use, whereas one author focused primarily on drug use (Cheney et al., 2018).

Gaps in knowledge that address the problem among the targeted population are testament to the relevance of the research being conducted.

Pertaining to study protocols, many authors utilized a semi-structured interviews. Samples ranged from 15 to 51 participants. Many interviews were audiotaped, and transcribed verbatim to allow for examination of content for emerging themes (Cheney et al., 2018; Emlet et al., 2018, Grodensky et al., 2015, Warren-Jeanpiere et al., 2014, Qiao et al., 2019). One study used qualitative interviewing and transcription techniques as described by Huber and Miles (Psaros et al., 2015). One author used five focus groups guided by four semi-structured questions that were addressed in each group (Warren-Jeanpiere et al., 2014), whereas another researcher used both focus groups and semi-structured interviews (DeGrezia et al., 2015).

Primary recruiting strategies for the majority of qualitative research work used purposive sampling because of the necessity for the population to have met specific participation criteria to participate in the study (DeGrezia et al., 2015; Emlet et al., 2018; Grodensky et al., 2015; Psaros et al., 2015; Warren-Jeanpiere et al., 2014). Two other studies employed purposeful sampling as well as non-probabilistic, respondent-driven sampling (respondents who are selected from a social network of existing members and provided an incentive for participation) (Cheney et al., 2018; Qiano et al., 2019). Three studies used a conceptual framework to guide the research, including the Late Life Resilience Model and Modified Successful Aging (Emlet et al., 2018), the Model of Strength & Vulnerability (Psaros et al., 2015), and Promotive Social Ecological Resilience (Qiano et al., 2019). Only two of the eight qualitative studies discussed inter-rater reliability (Cheney et al., 2018; Emlet et al., 2018). Other authors described methods used to confirm reliability of work such as researchers transcribing independently to minimize bias

(DeGrezia et al., 2015; Grodensky et al., 2015; Psaros et al., 2015; Qiano et al., 2019; Warren-Jeanpiere et al., 2014).

Each qualitative research study used several analytic approaches, including NVivo, NVivo with grounded theory, and NVivo with thematic analysis (Grodensky et al., 2015; Psaros et al., 2015; Qiano et al., 2019), qualitative data analysis (Cheney et al., 2018; Emlet et al., 2018), hermeneutic interpretive analysis (DeGrezia et al., 2015), and constant comparison analysis (Warren-Jeanpiere et al., 2014).

The synthesis of the eight qualitative articles provided many different views of HIV/AIDS in minority populations. A few studies also included a full discussion of HIV as related to substance use. Most of the articles examined HIV and substance use separately in both men and women, but the focus of this review was on AA women 50 years and older.

Quantitative Literature

The quantitative research works were primarily observational and correlational and used cross-sectional, descriptive, prospective, and longitudinal methodologies. Of the 20 studies, 11 used quantitative research methods. Two articles focused primarily on drugs and religion and the effects of religion in managing drug use (Chu & Sung, 2009; Montgomery et al., 2015). Two other articles concentrated research efforts on spirituality and religion among HIV participants or those with high-risk HIV behaviors (Ludema et al., 2015; Nightingale et al., 2011). Several authors discussed drugs, HIV (or high-risk HIV behaviors), and the relationship between spirituality or religion (Acheampong et al., 2016; Billioux et al., 2014; Brennan et al., 2010; Ironson et al., 2011; Skalski et al., 2013). Skalski (2013) thoroughly studied older populations with HIV and illicit drug use and how spiritual coping affected health outcomes. All 11 of the quantitative studies included minority populations; however, only two focused primarily on AA

women (Lipiria et al., 2020; Ludema et al., 2015), and two others concentrated on 50 years and older populations (Brennan et al., 2010; Skalski et al., 2013). Much of the research in the area of HIV and illicit drug use was conducted in the southeast and northeast areas of the United States with little research conducted in the southwest and northwestern areas of the United States. Furthermore, no research was identified as occurring in Southern California, where substantial populations of HIV-infected patients and illicit drug users reside. A dearth of research focused on older AA women who are HIV-infected and used illicit drugs and how spiritual coping and resilience contribute to health and psychosocial outcomes.

Four of the research studies were characterized by specific frameworks that guided the study. Specific frameworks included Promotive Social Ecological Resources, which describes multilevel influences that help shape the behavior and environment of individuals (Lipira et al., 2020). Also used as a framework was Social Cognitive Theory, which posits that learning occurs in different social contexts as a result of the interactions among the person, environment, and behaviors exhibited (Montgomery et al., 2015). Ludema et al. (2015) used The Proximate Determinants Theory Framework, which was adapted for HIV high risk behaviors. Proximate Determinant Theory suggests that specific factors contributing to HIV behaviors can be influenced by change and have a direct effect on health outcomes. Brennan et al. (2010) employed Cantor's Hierarchical Compensatory Theory of Social Support, which suggests that family members such as husbands and children are of utmost importance, followed by friends and neighbors, in a hierarchy process of support. All the frameworks used help explain and better understand issues associated with spiritual support related to HIV and illicit drug use.

Instruments used to quantify the essential variables in the abovementioned studies assessed six overarching categories: (1) drugs and alcohol addiction; (2) spiritual and religious

beliefs, coping, and social support; (3) stigma and media impact; (4) general health surveys; (5) HIV/STI behaviors; and (6) depression and loneliness. Drug and alcohol addiction instruments included Alcohol Use Disorders Identification Test Consumption (Lipira et al., 2020); the Addiction Severity Index (Montgomery et al., 2015); Self-Help in Eliminating Life Threatening Disease (SHIELD; Billioux, et al., 2014), used for drug risk reduction; and the Drug Abuse Treatment Outcome Study (Chu et al., 2009). Some authors addressed specific relevant drug addiction questions such as whether a partner used drugs (Ludema et al., 2015).

Researchers have used surveys regarding spiritual and religious beliefs, including coping and social support, were used to explore ways in which people overcome living with HIV and drug use. Such surveys included the Multidimensional Measurement of Religiousness and Spirituality (Montgomery et al., 2015), Medical Outcome Study-Social Support Survey (Lipiria et al., 2020), Religious Belief and Behaviors Surveys (Lipiria et al., 2020), and the The Brief Religious Coping Scale (RCOPE; Ironson, et al., 2011; Montgomery et al., 2015). Other surveys used were the Religious Support Scale (Montgomery et al., 2015) and the Informal Support Network, Availability, and Adequacy of Informal Support and Spiritual Assessment (Brennan et al., 2010). Ironson et al. (2011) MEASURED CONCEPTS OF God with The View of God Inventory and the God Image Scale. Both Billioux et al. (2014) and Skalski (2013) included in their respective studies instruments measuring coping strategies such as spiritual support and spiritual coping, both domains of the SHIELD survey, and coping strategies assessment. Other authors asked specific questions pertinent to spiritual coping and social behaviors, such as the number of times a person was engaged in religious services and time spent meditating, praying, and reading the Bible (Ludema et al., 2015; Nightingale et al., 2011). Last, two authors

addressed HIV-related stigma in their research by including HIV-related stigma questions (Brennan et al., 2010; Lipira et al., 2020).

I grouped quantitative research among four main themes related to spiritual coping and resilience among HIV-infected OAAW managing substance use: (1) effects of religion and spirituality associated with substance use; (2) spiritual and religious issues related to sexual behaviors, drug use, and social capital; (3) substance use, HIV status, and religious stigma related to the church; and (4) nonconventional practices, HIV adherence, and immune functions.

The Effects of Religion, and Spirituality Associated with Substance Use

The first theme addressed the patterns and behaviors associated with substance use and/or HIV related to spirituality and religiosity. Lipira et al. (2020) found that when comparing unhealthy alcohol use with those who did not have unhealthy drinking habits, there were statistically significant differences in religiosity ($p=.04$) and marijuana use ($p<.001$) and were more common for women who used any alcohol than for women who did not. Decreased religious practices ($p=.01$), high levels of depression ($p<.01$), and crack and cocaine use ($p<.01$) were common from women who had unhealthy alcohol use compared to those without unhealthy alcohol use. Among women who reported heavy episodic drinking, versus those who did not, there were statistically significant higher levels of depression ($p=.03$) and cocaine and crack use ($p=.02$). Using adjusted relative risk (ARR), women who used any alcohol and also used marijuana were less likely to adhere to taking HIV medications versus those who did not use alcohol and took HIV medications (ARR=1.88, 95% confidence interval [CI], 1.43, 2.50, respectively); this included women with unhealthy alcohol use and heavy episodic drinking compared to those who did not use alcohol (ARR=2.37, 95% CI, 1.13, 4.97 and ARR=2.11, 95% CI, 1.09, 4.07, respectively). Crack and cocaine were also found to be strongly associated with

increased likelihood of unhealthy alcohol use and heavy episodic drinking (ARR=2.53, 95% CI, 1.37, 4.67 and ARR=2.61, 95% CI, 1.40, 4.85, respectively) compared to women who casually used alcohol and marijuana.

Montgomery et al. (2014) found similar findings related to religious coping and drug use. Spearman's partial correlation analysis revealed that positive religious coping and congregational support were negatively associated with alcohol use (r=–0.198 and r=–0.194). Positive religious coping and religious participation were negatively correlated with marijuana use (r=–0.161 and r=–0.193), and both congregational and clergy support were negatively correlated with depression (r=–0.154 and r=–0.194). It was also noted in the study that Baptist churchgoers were observed to use marijuana much less frequently than members of other Christian denominations. Billioux et al. (2014) examined whether religiosity was associated with substance abuse, including injectable drugs in high drug abuse communities. Regression statistics showed an inverse relationship between religiosity and recent drug use and HIV risk behaviors. People who had greater religious participation were less likely to report recent substance abuse, including opiates and cocaine (AOR= 0.54; 95% CI, 0.45–0.65), heroin, and speed injections (AOR=0.73; 95% CI, 0.60–0.89), or crack use (AOR= 0.70; 95% CI, 0.58–0.85), compared to people who had no religious participation. Skalski (2013) found that participants with higher levels of spiritual coping were less likely to use drugs (AOR= 0.55; 95% CI, 0.34, 0.89; $p<0.05$), compared to those who had lower levels of spiritual coping. Furthermore, the study found that for every one-unit increase in spiritual coping, participants were 1.83 times less likely to use drugs or engage in self-destructive avoidance behaviors. For every one-unit increase of self-destructive avoidance behaviors, participants were 2.86 times more likely to use drugs.

Acheampong et al. (2016) research study examined gender differences related to religion and spirituality among individuals with risky HIV behaviors and polysubstance use. A multivariate model revealed that men with high levels of religion and spirituality had 63% decreased odds of polysubstance use versus men who had low levels of religion and spirituality. Men with four arrests and three or more sexual partners had increased odds of polysubstance use (AOR=2.21, 2.11, respectively). Findings for women were similar: women with high levels of religion and spirituality had 58% decreased odds of polysubstance use, and women with medium levels of religion and spirituality had 62% reduced chance of polysubstance use versus those with low levels. Women with multiple arrests and incarcerations had increased odds of polysubstance use versus women who had never been arrested. Ironson et al. (2011) examined the relationship between spiritual and religious belief and positive or negative views of God. Results revealed a positive view of God correlated with positive religious coping ($r=.48$, $p=.001$), negative views of God correlated with negative religious coping ($r=.38$, $p=.008$), and positive views of God correlated with acceptance ($r=.55$, $p<.001$) and benevolence ($r=.43$, $p=.003$). All findings suggest that spirituality and religion offer some protection against drug use and risky HIV behaviors.

