RACE DIFFERENCES IN RELIGIOSITY, SOCIAL SUPPORT AND QUALITY OF LIFE AMONG
PEOPLE LIVING WITH HIV/AIDS IN DALLAS/ FT. WORTH, TX

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Thesis Prepared for the Degree of

MASTER OF SCIENCE

UNIVERSITY OF NORTH TEXAS

August 2011

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This study examines race differences and the relationship between religiosity/spirituality and social support on quality of life (QOL) among people living with HIV/AIDS in Dallas/Ft. Worth, TX. The data were obtained from the Project VOICES research study conducted by the Center of Psychosocial Health Research at University of North Texas in 2003. This study explores the hypotheses that religiosity/spirituality and social support positively influences quality of life among people living with HIV/AIDS. The current study uses a diverse, gender-balanced sample consisting of African Americans (n = 156), aged 20-68, 47% male, 52% female and 1% transgendered) and Non-African Americans (n = 131), aged 19-65, 50% male, 46% female and 3% transgendered) (Caucasian, Latino, & others) to evaluate the relationship among variables of interest. Multiple regression analyses revealed that social support was a significant factor explaining quality of life (QOL) for African Americans when controlling for medical variables but did not for non-African Americans. Religiosity/spirituality was not found to be significant in this study. The implications of the findings are discussed.
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CHAPTER I
INTRODUCTION

The purpose of this study is to examine how religiosity/spirituality and social support influences the quality of life of African Americans compared to non-African Americans living with HIV/AIDS in Dallas/Ft. Worth, TX. Several studies have shown that religiosity/spirituality and social support positively influences the lives of people with different illnesses such as cancer (Bussing, Ostermann, & Koenig, 2007; McClain, Rosenfeld, & Breitbart, 2003), cardiovascular disease (Kennedy, Abbott, & Rosenberg, 2002; Beery, Baas, Fowler, & Allen, 2002) and HIV/AIDS (Coleman & Holzemer, 1999; Braxton, Lang, Sales, Wingood, & DiClemente, 2007; Morse, Morse, Kleba, Stock, Forehand, & Panayotova, 2000).

Religion and spirituality are of important significance in the lives of African Americans (Dillworth-Anderson, Boswell, & Cohen, 2007; Mattis, Fontenot, Hatcher, Carrie, Grayman, & Beale, 2004; Hunt & Hunt, 2001) and are found to be an important source of strength (Mattis et al., 2004; Nelson-Becker, 2003). Furthermore, for African Americans religiosity/spirituality are positively associated with increased health and well-being, greater life satisfaction and a higher quality of life (Ferraro & Koch, 1994). Studies have also indicated that African Americans rely on their faith to cope with stressful events (McClain, 1990; Lawson & Thomas, 2007; Watlington & Murphy, 2006).

In many African American communities, churches are second only to the family as an important social institution (Taylor & Chatters, 1988; Chatters, Taylor, Lincoln, & Schroepfer, 2002). It has also been found that the church is often used as a venue for the delivery of health
information and services in the African American community (Stillman, Bone, Rand, Levine, & Becker, 1993; Weinrich et al., 1998).

In recent years, empirical research has found that among individuals with HIV/AIDS, spirituality has been associated with improvements in life satisfaction, functional health status, health-related quality of life, and overall well-being (Cotton, Puchalski, Sherman, Mrus, Peterman, Feinberg et al., 2006; Dalmida, Holstad, Diiorio, & Laderman, 2009; Woods, Antoni, Ironson, Kling, 1999; Yi et al. 2006; Perez, Chartier, Koopman, Vosvick, Gore-Felton, & Spiegel, 2009). Other studies have suggested that religiosity/spirituality positively influences better health outcomes of African Americans with HIV/AIDS (Boyle, Ferrell, Hodnicki, & Muller, 1997; Hudson & Morris, 1994; Sowell, Moneyham, Guillory, Seals, Cohen, & Demi, 1997). For instance, for HIV-seropositive African American women, religion may serve as a protective factor against declines in physical and psychological health, as well as against progression of HIV (Morse et al., 2000; Dalmida et al., 2009). Also, in another study, Cotton et al. (2006) found that African Americans reported becoming more spiritual/religious since their HIV/AIDS diagnosis and believed that their spirituality/religiousness helped them live longer.

Another factor that positively influences quality of life for people living with HIV (PLWH) is social support. Social support can be broadly defined as a resource one has available through social ties to other individuals and groups (Billings & Moos, 1984; Lin, Simeone, Ensel, & Kuo, 1979).

Studies have found that people fare better when faced with stressful life conditions if they have social support (Cohen & Willis, 1985; McCubbin, Boss, Wilson, Dahl, 1981). Also, it has been reported that social support acts as a protective factor in the face of negative

In particular, social support tends to be of important significance among African Americans and has been proven to improve quality of life and stress management (Cobb, 1976; Payne & Jones, 1987). Research studies have found social support to play a vital role in the lives of African Americans and the lack thereof may lead to disastrous consequences (Gibbs, 1997; Nisbet 1996; Broman 1996). For example, Kyle (2004) found that a recent increase in suicide rates among African Americans was associated with an erosion of social support networks and identified social support as regulating and modulating intense affective responses to adversity, thereby promoting a sense of well-being. Furthermore, other studies link social support to positive health outcomes, medication adherence and general overall well-being among African Americans living with HIV/AIDS (Sunil & McGehee, 2007; Galvan, Davis, Banks, & Bing, 2008).

Quality of life refers to “an individual’s perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns” (World Health Organization, 1998) while health related quality of life (HRQOL) focuses more on the influence of health on physical activity (Clingerman, 2004) and reflects the consequences of disease for an individual’s life (Maille, Kaptein, de Haes, & Everaerd, 1996).

In this research study, quality of life (QOL) and health related quality of life (HRQOL) will be referred to as interchangeable terms, however health related quality of life (HRQOL) is one of the most commonly used measures for assessing the influence of illness on individuals (Ashing-Giwa, 2005). In general, chronic illness negatively influences health related quality of
life (HRQOL). Dominick, Ahern, Gold & Heller (2004) found that people with chronic conditions have been shown to have worse health related quality of life (HRQOL) than people without these illnesses. A study by Hu, (2007) explored relationships among co-morbid conditions, symptom distress, depression, functional status and health related quality of life (HRQOL) in low income older African Americans. He found that the majority of study participants perceived their health related quality of life (HRQOL) to be poorer than that of a normative sample and reported their health as fair to poor. These findings are consistent with other studies that have found African Americans to report lower overall health related quality of life (HRQOL) (Ibrhim,Burant, Siminoff, Stoller, & Kwoh, 2002).

Additionally, other studies have reported that the burden of disease is high among African Americans (Franks, Muennig, Lubetkin, & Jia, 2006) and African Americans report poorer health related quality of life (HRQOL) than whites. For instance, for HIV/AIDS infected African Americans, disparities in survival continue to exist in the HAART era (Jain, Schwarcz, Katz, Gulati, &McFarland, 2006). Jain, Schwarcz, Katz, Gulati, & McFarland (2006) found that African Americans were significantly less likely than Whites and Latinos to receive HAART which has proven to prolong the life of an individual diagnosed with HIV/AIDS.

Statement of the Problem

African Americans have become the new face of HIV/AIDS in the United States. The incidence rate of HIV infections in the United States among African Americans is higher than any other race or ethnicity (Centers for Disease Control, 2009). According to the Centers for Disease Control (CDC), at the end of 2009 there were an estimated 1.1 million people living with
HIV infection in the United States. Almost half (46%) of these people were African Americans. While African Americans represent 12% of the U.S. population, they continue to account for a higher proportion of cases at all stages of HIV/AIDS from infection with HIV to death with AIDS (CDC, 2009). Rate of HIV infection for African American men are the highest of any group. In 2006, the overall rate of HIV diagnosis (number of diagnoses per 100,000 populations) in 33 states was 18.5 per 100,000.

The infection rate among African American men was eight times that of White men and more than two times that of Hispanic men (CDC, 2009). There are many factors that may explain the high incidence rate of HIV infection among African American men. However, there are two common denominators that seem to account for large increases in HIV infection rates among African American men. Men having sex with men (MSM) accounted for 50% of HIV transmission, followed by high risk heterosexual contact (33%), and injection drug use (13%) in 2009 (CDC, 2009).

African American women in the United States are also disproportionately affected by HIV more than any other racial/ethnic group. It is important to note that globally, AIDS was the leading cause of death among black women in 2007 (CDC, 2009). The same pattern was found in the U.S. whereby AIDS was the leading cause of mortality among African American women aged 25-34, surpassing cancer and heart disease (CDC, 2009). African American women in the U.S. are becoming infected with HIV at an alarming rate due to an increased vulnerability within recent years. African American women in the U.S. are 22 times more likely than White women and 5 times more likely than Hispanic women to be infected with HIV. The leading cause of HIV
infection among African American women is high risk heterosexual behavior which accounts for 80% of new HIV diagnoses followed by injection drug use (19%) (CDC, 2009).