Spiritual and Religious Issues Related to Sexual Behaviors, Drugs, and Social Capital

The second theme in the 21 studies reviewed was spiritual and religiosity issues, sexual behaviors, drug use, and social capital. Social capital is described as networks, norms, and trust building that foster actions and cooperation that benefit everyone involved. Traditional ways of understanding social capital are not appropriate when examining essential needs of marginalized populations with specific intersectional implications (race, gender, age, illicit drug use, and HIV health issues). Yet, religion and similar activities may be an essential source of social capital

because they provide emotional and spiritual support in dealing with life problems such as HIV and substance use. Ludema et al. (2015) found that AA women who practiced high organizational religiosity (an organization based on a reliable belief system) had lower participation with multiple sexual partnerships than those who had lower organizational religiosity (AOR=0.73, 95% CI, 0.56, 0.97) and lower rates of multiple sex partners over a single year (AOR=0.84, 95% CI, 0.68, 1.04). High nonorganizational religiosity (as compared to low nonorganizational religiosity) was associated with fewer lifetime sex partners (AOR=0.82, 95% CI, 0.69, 0.98), a lowered rate of different sex partners over a single year (AOR= 0.58, 95% CI, 0.42, 0.80) and a decreased rate of participation in different sexual relationships occurring at the same time (AOR= 0.47, 95% CI, 0.30, 0.73). Women who described their religious beliefs as highly spiritual had fewer sex partners in a one-year time frame (AOR= 0.69, 95% CI, 0.55, 0.88) and a lower number of different sexual partners during the same time (AOR= 0.64, 95% CI, 0.47, 0.87) than did those who self-described their religious beliefs as less spiritual. Chu et al. (2009) found that AA clients did not differ significantly from White clients in desistance from drugs if the clients committed serious illegal acts, had friends using drugs, and attended church at the intake of substance use treatment. What was found to be different from White clients was church attendance at follow-up; AA clients continued to attend church as a means of support, and this was found to contribute to desistance from drug use (regression coefficient=0.167, standard error=0.091, $p<.05$). Although distance and age of clients differed somewhat, clients who were AA and continued to attend church as a means of support were more likely to continue to refrain from drug use on a long-term basis and often conveyed the importance of church attendance to help with abstinence.

Substance Use, HIV Status, and Religious Stigma

The third theme presented in the research studies was disclosure and nondisclosure of HIV status and substance use related to perceived stigma in church. Brennan et al. (2010) reported that more participants who were HIV infected disclosed their HIV status to at least one person in the church compared with those who did not disclose (53% vs. 47%). Of the participants choosing not to disclose, 70% still attended church several times per year, whereas 55% of those who disclosed not only attended church more frequently but received support including prayer, food, and monetary donations. Those who did not disclose their HIV status to other church members also did not disclose to others outside of church, including sex partners (15%) and those with whom used drugs (30%). Those who were diagnosed with AIDS were more likely to disclose (55%), and those from high-risk groups (i.e., the LGBTQ+ community and younger drug users) often disclosed more than other groups such as older women because among those in high-risk groups, HIV infection was more widely expected which reduced stigma however for older AA women, infection was not expected and disclosing caused undue stigma.

Nonconventional Practices, HIV Adherence, and Immune Functions

Finally, the fourth theme revealed in the research studies was nonconventional practices that help determine HIV adherence and immune functions. Nightingale et al. (2011) described nonconventional practices such as complementary and alternative medicine (CAM) and psychosocial therapies and religious practices. Results from statistical analyses revealed an interrelationship between psychosocial therapies and religious practices, where participants involved in psychosocial therapies also endorsed religious practices (Pearson: χ^2=11.07, p=.002). Adherence to HIV medication was related to religious practices (Pearson: χ^2=6.16, p.013) but was not related to CAM (Pearson: χ^2=.99, p=.320) or psychosocial therapies (Pearson: χ^2=3.16,

p=.075). Interestingly, CAM and religious practices were significant predictors for viral loads, and participants who regularly practiced religious beliefs were more likely to consistently adhere to antiretroviral therapy (ART) (95%).

Mixed-Method Literature

Only one research study employed a mixed-method analysis approach. The Ironson et al. (2016), study sought to determine if adherence to medication while engaged in spiritual and religious activities helped people cope with HIV and predicted survival over a 17-year period. The research involved interviewing participants regarding stress, drugs, and coping with HIV. Researchers then performed Cox regression to predict survival and spiritual coping. Analysis revealed that positive spiritual coping predicted a greater survival time over 17 years (hazard ratio [HR]=056, p=0.039), including spiritual practices (HR=0.26, p=0.001), spiritual reframing (HR=0.27, p=0.006), overcoming spiritual guilt (HR=0.24, p=0.001), gratitude (HR=0.40, p=0.002), and spiritual empowerment (HR=0.52, p=0.024). Furthermore, the study revealed that those who used spiritual strategies were two to four times more likely to survive and maintain undetectable HIV status (85%). Spirituality and religious practice were also noted as being essential to those who continued to practice and believe in its usefulness in promoting better quality of life health outcomes.

In the reviewed literature several themes reflected issues important to research about spiritual coping and resilience in older AA women with HIV and substance use including: (a) lack of knowledge and education about HIV/AIDS, (b) fear of stigma and discrimination, (c) substance use contributing to the problem of HIV, (d) social determinants of health that perpetuate the problem, and (e) belief in God, religion, and spirituality as a means to foster resilience and coping.

Lack of HIV Knowledge and Education

Many positive strides have been made in the area of HIV education, including the implementation of medications such as PrEP and PEP to minimize and prevent new AIDS cases. Even in 2020 there were still ongoing factors in society that contribute to new infections and barriers to preventing HIV, including lack of education, lack of access to essential health care, and behaviors that contribute to risk of contracting the disease (CDC, 2020). Among the AA community, there is still skepticism that older AAs are at risk of contracting HIV. AAs 50 years and older, even with access to medical care, often have difficulty speaking with their health care provider about their sexual health and how to properly protect themselves (DeGrezia & Scrandis, 2015). Many older women believe that they are not at risk because they are postmenopausal, experiencing decreased libido, and have inconsistent sexual partners and sexual activity. These implications contributed to OAAW's lack of interest in consistently being tested for the virus (Degrezia & Scrandis, 2015; Psaros et al., 2015). Moreover, many OAAW have reservations about adhering to medication as a HIV prophylaxis due to lack of education about long-term effects, concerns about monetary cost, and lack of ongoing access to providers to administer the medication.

Fear of Stigma and Discrimination

HIV stigma refers to negative beliefs and feelings toward those living with HIV. HIV discrimination is related to misconceptions and preexisting stereotypes of people who (1) are often from marginalized communities and have lifestyles that put them at increased risk for contracting HIV, including those among the LGBT community. (2) suffer from direct effects of drug use (poor health and increased risk of mortality) and effects of indirect drug use (broken relationships and poor financial reality), and (3) Belong to groups who engage in high-risk

sexual behaviors. Discrimination can also include unfair treatment based on someone's perceived and actual HIV status (CDC, 2019). African American women face an undue burden of stigma, discrimination, and intersectionality based on race, gender, age, poverty, and lack of education and opportunity (Qiao et al., 2019). There are three basic types of stigmas related to HIV: internalized, anticipated, and enacted. Internalized stigma refers to negative beliefs that someone with HIV may have about herself. Anticipated stigma corresponds to discrimination and stereotypes one expects to encounter due to her HIV status. Enacted stigma involves actual discrimination one has already experienced as a result of HIV (Earnshaw et al., 2013). Stigma in all its many forms alienates those who are infected and causes significant obstacles to managing consistent healthy behaviors (Brennan et.al., 2010). Because of stigma, OAAW express sentiments of shame and isolation, depression, and loneliness that are due to their HIV status, past substance use issues and perception that at an older age they should be perceived as wise and in a better place in life (Qiao et al., 2019; Szaflarski, 2013, Grodensky et al., 2015).

Substance Use Contributing to the Problem of HIV

Women who suffer from drug use are at increased risk of contracting and transmitting HIV because substance use such as crack and cocaine, marijuana, and other mind-altering drugs impair judgment and cause one to engage in risky sexual behaviors (Acheampong et al., 2016). AA women who are HIV infected commonly use alcohol. Alcohol is known to affect HIV care and health outcomes negatively (Edelman et al., 2014). Those who use marijuana and crack, or cocaine are also found to use alcohol, which contributes to increased rates of depression, isolation, lack of social support, and lack of ART adherence (Lipira et al., 2019). Drug addiction also brings on consistent maladaptive behaviors and lack of desire to pursue a healthy, normal life free from drugs. Patterns of drug use suggest that drug addiction is often normalized in

marginalized communities where current substance use is often seen among family, relatives, and others in the community (Cheney et al., 2016; Skalaski et al., 2013). Multiple factors contribute to drug addiction. Some risk include poverty, lack of parental supervision, and easy access to and availability of drugs in the community. In general, the more risk factors one has, the more likely one is to use and become addicted to drugs (DrugAbuse.Gov, 2018; Montgomery et al., 2014).

Social Determinants of Health (SDOH) That Perpetuate the Problem

SDOH are defined as aspects of daily life that affect how individuals live, work, and exist contribute to health risk and health outcomes. Social determinants of health explain factors that contribute to the problem of HIV and substance use (CDC, 2022). Among the literature reviews, the most prevalent issue discussed was poverty related to economic instability. Poverty is defined as a lack of resources to care for oneself and contribute to one's own basic survival needs. This idea of poverty can be expanded to include a family or an entire community. Poverty related to economic instability is directly correlated with practicing risky health behavior, which can lead to increased rates of HIV and substance use. One author found that significant poverty, especially in combination with comorbidities and lack of money for HIV medication contributed to the ongoing stress of older urban-dwelling HIV-positive adults (Degrezia & Scrandis, 2015). Cheney et al. (2016) reported that poverty and economic instability among residents in the rural South help drive ongoing health disparities involving high prevalence rates of HIV and drug abuse. Warren-Jeanpiere et al. (2014) found that OAAW were worried over their lack of income and limited economic opportunities and that this contributed to their day-to-day challenges maintaining health care insurance, managing money, self-care and taking care of other family members. Although data shows that HIV is predominantly located in urban areas, recent studies

of new HIV cases suggest increasing trend in areas such as the rural South as well as among often marginalized populations of women, minorities, and older adults (CDC, 2018).

God, Religion, and Spirituality as Sources of Coping and Resilience

Spirituality and religion are often described as a means to cope with reality when faced with chronic illness and disease. Tapping into spirituality and religion to maintain contact with God as a higher power often includes different activities such as praying, reading inspirational books, listening to spiritual music, meditating, and receiving guidance and support from like-minded believers. Practicing such activities enables believers to alleviate negative emotions and overcome challenges, increasing resilience to many of life's obstacles (Dalmida et al., 2012; DeGrezia & Scrandis, 2015; Grodensky et al., 2015; Qiao et al., 2019; Warren-Jeanpiere et al., 2014). Spiritual and social support to manage HIV and drug abuse is considered a lifelong journey that provides growth and helps avoid harming self and others with risky behaviors and lifestyles (Ironson et al., 2016). Studies have found spirituality and religion is protective in maintaining sobriety and eliminating heavy alcohol use (Lipira et al., 2020). Individuals who were able to practice consistent spiritual activities were able to minimize substance use such as crack or cocaine and marijuana use (Cheney et al., 2016; Montgomery et al., 2014). Other studies found that the higher the levels of spirituality and religion, the more likely the participant was able to refrain from consistent substance use (Montgomery et al., 2014).

Research studies have stated that spiritual and religious practices allow one to have a relationship with a higher power that provides purpose and meaning and that despite drugs and HIV infection, one can find inner strength and peace. Research has also shown that spirituality and religions may provide women who are 50 years and others a buffer against further negative health outcomes from other comorbidities that may worsen quality of life (Dalmida et al., 2012;

Emlet et al., 2018; Skalski et al., 2013; Warren-Jeanpiere et al., 2014). Practicing spirituality and/or religion was also protective against having high-risk sexual partners and engaging in risky sexual behaviors (Ludema et al., 2015). Having a sense of spirituality and/or religiosity also provided necessary spiritual support and social capital in the community and the church for older individuals who often isolated themselves because of their HIV status and feelings of stigma. For those who choose to attend church, religiosity also provided support in coping regardless of whether they disclosed their HIV status. Although some churches were found to perpetuate stigmatizing behaviors, other churches provided a necessary outlet ideal for older populations (Billioux et al., 2014; Brennan et al., 2010). Other alternative remedies, when combined with spiritual and religious practices such as the use of mindfulness, helped improve relaxation and were found to be more productive than anti-retroviral treatment medication during the initial and middle stages of disease progression (Emlet et.al., 2017, Ironson et al., 2016; Nightingale et al., 2011).

Gaps in Literature

Conducting an exhaustive literature review revealed several areas in which information was sparse or nonexistent in relationship to how spiritual coping and resilience helps HIV-infected OAAW with substance use. Some authors contend that because religion and science are distinct opposites of human reasoning, believing in the efficacy of spiritual coping an resilience is difficult (Park et al., 2017). Some social scientists have historically distanced themselves from conducting research in areas where spirituality and religiosity can provide an explanation and means for resolution because they reject all but empirical science (Chu & Sung, 2009; Park et al., 2017). Several articles discussed issues related to HIV and/or drug abuse as well as a few topics related to OAAW; however, fewer studies discussed the problem in terms of spirituality and

religiosity, a factor that has been well documented as important in the AA community (Chu & Sung, 2009; Ironson et al., 2011; Nightingale et al., 2011). By devaluing the relationship between science and religion, one negates the issue that religion and spiritual beliefs can benefit research as well as treatment, especially among minority communities who have a long-standing tradition of reliance on spiritual and religious activities to affect positive health outcomes (Chu & Sung, 2009).

Contribution to Science

Spiritual care has been shown to improve an individual's mental and physical well-being. It also allows nurses to emphasize the human experience of spiritual and religious beliefs, enabling them to focus holistically on patients' needs rather than focusing on specific diagnoses or illnesses (Duggleby et al., 2012). Holistic strategies have proven effective in treating AA communities affected by both HIV/AIDS and drug abuse. Through holistic care, community nursing and community-based organizations can provide prevention services for individuals infected with HIV and suffering through drug use as well as those who are at risk (Duggleby et al. 2012; Fisher et al., 2018). By building human capacity, hospitals, nurses, and the community can collectively address the problem. By using a multifaceted research team that includes the community, rather than relying on a traditional single primary investigator, underlying issues that continue to perpetuate these problems can be addressed. By providing a more thorough comprehensive response, positive health-related outcomes that fall in line with the needs of the community will persist long after researchers have ended their studies, outcomes to which the community can contribute and from which it can draw pride from the challenging work accomplished (Fisher et al., 2018). Chapter 4 details a clear and precise means of how the

research will be conducted. The methods section also provides a rationale for the specific statistical analysis selected to answer the two research questions proposed.

Chapter 4: Methods

This study was an investigation of OAAW living with HIV managing substance use challenges and the effect of spiritual coping and spiritual resilience using a quantitative cross-sectional design. A study of the association of spiritual coping and spiritual resilience to specific health related outcomes (HROs) will provide a better understanding of how spiritual experiences function to help OAAW overcome some of life's most insurmountable challenges.

Research Questions and Aims

Research Question 1: Do spiritual coping and spiritual resilience significantly predict HROs in HIV-positive OAAW with substance use?

Aim 1a. To test the association of HROs with positive and negative spiritual coping and spiritual resilience factors in HIV-positive OAAW with substance use.

Aim 1b. To test the association between positive and negative spiritual coping and resilience factors related to HROs in HIV-positive OAAW with current substance use when controlling for covariates: age and substance use.

Hypothesis 1a: Positive spiritual coping and spiritual resilience will both have positive associations (when considered together as predictors) with HROs in HIV-infected OAAW with substance use.

Hypothesis 1b: Negative spiritual coping will have a negative association and spiritual resilience will retain a positive association (when considered together as predictors) with HROs in HIV-infected OAAW with substance use.

It is important to note that while participants all had a history of (past or current) substance use, it was essential to control for both age and current substance use because they

could also impact HROs and thus their influence removed from regression models in order to more accurately examine the study hypotheses.

Research Question 2: Do spiritual coping and spiritual resilience moderate the relationship between current substance use and parental substance use in HIV-positive OAAW with substance use?

Aim 2a. To test the moderating effect of each spiritual factor (positive spiritual coping, negative spiritual coping, and spiritual resilience) on the association between current substance use and parental substance use in HIV-positive OAAW with substance use.

Hypothesis 2a: The association between current substance use and parental substance abuse weakens across higher levels of positive spiritual coping and spiritual resilience in HIV-positive OAAW with substance use.

Hypothesis 2b: The association between current substance use and parental substance abuse strengthens across higher levels of negative spiritual coping in HIV-positive OAAW with substance use.

Research Design

The study used a quantitative, cross-sectional survey design to determine the relationship of spiritual coping (both positive and negative) and spiritual resilience to health-related outcomes for OAAW who are HIV positive and with substance use. I used Qualtrics to collect the data. The analysis approach included correlation and regression analysis to obtain a better understanding of the lived experience of participants.

Participants and Setting

The population for the study was OAAW 50 years and older who are HIV positive with a self-reported history of substance use including alcohol, tobacco, and other drugs (marijuana, crack or cocaine, and heroin). HIV and substance use have often been studied in the general population, but few studies have researched the burden of HIV and substance disorder in OAAW, and even fewer studies have looked at how spiritual factors help to address these issues. The online survey was distributed via Facebook in targeted areas in the United States where research showed there were high populations of OAAW with HIV; this included areas of the South and East and West Coast.

Sample size was determined based on a power analysis that included an alpha level of 0.05, a power level of 0.80, and an expected sample correlation of r=0.35 (a medium effect size) when using a two-tailed test. The sample size was originally determined to be n=61. This sample size would also have allowed detection of a medium effect size for regression coefficients (f^2=.13). However, as explained later, the number of usable respondents was n=38; this actual sample size allows detection of a large effect size (correlation of .44 or regression f^2 =.23) with two-tailed alpha=.05 and power=.80.

Inclusion Criteria

Potential participants self-identified as AAW from birth and were HIV infected, 50 years old or older, and were able to read, write, and speak English with no physical or mental impairments that would prevent them from completing the online survey. Participants also had a history of substance use. Participants were required to consent to participate in the research study. While history of substance usewas an inclusion criterion, there was variability in the sample in terms of score on current substance use instrument.

Recruitment

Participants were recruited from three primary sites, Oasis Clinic, located in South Los Angeles; the women's HIV support group, also located in South Los Angeles; and via Facebook social media. Oasis Clinic is an HIV medical site that treats patients infected with HIV including the targeted study population. Marketing flyers advertising the research project were placed within the Oasis Clinic so potential participants could determine if they would like to be a part of the study. Direct recruitment occurred with the women's HIV support group, which is a nonprofit group that seeks to support OAAW who are HIV positive. Women from the support group were given marketing flyers Facebook social media was used to solicit participants located outside Southern California. Facebook helped attract other targeted participants from around the country.

Specific marketing flyers were designed to solicit on Facebook for participants in specific areas where there was a large population of HIV infections among AA. These locations include Texas, Florida, Georgia, Washington D.C., California, and New York. The type of sampling used included purposeful and snowball methods; utilizing both techniques provided the best way to obtain participants and gather rich data about the targeted population. Both techniques also allowed the researcher to reach hard-to-find populations who do not often share their experiences due to perceived stigma.

Measures and Instruments

Sociodemographic data collected from participants included: age, ethnic background, educational level, employment status, annual income, religious affiliation, and frequency of depression symptoms. These specific sociodemographic data were important to include because they helped to highlight specific relationships in the targeted populations; these demographics

are related to social determinants of health and to chronic diseases such as HIV and substance use disorder. Depression was used to describe the degree of depression amongst the studied population. It was not used as an outcome variable, but it was important to include to describe the sample.

The measures used for the dependent variables for Research Question 1 included questions from The Brief Religious Coping, the Brief Resilience Scale (BRS), Medical Outcomes Survey-HIV (MOS-HIV), World Health Organization Well-Being Index (WHO 5), and self-admitted CD4 test count. Measures used for the dependent variables of Research Question 2 include the Parental Substance Disorder Scale and Obsessive-Compulsive Drinking Scale Revised (OCDS-R). The Geriatric Depression Scale (15 items) was used to describe depressive symptoms among study participants. Spiritual Coping and Spiritual Resilience, the independent variables in both research questions were measures using the Religious Coping for major life stressors (RCOPE) and the Brief Religious Survey (BRS). The descriptions of each measure including the validity and reliability are described below.

Spiritual Coping

Spiritual coping is defined as beliefs and practices used to minimize emotional turmoil and distress often caused by stressful life experiences. Spiritual coping provides meaning and purpose during times of hardship and makes suffering more bearable (Pargament et al., 1998; Saad & Medeiros, 2012). Spiritual coping can be a powerful resource in managing chronic and ongoing disease, leading to feelings of comfort and peace and a way to live. Spiritual coping allows one to expand one's consciousness and realities—believing one can obtain their highest value in life in spite of health setbacks or hardships—to build a sense of purpose and fulfillment (Jacinta, 2004; Saad & Medeiros, 2012). The survey used to assess spiritual coping is the

RCOPE. RCOPE is a 14-item tool used to assess religious coping associated with life stressors (Pargament et al., 2011). RCOPE is the most common survey used to determine religious coping and provides how spirituality and religion helps contribute to managing trauma and finding peace during individual crises in life (Pargament et al., 2011).

Brief RCOPE was created by Pargament and researchers in 1997 to address five areas of coping: (1) finding meaning, (2) gaining authority over life issues, (3) gaining support and closeness to God, (4) gaining affection from others and God, and (5) achieving a sense of life transformation (Pargament et al., 2011). Individuals indicate the extent to which they use specific methods of spiritual coping in dealing with a critical life event using a four-point Likert scale ranging from 0 ("not at all"), 1 ("somewhat"), 2 ("quite a bit"), and 3 ("a great deal"). Each subscale (positive and negative spiritual coping) was calculated as the average of the relevant seven items from the instrument (Pargament et al., 2011). Using Cronbach's alpha, a test of internal consistency, the Brief RCOPE had a score of .92 for the positive religious coping questions and .81 for negative religious coping questions. Several other studies found that the Brief RCOPE produced adequate criterion-related validity with other measures of spirituality, such as well-being and finding growth and meaning from crises and trauma (Pargament et al., 2011).

Spiritual Resilience

Spiritual resilience serves as a component of general resilience, particularly in older populations. Spiritual resilience promotes the ability to overcome hardship and recover from difficult challenges. As one ages, increased levels of resiliency contribute to the meaning of and satisfaction with life (Manning & Miles, 2018). Spiritual resilience, much like general resilience, increases with time, age, and life experiences. Spiritual resilience is unique in that it provides a

pathway through life's challenges, increasing one's ability to bounce back more so than general resilience alone. Research suggests spiritual resilience is a lifelong endeavor (Manning & Miles, 2018). By improving one's spiritual resilience, older adults increase levels of happiness, enhance their meaning of life, and reframe the realities of death and loss. Spiritual resilience bg 3 is essential among populations who suffer from HIV and substance use who often have other comorbidities that contribute to daily hardships (Fang et al., 2015; Manning et al., 2018).

The tool used to assess spiritual resilience is the BRS. BRS was created by Smith and colleagues (2008) to define the ability to bounce back from stress and related negative life issues. The BRS was positively related to specific characteristics such as positive social relations, coping, and health and negatively related to anxiety and depression and other negative effects when other resilient measures, such as optimism and social support, were controlled (Smith et al., 2008). The BRS was also found to be a reliable means of assessing resilience and provided essential information about long-term coping and health-related stressors (Smith et al., 2008). The original BRS included participants described as middle-aged women and those suffering from chronic diseases, similar to the participants in this study (Smith et al., 2008). The BRS had good internal consistency (Cronbach's alpha .80–.91) and test-retest reliability (intraclass correlation ICC=.69 and .62 in two sample populations) and was shown to effectively enhance behavioral research dealing with resiliency in the face of traumatic life events. The BRS has six-items and survey and respondents rate the degree to which they agree with each statement. The survey uses a five-point Likert scale with responses ranging from (1) "strongly agree," (2) "disagree," (3) "neutral," (4) "agree," and (5) "strongly disagree." Scores can range from 6 to 30 with higher scoring indicating high resilience levels (Smith et al., 2008).

Physical Health

Physical health is a major issue with those who have HIV and substance use concerns because they often contribute to other health conditions in older populations, such as heart disease, osteoporosis, kidney disease, diabetes, and other chronic problems (Deren et al., 2019; HIV.Gov, 2020). Older adults living with HIV have higher rates of substance abuse than older adults who do not have HIV. Substance users also suffer from a lack of an HIV continuum of care, poorer health outcomes, and lower viral suppression as a result of ongoing drug use (Deren et al., 2019). Spirituality and religion can be viewed as protective factors in regard to physical health because they encourage abstinence for moderation with substance use. When spiritual and religious tools are consistently used, sobriety and the elimination of substances become possible, leading to improved physical health (Laudet et al., 2009).