The trend of new HIV/AIDS infections among African Americans has been observed throughout larger urban communities within the U.S. Dallas/Ft.Worth ranks number nine in the top 50 U.S. metropolitan areas (U.S. Census Bureau, 2009). About 14% of its residents are African American. However, African Americans account for 46% of new HIV infection diagnoses and 39% are actually living with HIV/AIDS in Dallas/ Ft. Worth, TX (Dallas County Health & Human Services, 2009).

Importance of Study

This study is to examine the influence of religion and social support on quality of life among African Americans who are living with HIV/AIDS in the Dallas/Ft. Worth metroplex. Although, there has been some research conducted regarding African Americans and HIV/AIDS based upon the expedient contingency of the problem, little to no research has been focused on this problem in one of the largest populated urban communities within the U.S—Dallas/ Ft. Worth, TX. This study has both intervention and policy implications. First, faith-based, social service and social and family support programs will have a clearer understanding of how to serve this population.

Secondly, clinicians serving this population should take into consideration the role of religiosity/spirituality in the lives of their clients when developing intervention programs and not overlook the fact that this may be an important resource for an individual living with HIV.
Clinicians should also consider the role of social support in intervention by encouraging better networking skills and utilizing already established networks.

Also, policy makers can devise new policies that cater to the unique needs of these individuals in an effort to improve quality of life, combat stigma associated with being HIV positive or having AIDS, educate on prevention and intervention within these communities.
A diagnosis of HIV/AIDS is a traumatic and stressful life event for many reasons (Coleman & Holzemer, 1999; Bloom & Carliner, 1988). AIDS creates a profound trauma in most people’s lives. The spectrum of the disease course includes fear of what might happen, living through the deterioration of health for an unspecified time, and, finally, experiencing acute AIDS symptoms, are all difficult stages to go through (Miller, Jr., 2005). Depression, post-traumatic stress disorder, stress, and anxiety are some of the symptoms people living with AIDS (PLWA) experience.

Post-traumatic stress disorder (PTSD) can be highly common in individuals who have been diagnosed with HIV/AIDS. Radcliffe et al. (2007) examined traumatic history and post-traumatic stress in a racially diverse sample of adolescents diagnosed with HIV. They found that over half of the participants reported symptoms consistent with post-traumatic stress disorder (PTSD) with one third reporting moderate to severe symptoms of PTSD.

Also, some estimates suggest that up to one third of people living with HIV/AIDS may have mood disorders or clinically significant depressive symptoms (Benton, 2008). Stress and depression have been found to hasten the progress of illness.

For instance, Leserman (2008) reported that depression causes biologic changes in endocrine and immune function that may contribute to disease progression and mortality. Depression was also found to be associated with increased risk of clinical progression to AIDS, slower virologic suppression, and shorter survival (Bouhnik et al., 2005; Pence, Miller, Gaynes,
Several other studies have also concluded that anxiety, depression, and hopelessness are prevalent among individuals with HIV infection (Chuang, Devins, Hunsley, & Gill, 1989; Cochran & Mays, 1993; Rabkin, Williams, Neugebauer, Remien, & Goetz, 1990; Viney, Crooks, Walker, & Henry, 1991).

**HIV/AIDS and Health Disparities**

Although African Americans make up only 12% of the U.S. population, they account for more than half of all new HIV cases reported in the United States (CDC, 2009). For instance, of the women diagnosed with HIV/AIDS, more than 70% are African American; and 62% of children born of HIV infected mothers are African American (CDC, 2009). While a relatively substantial amount of research has been done regarding HIV in the African American community (Coleman, 1996, 2000; Coleman & Holzemer, 1999; Miller, 2000; Rose, Sharpe, Raliegh, Reid, Folley, & Cleveland, 2008; Galvan, Davis, Banks, & Bing, 2008; Prado, Feaster, Schwartz, Pratt, Smith, & Szapocznik, 2004; Sankar, Luborsky, Schuman, & Roberts, 2002), there seems to be no clear solution in sight and this epidemic continues to have a devastating effect on African Americans.