The instrument used to measure physical health was Medical Outcome Study-HIV (MOS-HIV) survey, assess dimensions of health in those who are HIV positive. A subscale of the survey comprises five specific questions related to physical health (MOS-34; Wu et al., 1997). Data from several studies have supported the internal consistency and reliability with Cronbach's alphas ranging between 0.90–0.92 for the physical health summary range (Wu et al., 1997). The survey calls for participants to select the box that most describes if they feel the statements about physical health are: (a) "definitely true," (b) "mostly true," (c) "don't know," (d) "mostly false," or (e) "definitely false." The subscale is scored on a 0–100 scale with higher scores indicating better physical health (Wu et al., 1997).

Health-Related Quality of Life

HRQOL comprises more than just health states and activities of daily living. It also includes physical, emotional, and mental well-being as well as social and physical functioning.

HRQOL helps define a person's health status as it correlates to life satisfaction, purpose, and fulfillment (Healthypeople.gov, 2020). Additionally, I used MOS-HIV to assess HRQOL aspects in HIV-positive OAAW who suffer from substance use challenges. HRQOL has been shown to be reliable and internally consistent with a Cronbach's alpha that exceeded 0.75 (Wu et al., 1997). The higher the score, the better the perceived HRQOL.

Well-Being

Well-being has many meanings in research. In regard to this study, it relates to a state of positive being related to others and one's happiness with self, attitude, personal growth, and life satisfaction. Pertaining to psychosocial well-being, spiritual interventions, such as resilience, act as a protective factor and minimize or prevent the psychosocial distress often experienced in response to social problems, such as the discrimination, stigma, and health disparities related to substance disorder and HIV infections (Halkitis et al., 2017; Lo et al., 2018).

The measure of well-being used in this study was the WHO-5, which is a valid and reliable tool to assess psychosocial well-being. The survey asks five questions related to psychosocial well-being and social and collective well-being. The survey has been used with adult participants suffering from chronic diseases, such as diabetes. The internal consistency reported Cronbach's alpha of 0.87 and a test-retest reliability of 0.90 (Wu et al., 2014). Item responses are elicited using a six-point Likert scale (5 "all the time," 4 "most of the time," 3 "more than half the time," 2 "less than half the time," 1 "some of the time," and 0 "at no time") with scores ranging from 0 to 25. Scores below 13 indicate poor well-being. If the participant answers any question as 0 or 1, assessment for depression should occur (Wu et al., 2014).

CD4 Test Counts

CD4 cell counts have been shown to be positively affected by spirituality and religious activity. Several research studies have found that people using spirituality and religion after being diagnosed with HIV have a greater preservation of CD4 cell counts, better control over CD4 viral loads, and a decreased risk of death over a 10-year, or more, period (Fitzpatrick et al., 2007; Kremer et al., 2016).

The research asked participants to disclose their most recent CD4 and viral load test results. The advantage of having a self-reported questionnaire is the ease in which participants can answer online without fear of reprisal. Participants can also answer sensitive questions online with increased confidentiality and anonymity, thus increasing the willingness to report their responses honestly (Gnambs & Kaspar, 2015). Asking participants their most recent CD4 test counts enabled examination of the association between spirituality variables and immune system function. Normal CD4 counts range from 500 to 1500 cell/mm^3.

The Childhood Family Adversity Assessment (Parental Substance Use)

The Childhood Family Adversity Assessment measures childhood distress related to parental substance use and other adversities. The survey consists of four questions. Two questions discuss parental substance abuse followed by two additional questions to verify substance use. The respondents who reply affirmatively to questions one and two are then asked two additional questions. If the participant answers yes to either question three or four, they are considered to have had parents with a substance use disorder. The survey has been found to be valid in determining the likelihood of drug abuse (predictive validity) (Schulden et al., 2009; Von Korff et al., 2009). A parental history of drug use (also known as intergenerational drug use) is associated with other family members engaging in substance use. Research has suggested

intergenerational drug use in households is associated with increased risk of suffering from the same or other substance disorders (Schulden et al., 2009). Parental drug abuse affects family members with genetic ties as well as environmental ties, meaning an addiction to drugs can be due to genetics or learned environmental behaviors from seeing ongoing drug use.

The Obsessive-Compulsive Drinking Scale Revised (Current Substance Use)

The OCDSR is a 10-item survey used to assess substance use within the last 30 days. The higher the score, the more likely the compulsion to use alcohol and/or drugs. The internal reliability was found to be between 0.85 and 0.92 at baseline and 0.88 and 0.91 at the end of 30 days (Morgan et al., 2004). Responses to each question can range from 0 to 4, with higher scores indicating higher obsessions and compulsions for alcohol and other substances. The total score ranges from 0 to 40 with a score of 7 and higher indicating drug dependence. Note that while study participants all had a history of substance use, they could vary on the score for current substance use.

Geriatric Depression Scale 15-item

Lastly, participants completed the 15-item Geriatric Depression Scale (GDS-15) that screens for depression in older adults. The depression scores were used to describe the population and was not used as an outcome variable. Each question is scored from 0 (no/not present) to 1 (yes/present). Item scores are summed to give a total score. A score of 0–4 is considered normal, 5–8 indicates mild depression, 9–11 indicates moderate depression, and 12–15 indicates severe depression. The 15-item GDS-15 is a shorter version of the 30-item GDS, and it has been shown to have good reliability and validity. The GDS-15 has internal consistency with Cronbach's alpha coefficients ranging from 0.80 to 0.90 and good test-retest reliability with correlations between scores on two administrations ranging from 0.70 to 0.80. The GDS-15 also

has good concurrent validity with correlations between scores on the GDS-15 and other measures of depression ranging from 0.70 to 0.90 (Sheikh & Yesavage, 1986).

Data Collection

Quantitative data were collected using Qualtrics, an online data collection methodology that allows the researcher to survey participants who consent to participate in research. Potential participants first attested they meet the inclusion criteria and then consented to participate in the research study.

Procedures

Those who consented and qualified to participate were allowed to move to the next section, the actual survey. Completing the initial demographic questions and screening questions generated a random number that allowed participants to log on and take the survey. Once logged on, the survey provided specific instructions and gave a general time it would take to complete the questionnaire. The survey did not ask for any personal identifiers but rather referred to each participant as a randomly generated number. This was important to maintain privacy and minimize any stigma that could arise from being associated with the research study. After completion of the questionnaire, each participant was given a $25 Amazon gift card via email. This required providing a personal email that was deleted once the Amazon gift card was distributed. No record was maintained that identified individual emails. Each individual was able to take the survey only once.

Statistical Assumptions

Preliminary analysis included basic descriptive statistics of the participants' characteristics and all the scale scores. HRO variable distributions were also checked for normality to identify outliers and satisfy the assumptions for regression analysis. ases.

Data Analysis

I analysed Research Question one using correlation and multiple regression methods. I assessed unconditional relationships between each HRO and spiritual factor through pairwise Pearson correlations. For Aim 1 hypothesis testing, I estimated separate regression models for each of the four HROs (physical health, HRQOL, well-being, and CD4 test count) as dependent variables. I included spiritual coping and resilience as predictors without covariates. In one set of four models, positive spiritual coping and spiritual resilience were included as independent variables, and a second set of four models included negative spiritual coping and spiritual resilience as independent variables. I considered positive and negative spiritual coping in separate models, along with spiritual resilience, to focus specifically on each of these spiritual coping variables. I repeated these regression analyses, adding age and current substance use to the models as covariates. Age and substance use could be confounding variables that may interfere with accurately determining the relationship between positive and negative spiritual coping and spiritual resilience related to HROs. Failing to address this could lead to an inaccurate or misleading conclusion about the relationship of the independent and dependent variables.

For Research Question 2, I first determined the relationship between parental substance use and current use to show there is a relationship that existed. I then employed a moderation analysis with an interaction effect in regression models to determine if both positive and negative spiritual coping and spiritual resilience changed the relationship between parental substance use and current substance use. An essential reason for using a moderator as one of the statistical analyses in the research is because substance use is highly prevalent in this population and a contributing factor to poor HIV management. Analyses estimated a separate regression model for each spiritual factor. Each regression model included current substance use score as the

dependent variable, with parental substance use, one spiritual factor, and the interaction of parental substance use with the spiritual factor as predictors.

I analysed the data using SPSS V.22. The analysis involved two levels, including descriptive statistics (mean, median, mode, standard deviation [SD]), correlation coefficients, and regression analysis (multiple regression for question one and multiple regressions with an interaction effect for Research Question 2) with a significance level of 0.05.

Limitations

There are several limitations to the study including causality, selection bias, and concerns from self-reporting from participants. This study is a cross-sectional study, utilizing both correlational and regression analysis. This type of analysis cannot determine a cause-and-effect relationship, but it can recognize trends and patterns that are important as an initial study. There are some difficulties that arise in locating qualified participants for a study that deals with sensitive topics such as drug use and HIV status. This study uses both snowball and purposive sampling, which prevent random sampling from being achieved and could lead to a lack of representation of the population, contributing to selection bias. Participants that self-report in studies may exaggerate symptoms or underreport other conditions altogether. Last, the results of the study are not generalizable, but the information received from the study can be used to design other studies incorporating spirituality to support the needs of people with chronic illnesses to have a better quality of life.

Summary

This study serves to look at spiritual factors that help specific populations manage different types of chronic illness. By looking at the relationship of spirituality to specific HROs, we gain a better understanding of how it can be used to help those who already practice

spirituality in their daily life. It is also proposed that spiritual factors (spiritual coping and spiritual resilience) can also influence issues related to parental drug use and current drug use among populations with HIV/AIDS through moderation. When managing a chronic illness, the practice of spirituality is useful for achieving multidisciplinary care and quality-of-life measures. Ultimately, measures that help reduce the impact of ongoing illness and how it affects one's individual life are worthy of further research studies.

Chapter 5: Results

In this chapter I present the findings from analysis of the relationship of spiritual factors with selected HROs among OAAW living with HIV and managing substance use challenges. I present descriptive data about participants and the survey tools are presented, and the regression and moderation analyses according to the aims of the study.

Sample Demographic, Spiritual Factors, and Health Characteristics

The analysis sample included 38 OAAW ranging from 50 to 79 years of age, with the average age of participants as 58.2 (SD=7.38; see Table 1.) Fewer than half of participants reported completing high school as their highest level of education (44.7%), 21.1% reported having obtained a master's degree, 15.8% reported having an associate degree, and 13.2% reported having bachelor's degrees. Interestingly, the same percentage of participants reported having less than a high school education as having a PhD (2.6%). Annual income of participants ranged from $0 to $100,000 with the largest group reporting an income range of $10,000–$40,000 (53.8%); 26.3% of participants reported an annual income of $40,001–$70,000, whereas 15.8% reported an income of $70,001–$100,000, and 5.3% reported an income of $10,000 or less.

The state that had the most participants who responded to the survey was California (33.3%) followed by Georgia (13.2%), Texas (7.9%), and New York (7.9%). Missouri and Ohio both had two participants who responded to the survey (5.3%). There were also many other states that had one participant (2.6%) who responded to the survey (see other states* in Table 1). The cities that most participants lived in were Los Angeles (12.8%), Kansas City (7.7%); Atlanta, Houston, and Rochester were all equally represented with the same number of participants (5.1%). It is not surprising that Christian/Catholic as a religion had the highest

number of respondents (79.5%) followed by “other” (7.7%) and Muslim (7.7%). Geriatric depression scores provide a self-reported summary of depressive symptoms in the sample population. Geriatric depression scores showed 3 participant scores in the normal range (8%), 11 participant scores were in the mild range (29%), 12 participant scores were in the moderate range (31%), and 11 participant scores were severe (29%).

Table 1. Participant Characteristics

Characteristics		% (N)	Mean	Standard Deviation
Age	50–79	100 (38)	58.2	7.38
Highest Degree Obtained	H.S.	44.7 (17)		
	Master's Degree	21.1 (8)		
	Associate Degree	15.8 (6)		
	Bachelor's Degree	13.2 (5)		
	Ph.D.	2.6 (1)		
	Less than H.S.	2.6 (1)		
Annual Income	$10,000–$40,000	52.6 (20)		
	$40,001–$70,000	26.3 (10)		
	$70,001–$100,00	15.8 (6)		
	$0–$10,000	5.3 (2)		
State of Residence	California	31.5 (12)		
	Georgia	13.2 (5)		
	Texas	10.5 (4)		
	New York	7.9 (3)		
	Missouri	5.3 (2)		
	Ohio	5.3 (2)		
	Other States*	26.3 (10)		
City of Residence	Los Angeles	13.2 (5)		
	Kansas City	7.9 (3)		
	Houston	7.9 (3)		

	Atlanta		5.3 (2)		
	Rochester		5.3 (2)		
	Other Cities**		60.5 (23)		
Religious Affiliation	Christian/Catholic		79.0 (30)		
	Other		10.5 (4)		
	Muslim		7.9 (3)		
	Buddhist		2.6 (1)		
Geriatric Depression Scores	Score Range:		Freq. % (N)	Mean	Standard deviation
	0 (Normal)–15 (Severely Depressed):	0	2.7 (1)	9.56	4.07
		1	2.7 (1)		
		4	2.7 (1)		
	0–4: Normal	5	5.4 (2)		
	5–8: Mild	6	8.1 (3)		
	9–11: Moderate	7	13.5 (5)		
	12–15: Severe	8	2.7 (1)		
		9	10.8 (4)		
		10	10.8 (4)		
		11	10.8 (4)		
		12	2.7 (1)		
		13	2.7 (1)		
		14	2.7 (1)		
		15	21.6 (8)		

*Other states: Alabama (1), Florida (1), Illinois (1), Indiana (1), Kansas (1), Kentucky (1), Massachusetts (1), Maine (1) Mississippi (1), New Jersey (1).

Table 2 - Descriptive Statistics for Spiritual Coping, Spiritual Resilience, and Health-Related Variables, provides a description of average responses to the study instrument. The average positive spiritual coping score was 3.95, indicating most participants had a more than

mid-range positive spiritual coping score. The negative spiritual coping mean was 3.37, which reflects a score slightly closer to mid-range. Both spiritual resilience and physical health also yielded scores in the middle of the response range (2.94 and 2.29, respectively). HRQOL, or how a participant viewed their life, yielded a score of 2.35, which is near mid-range (on a scale of 1 to 4). The average score of the participants CD4 count was 251.0, which indicates a low or poor immune system.

Table 2. Descriptive Statistics for Spiritual Coping, Spiritual Resilience, and Health-Related Variables

	N	Mean	St. Dev	Cronbach's Alpha	# of Quest.	Possible Score Range	Interpretation
Spiritual Coping Positive (RCOPE)	38	3.95	.915	.922	7	1–5	Higher score = More + Sp. coping
Spiritual Coping Negative (RCOPE)	38	3.37	.927	.867	7	1–5	Higher score = More – Sp. Coping
Spiritual Resilience Brief Resilience Survey (BRS)	38	2.94	.530	.267	6	1–5	Higher score = More resilience
Physical Health—Medical Outcomes Survey—HIV (MOS-HIV)	37	2.29	.777	.753	4	1–5	Higher score = More physical health
HRQOL	37	2.35	.790	*	1	1–4	Higher score = More HRQOL
CD4 Test Count	34	252.88	201.99	*	1	4-800	Higher score = Better immune system

Well-Being	37	2.15	1.02	.891	5	1–5	Higher score = Better well-being
Parental Substance Abuse	37	1.60	.191	NA	4	1–2	Higher score = More parental substance abuse
Current Substance Use	37	2.45	.822	.884	9	0–4	Higher score = More substance Use

*****HRQOL & CD4 Test Count constructs were measured with only one survey question.

NA=not applicable because of scoring computation

Results of Statistical Analysis for Research Questions

Prior to regression analyses, I computed correlation matrix for variables used in regression analyses (Table 3). I saw significant negative pairwise relationships for positive spiritual coping and physical health (r=–.341), HRQOL (r=–.467), and well-being (r=–.349) and between negative spiritual coping and HRQOL (r=–.594) and well-being (r=–.489); and a significant positive relationship between resilience and HRQOL (r=.399). I also found a medium effect size correlation (but not statistically significant) between negative spiritual coping and physical health (r=.295).

Table 3. Correlations Between the Variables Used in the Regression Analyses for Aims 1 and 2

	1	2	3	4	5	6	7	8	9	10
1. Spiritual Coping Positive	--									
2. Spiritual Coping Negative	.058	--								
3. Resilience	–.269	–.312	--							
4. Physical Health	–.341*	–.295	.310	--						

5. HRQOL	–.467**	–.594**	.399*	.610**	--					
6. CD4 Test Count	–.038	.094	.073	.052	.008	--				
7. Well-Being	–.349*	–.489**	.237	.671**	.586**	.129	--			
8. Substance Use Score	.458	.554	-.482	-.599	-.605	.007	-.732			
9. Parental Substance Disorder Score	–.075	.095	.013	.007	.161	.199	–.116	.141	--	
10. Age	.391*	–.122	.192	–.157	–.311	–.135	–.252	–.262	–.438**	--

[1](N=34-37, see Tables 1 and 2 for N for specific variables)
*p<.05
**p<.01

Note also that examination of normality assumption showed acceptable normality for all variables for regression analyses.

Positive and negative coping are also independent of each other.

Results of the multiple regression and moderation analysis are summarized below and in Tables 4–11 organized by research question and hypothesis.

Research Question 1: Do spiritual coping and spiritual resilience significantly predict HROs in HIV-positive OAAW with substance use?

Aim 1a. To test the association of HROs with positive and negative spiritual coping and spiritual resilience factors in HIV-positive OAAW with substance use.

Multiple regression results for the relationship between positive spiritual coping, spiritual resilience, and HROs are presented in Table 4. Each row of the table contains results for a regression model for the dependent HRO listed in the first column.

Table 4. Multiple Regression Results for the Relationship of Health-Related Outcomes With Positive Spiritual Coping and Spiritual Resilience

	Positive Spiritual Coping			Spiritual Resilience			R^2
(HROs Dep. Variables)	Unstandard B Coefficient	Standardized Beta Coefficient	P-Value	Unstandard B Coefficient	Standardized Beta Coefficient	P-Value	
Physical Health	–.233	–.278	.097	.235	.340	.157	.167
HRQOL	**–.330**	**–.388**	**.014**	.295	.433	.056	.299
CD4 Test Count	–3.38	–.016	.935	.28.2	0.68	.723	.006
Well-Being	–.340	–.308	.707	.154	.294	.355	.144

N=34 for CD4, N=37 for all other models

Note that each row in Tables 4-9 includes results for one regression model for the row's specified dependent variable.

Multiple regression results for the relationship between positive spiritual coping and HRQOL (with resilience also in the model) yield a statistically significant p=.014. The unstandardized B coefficient was –.330, whereas the standardized beta coefficient was –.388. This finding indicates an inverse relationship between positive spiritual coping and HRQOL, showing that higher positive spiritual coping values were associated with lower HRQOL values. Furthermore, of all the dependent variables (physical health, HRQOL, CD4 test count, and well-being), HRQOL had the strongest relationship (as indicated by standardized beta coefficients) with positive spiritual coping as well as with spiritual resilience. The relationship between spiritual resilience and HROs did not yield any statistically significant values between the dependent and independent variables. Thus, in summary, the analyses showed that positive spiritual coping had an inverse relationship to HRQOL, and spiritual resilience had a positive relationship with HRQOL that approached significance p=.056.

Aim 1a. To test the association of HROs with positive spiritual coping, negative spiritual coping, and spiritual resilience in HIV-positive OAAW with substance use.

Multiple regression results for the relationship between negative spiritual coping, spiritual resilience and HRO's are presented in Table 5. Each row of the table contains results for a regression model for the dependent HRO listed in the first column.

Table 5. Multiple Regression Results for the Relationship of Health-Related Outcomes with Negative Spiritual Coping and Spiritual Resilience

	Negative Spiritual Coping			**Spiritual Resilience**			
(HRO's Dep Variables)	Unstandardized B Coefficient	Standardized Beta Coefficient	P-Value	Unstandardized B Coefficient	Standardized Beta Coefficient	P-Value	R^2
Physical Health	–.181	–.219	.200	.348	.241	.160	.139
HRQOL	**–.437**	**–.520**	**<.001**	.346	.235	.101	.402
CD4 Test Count	27.8	.128	.497	46.6	.112	.551	.020
Well-Being	**–.502**	**–.460**	**.006**	.175	.092	.562	.247

Multiple regression results for the relationship between negative spiritual coping and HRQOL indicated a significant p<.001. The beta coefficient was –.520 and unstandardized B coefficient was –.437. These results indicated an inverse relationship; thus, greater negative spiritual coping scores were associated with lower HRQOL scores. The relationship between negative spiritual coping and well-being was also significant (p=.006, standardized beta =–.460, unstandardized B=–.502). Whereas both HRQOL and well-being had p-values less than .05, HRQOL had the strongest relationship (as indicated by the standardized beta value) related to the independent variable negative spiritual coping. The relationship between spiritual resilience and

HROs did not yield any statistically significant values between the dependent and independent variables. In summary, results showed that negative spiritual coping had an inverse relationship with HRQOL and well-being, whereas spiritual resilience had no significant relationships with any of the HROs.

Aim 1b. To test the association of HROs with positive spiritual coping, negative spiritual coping and spiritual resilience in HIV-positive OAAW with substance use when controlling for covariates: age and current substance use level.

Multiple regression results for the relationship between positive spiritual coping, spiritual resilience, HROs when controlling for age and substance use are presented in Table 6. Each row of the table contains results for a regression model for the dependent HRO listed in the first column.

Table 6. Multiple Regression Results for the Relationship of Health-Related Outcomes with Positive Spiritual Coping and Spiritual Resilience After Controlling for Age and Current Substance Use

	Positive Spiritual Coping & HROs*			**Spiritual Resilience & HROs***			
(HROs Dep. Variables)	Unstandardized B Coefficient	Standardized Beta Coefficient	P-Value	Unstandardized B Coefficient	Standardized Beta Coefficient	P-Value	R^2
Physical Health	.068	.081	.655	.127	.088	.584	.418
HRQOL	.015	.017	.913	.332	.226	.115	.550
CD4 Test Count	7.92	.037	.890	44.3	.107	.602	.028
Well-Being	.253	.229	.091	-.094	-.050	.674	-.686

*Controlling for covariates: age and substance use

None of the relationships between positive spiritual coping and HROs yield statistically significant relationships when age and substance use were controlled. Furthermore, the relationship

between spiritual resilience and HROs were also not statistically significant. Interestingly, the statistical significance found between the positive spiritual coping and HRQOL was no longer significant when controlling for age and substance use.

Aim 1b. To test the association of HROs with positive spiritual coping, negative spiritual coping, and spiritual resilience in HIV-positive OAAW with substance use when controlling for covariates: age and substance use.

Multiple regression results for the relationship between negative spiritual coping, spiritual resilience, and HROs are presented in Table 7. Each row of the table contains results for a regression model for the dependent HRO listed in the first column.

Table 7. Multiple Regression Results for Relationship of Health-Related Outcomes with Negative Spiritual Coping and Spiritual Resilience After Controlling for Age and Current Substance Use

HROs*	**Negative Spiritual Coping & HROs***			**Spiritual Resilience & HROs***			
(HROs Dep. Variables)	Unstandard B Coefficient	Standardized Beta Coefficient	P-Value	Unstandard B Coefficient	Standardized Beta Coefficient	P-Value	R^2
Physical Health	.036	.043	.794	.112	.078	.624	.416
HRQOL	–**.326**	–**.387**	**<.004**	.297	.202	.104	.653
CD4 Test Count	28.4	.131	.545	48.7	.119	.560	.040
Well-Being	–.163	–.149	.231	-.179	-.094	.431	.672

*Controlling for covariates: age and substance use

Multiple regression when controlling for age and substance use revealed a statistically significant relationship between negative spiritual coping and HRQOL (p-value=.004, standardized beta= –.387, unstandardized B= –.326). HRQOL had an inverse relationship with negative spiritual coping. As negative spiritual coping increased, HRQOL decreased. The

relationship between negative spiritual coping, spiritual resilience and HROs showed no other statistically significant relationships between the dependent and independent variables.

Research Question 2: Do spiritual coping and spiritual resilience moderate the relationship between current substance use and parental substance abuse in HIV-positive OAAW with substance use?

Aim 2. To test the moderating effect of each spiritual factor (positive spiritual coping, negative spiritual coping, and spiritual resilience) on the association between current substance use and parental substance use in HIV-positive OAAW with substance use.

Hypothesis #2a: The association between current substance use and parental substance use weakens across higher levels of positive spiritual coping and spiritual resilience in HIV-positive OAAW with substance use.

Hypothesis #2b: The association between current substance use and parental substance use strengthens across higher levels of negative spiritual coping in HIV-positive OAAW with substance use.

Table 8 indicates that parental substance use has a statistically significant effect on current substance use (p=.024) without any spiritual factors (positive spiritual coping, negative spiritual coping and spiritual resilience) as a moderator.

Table 8. Current Substance Use Score Regressed on Parental Substance Use (N=37)

Predictor Variables	**Unstandardized**	**Standardized**	
	B Coefficient	**Beta Coefficient**	**P-Value**

Parental Substance Disorder Score (independent)	.612	.371	.024

R^2 = .138

Moderation analysis (Table 9) shows the relationship between current substance use score and parental substance disorder score was moderated by positive spiritual coping (p-value=<.001, standardized beta=2.08, unstandardized b=.821). Results suggest as positive spiritual coping increases the relationship between parental substance disorder and current substance also increases To help illustrate this result, we split the sample into high positive spiritual coping (greater than median of 4.1) and low positive spiritual coping (<=median) and found that the correlation of parental substance abuse and current substance use score was 0.663 (p=.001) in the high spiritual coping group but was near zero (r=0.084, p=.757) in the low spiritual coping group.

Table 9. Moderation Results for Current Substance Use Score Regressed on Parental Substance Use, With Positive Spiritual Coping as a Moderator (N=37)

Predictor Variables	**Unstandardized**	**Standardized**	
	B Coefficient	**Beta Coefficient**	**P-Value**
Parental Substance Disorder Score (independent)	-2.591	-1.570	.004
Positive Spiritual Coping (independent)	–.077	-.086	.643
Parental Substance Disorder*	**.821**	**2.08**	**<.001**
Positive Spiritual Coping (interaction/moderation term)			

R^2 = .576

Moderation analysis results for the relationship between current substance use score and parental substance disorder with spiritual resilience as moderator did not yield any statistically significant relationship (Table 10).

Table 10. Moderation Results for Current Substance Use Score Regressed on Parental Substance Abuse, With Negative Spiritual Coping as a Moderator (N=37)

Predictor Variables	Unstandardized	Standardized	
	B Coefficient	Beta Coefficient	P-Value
Parental Substance Disorder Score (independent)	-.695	-.421	.397
Negative Spiritual Coping (independent)	.231	.264	.218
Parental Substance Disorder* Negative Spiritual Coping (interaction/moderation term)	.367	.834	.127

R^2=.450

Moderation analysis results (Table 11) for the relationship between current substance use score and parental substance disorder with negative spiritual coping as moderator did not yield any statistically significant relationships.

Table 11. Moderation Results for Current Substance Use Score Regressed on Parental Substance Use, With Spiritual Resilience as a Moderator (N=37)

Variables	Unstandardized	Standardized	
	B Coefficient	Beta Coefficient	P-Value
Parental Substance Disorder Score (independent)	1.550	.939	.223
Resilience (independent)	-.587	-.384	.055
Parental Substance Disorder* Resilience (interaction/moderation term)	-.315	–.582	.455

R^2=.385

Chapter 6: Discussion

This research examined spiritual coping, both positive and negative, spiritual resilience among HIV-positive OAAW with histories of substance use and the impact of these spiritual factors on perceived and actual health outcomes. To the best of my knowledge, it is one of the first studies examining this issue. Most OAAW identify with religion and spirituality and believe in a higher power conveyed as God, which has the power to intervene not only in their lives but in the world, they live in. Spiritual coping as a response to illness and life stressors has the potential to allows participants to rationalize the meaning and purpose of life. Although positive spiritual coping is seen as leading to the ability to adapt and manage hardship, negative spiritual coping reflects an ambivalence in God's power and may include a belief that God can punish as well as reward.

Results of Positive Spiritual Coping, Spiritual Resilience, and HROs – Multiple Regression

Although I hypothesized that positive spiritual coping and spiritual resilience would be positively related to HRO's (physical health, HRQOL, CD4 test count, and well-being), this hypothesis was not supported. Positive spiritual coping was inversely related to HRQOL. When all dependent variables (HROs) were considered while controlling for age and substance use, HRQOL relationship to positive spiritual coping was no longer significant. The only significant relationship to a dependent variable, HRQOL, was the inverse relationship between positive spiritual coping and HRQOL. When participants had a higher level of positive spiritual coping, their HRQOL was lower. Conversely, when positive spiritual coping was lower, HRQOL was higher. However, when each dependent variable (HROs) was considered while controlling for age and substance use, the relationship between positive spiritual coping and HRQOL was no

longer significant. This suggests that age and substance use confounds the relationship and serves to illustrate how complex the relationship is.

Parks et al., (2017), found similar results when positive religious coping was used to manage life challenges among older AA community-dwelling adults. The research showedan inverse relationship between positive religious coping and life adjustments. Furthermore, negative religious coping was found to have a stronger effect than positive religious coping. The author contends that very little is understood regarding how both positive and negative religious coping are associated with the dependent variable well-being as well as other major variables. The research reported here suggests the same thing.

Results of Negative Spiritual Coping, Spiritual Resilience and HROs – Multiple Regression

Among the HRO variables related to negative spiritual coping, two relationships were statistically significant. Both HRQOL and well-being were significantly and inversely related to negative spiritual coping; as negative spiritual coping increased, both HRQOL and well-being decreased. This was an expected finding as several research studies have found increased negative spiritual coping is associated with decreased well-being and decreased HRQOL in older adults. Vitorino (2018) found negative spiritual coping to be associated with negative effects on HRQOL and well-being in hemodialysis patients. These results were also evident in populations who suffer with chronic disease and practice negative spiritual coping such as the population in this study. Bowland et al., (2013) also showed that negative spiritual coping was related to depression and anxiety in older adults who survived earlier life trauma. Additionally, Dalmida (2012) and Moharer (2018) also reported that higher levels of negative spiritual coping were associated with poor health outcomes and decreased HRQOL. Specifically, research among HIV populations detailed an inverse relationship between depressive symptomologies and HRQOL

(Dalmida, 2012); as depression increased, HRQOL decreased. Depression symptomology was an outcome variable in Dalmida study versus being used as a descriptive measure as seen in the current dissertation. However, of the 38 participants that were involved in this study, 23 or 61% reported having moderate depression (12 individuals) or severe depression (11 individuals). This may have impacted on the results of the study and influenced the effects of negative spiritual coping more so than the effects of positive spiritual coping.

When controlling for age and substance use, only HRQOL continued to be statistically significantly related to negative spiritual coping. Therefore, while age and substance use appear to affect the relationship between negative spiritual coping and well-being, they did not substantially alter the relationship between negative spiritual coping and HRQOL, as HRQOL remained statistically significant. HRQOL continued to have an inverse relationship suggesting as negative spiritual coping increased, HRQOL decreased. As stated, this result is fully supported by the literature and supports a strong relationship between negative spiritual coping and HRQOL. It also suggests that HRQOL is more influenced by negative spiritual coping than by positive spiritual coping.

Moderation Results for Current Substance Use Score Regressed on Parental Substance Disorder Score with Positive Spiritual Coping, Negative Spiritual Coping, and Resilience as Moderator

To determine if positive spiritual coping, negative spiritual coping, or spiritual resilience moderated the relationship between parental substance use and current substance use, I analyzed an interaction effect of each potential moderator (in separate equations). The results show neither negative spiritual coping, nor spiritual resilience moderates the relationship between parental substance abuse and current substance use, as shown by non-significant interaction effects.

However, positive spiritual coping significantly moderated the relationship between parental substance use and current substance use. Surprisingly as positive spiritual coping increased, it strengthened the relationship between (rather than weakened) the relationship between parental substance use and current substance use. This was certainly a contradictory finding, as there have been many research studies that describe positive spiritual coping as a protective factor against substance use. In trying to better understand the results of the analysis, there are some plausible explanations that contributed to this outcome and are supported by the literature.

Research hacs shown that individuals engage in positive spiritual coping also have a strong family connection (Prouty, 2015). While positive spiritual coping is known to foster resilience and protection against maladaptive behaviors such as drug use, when individuals within families engage in drug use and have a strong family connection, this amplifies the influence that family has on an individual's risk of substance use, even when positive spiritual coping is practiced (Skeer et al., 2009). What this suggests is due to shared behaviors and stressors that arise from substance use in the family, positive spiritual coping may not be enough, and requires other resilient factors including: Connections to supportive community and other stable family members, access to counseling and therapy, secure environment, education, and self-efficacy and cultural identity (Gruber & Taylor, 2006; Prouty, 2015; Chaput, 2013; Krishanan et al., 2013; Arevalo, 2008).

Conversely, positive spiritual coping may appear to strengthen the relationship between current substance use and parental substance due to the limitations of the cross-sectional design that looks at one point in time, when over a longer period of time if women use positive spiritual coping, it may help to decrease current substance use. There are several authors that discuss the

importance of relying on positive spiritual coping on a long-term basis to decrease alcohol and drugs use among HIV positive women with substance use. Meade et al., (2009) found that women who were HIV positive who suffered from sexual abuse trauma and used various substances such as cocaine and alcohol were able to decrease their use of drugs even after 1 year of intervention (the intervention provided was a group coping session for HIV positive subjects with childhood sexual abuse**).** The relationship between HIV and substance use among older AA women is multifaceted and complex, requiring a comprehensive approach in additional to positive spiritual intervention.

Negative Spiritual Coping as the Focus of Research

The research hypothesized several areas of focus thought to occur in the study population including the following: (a) positive spiritual coping and spiritual resilience would result in a positive relationship with HROs in HIV-infected OAAW with substance use; (b) positive spiritual coping and spiritual resilience would have a positive relationship with HROs even when controlling for age and substance use; and (c) the relationship between current and parental substance use would weaken across higher levels of spiritual coping and spiritual resilience in the studied population. The researcher's hypotheses were not supported in several of the regression and moderation analyses. Positive spiritual coping was found to have a positive relationship with HRQOL; however, when controlling for age and substance use as covariates, that relationship was no longer statistically significant. Negative spiritual coping, however, was found to be significantly related to HRQOL and well-being. Yet only HRQOL continued to be statistically significant when age and current substance use were controlled. These associations suggest that negative spiritual coping and health-related variables may be strongly correlated in this population of OAAW as seen in other research studies. What was evident as an essential

result of the study was reliance on positive spiritual coping, negative spiritual coping and spiritual resilience is complex and cannot be fully discussed without a thorough discussion concerning depression as an outcome variable, not just a descriptive variable. Run the mean depression score for people with high versus low levels of negative spiritual coping. Further discussion would be discussed in future studies.

What About Spiritual Resilience?

When controlling for covariates, age and substance use, spiritual resilience was no longer statistically significant with the dependent variables HRQOL and well-being. In addition, when looking at the Cronbach's alpha, I found there was poor reliability (.275), which may have contributed to the results that were found.

Limitations

There were several limitations that had profound effects on the research study. These included the following: (1)Substance use versus abuse, (2) fraudulent activity, (3) low Cronbach's Alpha scores and (4) confusion of the participants.

The results of the research study are not generalizable because the participants were not random samples, however, findings are generalizable to similar populations. Everyone who participated in the study self-selected. It is worth mentioning that women can change their coping strategies from positive to negative or vice versa depending on their health status – thus the relationships are probably reciprocal. Although this research examined the use of positive and negative spiritual coping by women with a chronic illness with the presumption that spiritual and religious women often use more adaptive behaviors, people can also use maladaptive behaviors depending on the severity and complexity of the disease. Women can choose to use helpful/beneficial measures or harmful measures in the face of chronic or terminal illness and may even fluctuate

between the two. It is important that supportive measures (both medical and religious) help encourage adaptive, positive spiritual coping efforts to support overall health and well-being, realizing that these issues are often complex.

Substance Use Versus Substance Abuse

Substance use and substance abuse are similar concepts in this study, related to the frequency of drug used by an individual and the impact on the participant's life. To what degree a participant's use of drugs resulted in defining each participant as having substance use problem versus a substance abuse or substance disorder was not tested to determine a clear definition. While substance use and substance abuse can have an adverse effect on one's life, knowing a difference exists is important for the reader to know. When referring to survey tools, the phrase "substance abuse" is used as it refers to each author survey; however, when referring to participants in the study the phrase "substance use" was used to describe all subjects who consumed psychoactive substances (cigarettes and alcohol included) that negatively affected their lives to varying degrees whether considered as occasional use, excessive or abusive.

Fraudulent Activity

Initially, 4,172 participants responded to the survey on Facebook. After analyzing the results, it was discovered that much of the data received was done by bots, which are computerized responses used to complete surveys hundreds of times, enabling a person (scammer) to receive the incentives from the research. To clean up the data and find genuine participants, the researcher performed several steps.

1. I analyzed the data to determine which participants met the criteria: 50 years old and older, identified as AA, given the gender assignment of female at birth, had been diagnosed as HIV positive and had a past (or current) substance use disorder including

alcohol or cigarette use. Several participants stated "yes" to the screening criteria questions but when asked some of the same questions at the end of the survey there were discrepancies such as if they were 50 years or older.

2. I identified surveys from duplicate IP addresses and deemed the duplicates to be fraudulent and deleted the responses.
3. I identified respondents who replied to the survey in less than 5 minutes (300 seconds) as fraudulent and deleted the responses.
4. I looked at each email to see which seemed nonsensical such as 30s30sld@gmail.com and used sites (email hippo) an online app that helped determine how long an email had been established. Those that had nonsensical email addresses or were established within fewer than 30 days were not used. Emails that had a male name were also not used.
5. I looked at each response, and if the answer to a question did not make sense, we excluded the participant's survey. For example, the screening? question asked how many years of education the participant had; if they answered by putting a date rather than a number that coincided with years of education, the participant's response was not used. After applying these screening criteria, the remaining 38 respondents were used for the study.

Low Cronbach's Alpha Scores Related to the Independent Variable Resilience

The data used in this analysis showed that the instrument used to measure the independent variable spiritual resilience had a poor Cronbach's alpha (.275); therefore, the findings that resulted (positive relationships, yet not significant) of spiritual resilience and HRQOL, as well as the moderation analysis with spiritual resilience in the interaction moment with parental substance abuse, provide limited support for inferences. The low reliability could

be for several reasons including the difficulty that participants had in understanding the questions related to the survey and the inability of participants to answer the questions with consistency. This suggests that examination of spiritual resiliency warrants further research.

Confusion in Answering the Question About CD4 Test Counts

Many participants had difficulty in answering what their CD4 cells were (also known as T-Cells, an important part of the immune system responsible for fighting off infections. T-Cells are defined as the number of cells per cubic millimeter of blood). CD4 test count is an indicator of how well the immune systems is functioning while living with HIV, whereas being undetectable refers to the viral load that exist in the body. Data suggest that many participants confused these two ideas. Some participants answered the CD4 counts question by stating they were either "detectable" or "undetectable." A more appropriate way to ask the questions may be to define CD4 counts as "how many T-cells they have" and to also ask if they are "detectable (able to spread HIV) or "undetectable" (unable to spread HIV). It is important to use language that is appropriate and understandable to participants to get a more accurate and reliable response.

Implications for Nursing Practice

The study results underscore the importance of identifying people who need help and support. The findings suggest that HIV-positive OAAW with substance use disorder are at high risk of depression and often use negative spiritual coping rather than positive spiritual coping. In fact, many of the participants suffered from moderate to high levels of depression which likely resulted in negative spiritual coping being a more significant predictor than positive spiritual coping. As a result, it is essential that future studies look at depression as a confounding variable or even a moderator as it may better explain the relationship between both the dependent and

independent variables involved. Health care providers, as well as organizations that support OAAW with HIV, must do a better job of recognizing depression and its negative effects and improve efforts to get them the help they need. They need to be more perceptive and willing to provide support. This research needs to be disseminated to those who serve patients with similar backgrounds, not only in the hospital but also in the communities where they live to disseminate knowledge about the perils of HIV is the best strategy to prevent the spread of the disease.

Many AA people believe that HIV is no longer a serious threat because of antiretroviral medications that can help people reach undetectable measures. This is far from the truth. AA people make up 13% of the population but account for 42.1% of HIV infections. AA people are 7.8 times more likely to be diagnosed with HIV, and AA women are 15 times more likely to be diagnosed with AIDS and 15.3 times more likely to die from disease than their white counterparts (Emlet et al., 2018). As a community, health care providers still have much to do to stop the spread of HIV and AIDS.

Contribution to Science and Future Research

Research that can provide concrete evidence about chronic illnesses, such as HIV and substance use disorder in OAAW is warranted because of the paucity of research focused on this underserved population. Although negative spiritual coping is a mechanism of coping, it was not expected given the prevailing assumption that AAs turn to the church and spirituality to deal positively with adversity (Harris et al., 2019). Given the concerns about reliability of the resilience measure, further exploration of spirituality and chronic illness examining how faith affects spiritual resilience and health outcomes among participants with chronic and acute illnesses is warranted. The researcher will also continue to work with the study population of as a

community health care practitioner sensitive to people who exemplify negative spiritual coping behaviors to foster help and support.

Appendix A: Resources for Participants

Online Counseling

- Faithful Counseling—Video, phone, and live chat

https://www.faithfulcounseling.com/contact/

- Better Help—Video, phone and live chat, unlimited messaging

https://www.betterhelp.com/contact/

- Chat Now–Christian Therapy—Live chat service (international)

https://chatnow.org/

Appendix B: Measurements According to the Aims

AIM 1. Do spiritual coping and spiritual resilience significantly predict HROs in HIV-positive OAAW with substance use?

Survey Name/Variable	**Variable Name/Type**	**Num. of Questions**	**Scoring Instructions for Each Survey**
Brief RCOPE/Spiritual Coping	Spiritual Coping–Independent	14	4-point Likert scale. Positive and negative added separately. Higher scores indicate high levels of positive coping or negative coping.
Brief Resilience Scale (BRS)/Spiritual Resilience	Spiritual Resilience–Independent	6	5-point Likert scale, score range 6–30 with higher scores indicating high resilience levels.
Medical Outcomes Survey: HIV General Health Perception/Physical Health	Dependent–Physical Health	5	5-point Likert scale, score range 0–100 with high scores indicating better physical health.
Medical Outcomes Survey: HIV/Health Related QOL	Dependent–HRQOL	1	5-point Likert scale, scores range 0–100 with high scores indicating better health-related quality of life.
WHO 5 Index/Psychosocial Well Being	Dependent–Psychosocial Well Being	5	6-point Likert scale, score range 0–25, with a score below 13 indicating poor well-being.
CD4 Counts	Dependent–Self Reporting	1	Self-administered—participants provide

			their most recent CD4 counts.

AIM 2. Do spiritual coping and spiritual resilience moderate the relationship between current substance use and parental substance use in HIV-positive OAAW with substance use?

Survey Name/Variable	**Variable Name/Type**	**Num. of Questions**	**Scoring Instructions for Each survey**
Parental Substance Abuse Disorder Survey.	Dependent–Parental Substance Abuse	04	Participants answer yes to questions one or two. Then a yes answer to either question three or four indicates the parent(s) or guardian had substance disorder.
Obsessive Compulsive Drinking Scale	Dependent–Current Substance Use	10	10-item survey used to assess current substance use within the last 30 days. Score range 0–4 with higher scores indicating higher obsession and compulsion to alcohol and other substances.
Geriatric Depression Scale	Dependent–Depression Assessment	15	15-item screening questionnaire that measures depression in older adults. Each individual question is scored 0 (not present) or 1 (present). A score of 0–4 is considered

			normal, 5–8 indicates mild depression, 9–11 indicates moderate depression., and 12–15 indicates severe depression.

Appendix C: Survey Instruments

Screening Questions

*Self-identify as African American

*Assigned female gender at birth

*Diagnosed with HIV or AIDS

*Have a past (or current) substance use, including alcohol and tobacco

*Must read, write, and speak English

Survey Questions

Brief RCOPE– (Spiritual Coping)

Positive & Negative Coping—Scoring Range: 0 (not at all) to 4 (a great deal)

Participants are asked to indicate the degree to which they use specific methods of spiritual/religious coping in dealing with stressful life situations.

- Looked for a stronger connection with God.
- Sought God's love and care.
- Sought help from God in letting go of my anger.
- Tried to put my plans into action together with God.
- Tried to see how God might be trying to strengthen me in this situation.
- Asked forgiveness for my sins.
- Focused on religion to stop worrying about my problems.
- Wondered whether God had abandoned me.
- Felt punished by God.

- Wondered what I did for God to punish me.
- Questioned God's love for me.
- Wondered whether my church had abandoned me.
- Decided the devil made this happen.
- Question the power of God.

Brief Resilience Scale (BRS) (Spiritual Resilience)

Based on 5 possible responses: 1. Strongly agree, 2. Disagree, 3. Neutral, 4. Agree, 5. Strongly disagree)

Please answer the following:

- I tend to bounce back quickly after hard times.
- I have a hard time making it through stressful events.
- It does not take me long to recover from stressful events.
- It is hard for me to snap back when something wrong happens.
- I usually come through difficult times with little trouble.
- I tend to take a long time to get over my setbacks in my life.

Medical Outcomes Survey: HIV (MOS-HIV) (Physical Health)

Check the box that describes whether each of the following statements are: definitely true, mostly true, don't know, mostly false, definitely false.

- I am somewhat ill.
- I am as healthy as anyone I know.
- My health is excellent.
- I have been feeling bad lately.
- In general, would you say your health is (Circle one) excellent, very good, good, fair, poor

Medical Outcomes Survey: HIV (MOS-HIV) (HRQOL)

Please circle one of the following responses to this statement:

- How has the quality of your life been during the past 4 weeks.

Circle one: very well, pretty good, pretty bad, very bad

Well-Being Index Survey 5 (WHO-5) (Psychosocial/Well-being)

Please respond to each item by circling one number per row: 5–All of the time, 4–Most of the time, 3–More than half the time, 2–Less than half the time, 1–Some of the time, 0–At no time. Please answer the following questions:

	I have felt cheerful, in good spirits.	5	4	3	2	1	0
	I have felt calm and relaxed.	5	4	3	2	1	0
	I have felt active and vigorous.	5	4	3	2	1	0
	I woke up feeling fresh and rested.	5	4	3	2	1	0
	My daily life has been filled with things that interest me.	5	4	3	2	1	0

CD4 Test Count

Please indicate your most current CD4/T-cell test count (cell per cubic millimeters) as received from your most recent physical lab reports.

Parental Substance Disorder Survey.

Parental substance disorder was assessed with the following items:

- (Criterion a) Did the person who raised you ever have a problem with alcohol or drugs? (Circle one) Yes or No
- (Criterion b) Did he/she have this problem during: all, most, some, or only a little of your childhood? (Circle one)
- (Criterion c) Did the problem interfere a lot with the life or activities of the man or woman who raised you? (Circle one) Yes or No
- (Criterion d) Did they seek professional help for this problem? (Circle one) Yes or No

Obsessive Compulsive Drinking Scale Revised (OCDSR) (Current Substance Use)

Score ranges from 0 to 4 with 0 = low and 4 = high

In the past 30 days . . .

- How much time was occupied by ideas, thoughts related to drinking/using?
- How frequently do these thoughts occur?
- How much do these ideas, thoughts interfere with your social/work functioning?

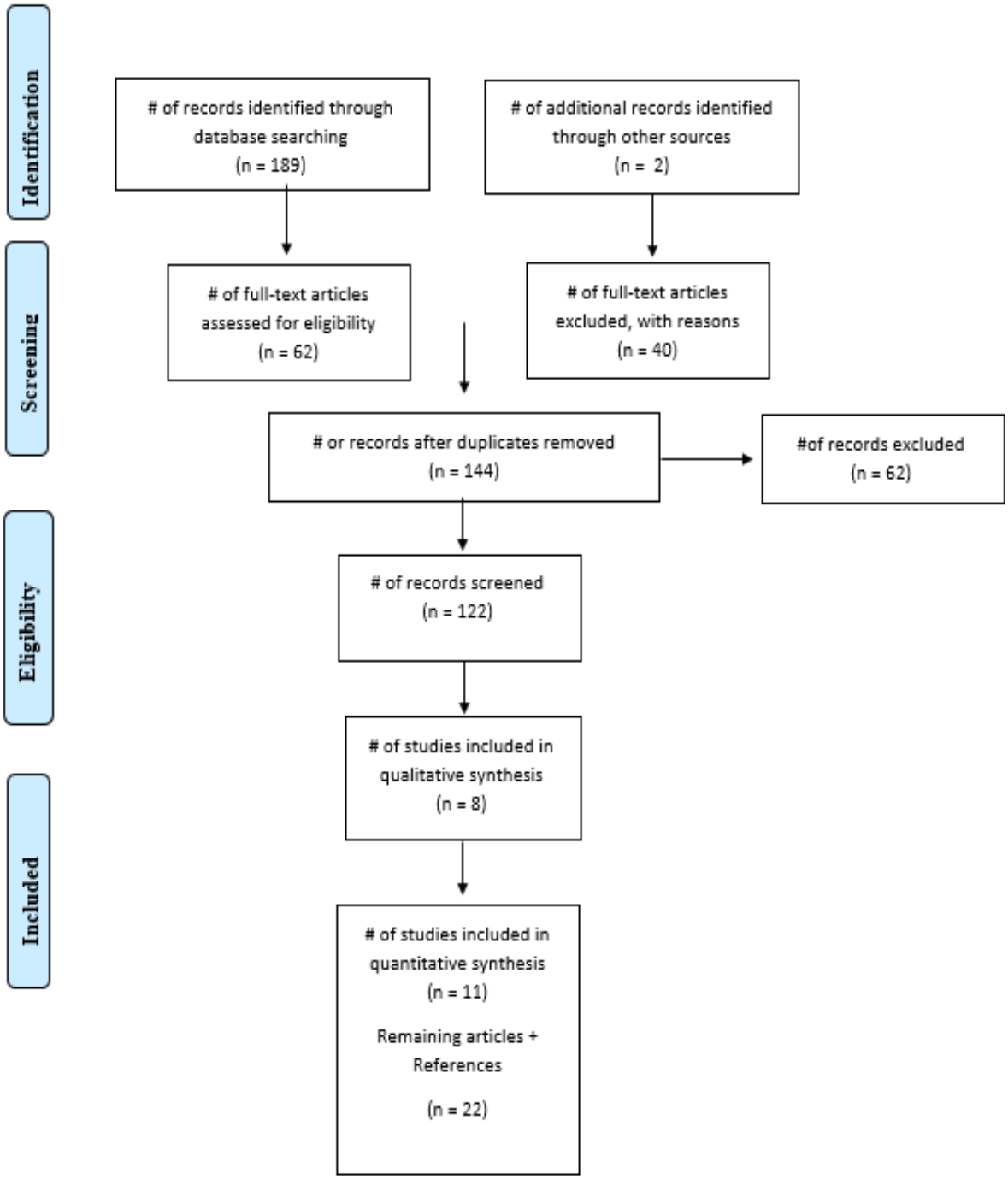
- How much distress do these ideas; thoughts cause you when not drinking/using?
- How much of an effort do you make to resist or turn away from these thoughts?
- How successful are you in stopping or diverting these thoughts?
- If you were prevented from drinking/using, how anxious or upset would you become?
- How much of an effort do you make to resist consumption or alcohol/drugs?
- How strong is the drive to consume alcohol/drugs?
- How much control do you have over the drinking/use of drugs?

Geriatric Depression Scale-15

Answer yes or no to the questions about how you have felt in the past week:

1. Are you basically satisfied with your life?
2. Have you dropped activities or interests you used to enjoy?
3. Do you feel your life is empty?
4. Do you often get bored?
5. Are you in good spirits most of the time?
6. Are you afraid that something bad is going to happen to you?
7. Do you feel happy most of the time?
8. Do you often feel helpless?
9. Do you prefer to stay home rather than going out and doing things?
10. Do you feel you have more problems with memory than most?
11. Do you think it is wonderful to be alive now?
12. Do you feel worthless the way you are now?
13. Do you feel full of energy?
14. Do you think that your situation is hopeless?
15. Do you think that most people are better off than you?

Appendix C: PRISMA 2009 Flow Diagram



Appendix D: Constructs for the Independent and Dependent Variables

Construct: Spirituality or Spiritual Coping

Spiritual Resilience & Coping Research Survey Brief (RCOPE–Spiritual Coping) Positive & Negative Coping

Participants are asked to indicate the degree to which they use specific methods of spiritual/religious coping in dealing with stressful life situations.

Scoring Range: 0 (not at all) to 4 (a great deal)

Please read the following and rate the response from 0 to 4.

Q6_1	Looked for a stronger connection with God.	Positive
Q6_2	Sought God's love and care.	Positive
Q6_3	Sought help from God in letting go of my anger.	Positive
Q6_4	Tried to put my plans into action together with God.	Positive
Q6_5	Tried to see how God might be trying to strengthen me in this situation.	Positive
Q6_6	Asked forgiveness for my sins.	Positive
Q6_7	Focused on religion to stop worrying about my problems.	Positive
Q6_8	Wondered whether God had abandoned me.	Negative
Q6_9	Felt punished by God.	Negative
Q6_10	Wondered what I did for God to punish me.	Negative
Q6_11	Questioned God's love for me.	Negative
Q6_12	Wondered whether my church had abandoned me.	Negative
Q6_13	Decided the devil made this happen.	Negative
Q6_14	Question the power of God	Negative

Score: Spiritual_Coping = Mean of Q6_1 through Q6_14

(+) Spiritual Coping = Higher + spiritual coping

(-) Spiritual Coping = Higher – spiritual coping

Construct: Resilience or Spiritual Resilience

Brief Resilience Scale (BRS Spiritual Resilience)

Based on 5 possible responses: 1. Strongly agree, 2. Disagree, 3. Neutral, 4. Agree, 5. Strongly disagree.

Please answer the following:

		Reverse Coded
Q11_1	I tend to bounce back quickly after hard times.	Q11_1_R agree=resilient
Q11_2	I have a hard time making it through stressful events.	Disagreed=resilient
Q11_3	It does not take me long to recover from stress.	Q11_3_R agree=resilient
Q11_4	It is hard for me to snap back when something wrong happens.	Disagreed=resilient
Q11_5	I usually come through difficult times with little trouble.	Q11_5R agree=resilient
Q11_6	I tend to take a long time to get over my setbacks in my life.	Disagreed=resilient

Score: resilience = Mean of Q11_1R, Q11_2, Q13_3R, Q11_4, Q11_5R, Q11_6

Higher score means = more resilience.

Construct: Physical Health

Medical Outcomes Survey: HIV (MOS-HIV Physical Health)

Check the box that describes whether each of the following statements are: 1. Definitely true, 2. Mostly true, 3. Don't know, 4. Mostly false, 5. Definitely false.

		Reverse Coded
Q12_1	I am somewhat ill.	
Q12_2	I am healthy as anyone I know.	Q12_2_R false now means true.
Q12_3	My health is excellent	Q12_3_R false now means true
Q12_4	I have been feeling bad lately.	

From Question 11 on the MOS-HIV 35 Item Instrument

The higher the score = the healthier you are.

		Reverse Coded
Q13	In general, would you say your health is: (select one) excellent, very good, good, fair, or poor.	Q13_R

From Question 1 on the MOS-HIV 35 Item Instrument

The higher the score = the healthier you are.

Score: physical health = Mean of Q12_1, Q12_2_R, Q12_3_R, Q12_4, Q13_R

Construct: Health Related Quality of Life (HRQOL)

		Reverse Coded
Q14	Medical Outcomes Survey: HIV (MOS-HIV) (HRQOL) Please circle one of the following responses to this statement: How has the quality of your life been during the past 4 weeks: (select one) very well, pretty good, pretty bad, very bad.	Q14_R

From Question 12 on the MOS-HIV 35 Item Instrument

The higher the score = the higher your HRQOL.

Note: Question 1 and Question 11 are described in the document titled "Scaling and Scoring or the Medical Outcome Study-HIV Health Survey (MOS-HIV)" as "General Health Perceptions (GHP)," and Question 12 is described as "Quality of life (QL)."

Construct: Emotional Well-Being

Well-Being Index Survey 5 (WHO-5 Psychosocial/Wellbeing)

Please respond to each item by selecting one number per row: 5–all the time, 4–most of the time, 3–more than half the time, 2–less than half the time, 1–some of the time, 0–at no time.

Please answer the following questions:

		Reverse-Coded
Q15_1	I have felt cheerful, in good spirits.	Q15_1_R
Q15_2	I have felt calm and relaxed.	Q15_2_R
Q15_3	I have felt active and vigorous.	Q15_3_R
Q15_4	I woke up feeling fresh and rested.	Q15_4_R
Q15_5	My daily life has been filled with things that interest me:	Q15_5_R

Score: well-being = Mean of Q15_1_R, Q15_2_R, Q15_3_R, Q15_4_R, Q15_5_R

Qualtrics gave defined "5 all the time" a 1, "4 most of the time" a 2, "3 more than half the time a 3," "2 less than half the time", a 4, "1 some of the time," a 5, and "0 at no time," a 6.

The higher the score = good emotional well-being.

Construct: CD4 Test Count

Please indicate your most current CD4/T-cell test count (cell per cubic millimeter) as received from your most recent physical lab reports.

Q16	CD4/T-Cells: _____ (cells/mm3). Please provide numerical value.

The higher your CD4 cells = The better your immune system.

Problem: participants did not know, or they were unsure of their accurate CD4 cell count.

Construct: Parental Substance Disorder Parental Substance Disorder Survey Parental substance disorder was assessed with the following items:

Q17	Criterion a) Did the person who raised you ever have a problem with alcohol or drugs? Yes (1) or No (2) (Circle one)

Q18	Criterion b) Did he/she have this problem during: (Circle one) All of your childhood. (1) Most of your childhood. (2) Some of your childhood. (3) Only a little of your childhood. (4)

Q19	Criterion c) Did the problem interfere a lot with the life or activities of the man or woman who raised you? Yes (1) or No (2) (Circle one)

Q20	Criterion d) Did they seek professional help for this problem? Yes (1) or No (2) (Circle one)

Score: parental_substance_disorder = 1 if Q17 = 1 AND Q18 <= 2 AND Q19 = 1 and Q20 = 1

and parental_substance_disorder = 0 if Q17 = 2 OR Q18 >=3 OR Q19 = 2 OR Q20 = 2

Per the instructions for scoring the survey.

Construct: Current Substance Use

Obsessive Compulsive Drinking Scale Revised (OCDSR Current Substance Use)

Score ranges from 0 to 4 with 0 = low to 4 = high.

Please read the following and rate the response from 0 to 4. In the past 30 days….

		Reverse-Code
Q21_1	How much time was occupied by ideas, thoughts related to drinking/using drugs/substances?	
Q21_2	How frequently do these thoughts occur?	
Q21_3	How much do these ideas, thoughts interfere with your social/work functioning?	
Q21_4	How much distress do these ideas, thoughts cause you when not drinking/using drugs and substances?	
Q21_5	How much of an effort do you make to resist or turn away from these thoughts?	
Q21_6	If you were prevented from drinking/using, how anxious or upset would you become?	
Q21_7	How much of an effort do you make to resist consumption of alcohol/drugs?	
Q21_8	How strong is the drive to consume alcohol/drugs?	
Q21_9	How much control do you have over the drinking/use of drugs?	Q21_9_R – the lower the score

Score: substance_use_score = Mean of Q21_1 through Q21_8 and Q21_9_R

The lower the score = you do not have a problem, or the higher the score = there is a problem with substance use.

Construct: Depression

Geriatric Depression Survey.

Choose the best answer for how you have felt over the past week: Circle Yes (1) or No (2).

		Type of Emotion
Q22_1	Are you basically satisfied with your life?	Positive
Q22_2	Have you dropped many of your activities and interests?	Negative
Q22_3	Do you feel that your life is empty?	Negative
Q22_4	Do you often get bored?	Negative
Q22_5	Are you in good spirits most of the time?	Positive
Q22_6	Are you afraid that something bad is going to happen to you?	Negative
Q22_7	Do you feel happy most of the time?	Positive
Q22_8	Do you often feel helpless?	Negative
Q22_9	Do you prefer to stay at home rather than going out and doing things?	Negative
Q22_10	Do you feel that you have more problems with memory than most?	Negative
Q22_11	Do you think it is wonderful to be alive now?	Positive
Q22_12	Do you feel worthless the way you are now?	Negative
Q22_13	Do you feel full of energy?	Positive
Q22_14	Do you feel that your situation is hopeless?	Negative
Q22_15	Do you think that most people are better off than you are?	Negative

Score: depression = count of ’s (Yes) among Negative Emotions (Q22_2, Q22_3, Q22_4, Q22_6, Q22_8, Q22_9, Q22_10, Q22_12, Q22_14, Q22_15) + count of 2s (No) among Positive Emotions (Q22_1, Q22_5, Q22_7, Q22_11, Q22_13)

The higher the score = more depression.

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