There are many factors that contribute to this epidemic in the African American community. Although these factors have been recognized and identified, they have remained present and unresolved. For instance, it is a well-known fact that socioeconomic and health disparities are prevalent within the African American community more so than any other race or ethnicity (Dreeban, 2001; Cooper, 2008; Murray & Woods, 2009; Katz & Stern, 2008; Fuller-
African Americans have been found to perceive differential access to routine care and specialized treatments compared with Whites (Fongwa, Cunningham, Weech-Maldonado, Gutierrez, & Hays, 2008). Furthermore, Johnson (2005) found that African Americans believed they would be more likely to receive better medical care if they belonged to a different racial/ethnic group. Krieger’s (1987) findings document that African Americans report poorer health than Whites for a broad range of indicators of health status.

In addition, higher mortality rates have been reported for African Americans than Whites especially for heart disease, cancer, stroke, diabetes, kidney disease, homicide, hypertension and AIDS (National Center for Health Statistics, 2002). Disparities continue to exist among African Americans in terms of access to medical treatment. For example, despite the dramatic effect of combination highly active anti-retroviral therapy (HAART) on AIDS-related morbidity and mortality, not all population groups have equally benefited (Palella et al., 1998). Reductions in AIDS mortality among African Americans have not equaled those of White Americans. This disparity is believed to be attributed to differential access to care and differences in treatment (Chaisson, Keruly & Moore, 1995; Shapiro et al. 1999). Guwani & Weech-Maldonado (2005) conducted a study exploring racial disparities in AIDS treatment within Medicaid managed care. They found that African Americans experience lower access to HAART after financial access has been secured through Medicaid. Also, their study revealed racial disparities between African Americans and Whites in accessing HAART in Medicaid fee-for-service programs as well as managed care.
African Americans face many socioeconomic disparities which play a critical role in resources or lack thereof. Statistics have shown that one in four African Americans lives in poverty (CDC, 2009). Socioeconomic problems associated with poverty include limited access to high-quality health care and housing (CDC, 2009). For African Americans, these challenges affect HIV prevention efforts and how well they cope with HIV/AIDS infection.

African Americans and Coping: Religiosity/Spirituality

Religiosity has been referred to as a social institution concerned with the way beliefs, practices, rituals, and communities are organized. Spirituality can be viewed as the individual quest to understand and attribute meaning to life and the sacred (Koenig, McCullough, & Larson, 2001; Miller & Thoresen, 2003).

Although conceptualizing both terms can be complex, they can also be broadly defined as one and the same. In this paper, I will refer to both terms interchangeably. For many generations, religiosity/spirituality has played a critical role in the lives of African Americans (Carter, 1982; Frazier, 1974) and is a cultural phenomenon that fosters harmony, facilitates coping, and has been found to influence health behavior (Utsey, Adams, & Bolden, 2007). Religious participation has been found to be beneficial by offering positive health benefits (Koenig, 2003), and emotional and psychological support during crisis moments (Pargament, Poloma, & Tarakeshwar, 2001). Boyle, Ferrell, Hodnicki, & Muller (1997) found a positive relationship between spirituality, psychological well-being, and health, while Hannay (1980) and Zuckerman, Kasl, & Ostfeld (1984) found that religious belief and practice improved physical health and lowered mortality. Increased religiosity/spirituality has also been found to be a
common response among individuals who are diagnosed with HIV/AIDS infection (Jones, Catz, McClure, Jeffries, & Baglio, 1996), in that it provides a sense of meaning and hope to persons threatened with an end to their existence (Mullen, Smith, & Hill, 1993; Pargament and Hahn, 1986).

Presently, there has been a relatively significant amount of literature published on African Americans utilizing religiosity/spirituality as a source of coping with HIV infection (Folkman, Chesney, Cooke, Boccellari, & Collette, 1994; Kendall, 1994) as well as blacks elsewhere. Maman, Cathcart, Burkhardt, Omba, & Behets (2009) explored the role of religion and coping strategies among HIV-positive pregnant women who had recently given birth in Kinshasa, Democratic Republic of Congo. They found that spiritual and religious leaders were important sources of support to these women immediately after they learned of their HIV-positive diagnoses. Also, spiritual and religious leaders helped these women in the process of disclosing and coping with their diagnoses. However, it is important to note that the women reported that faith and the role of religion were strong factors that sustained them although the study did not specifically question them on these factors. Ridge, Williams, Anderson, & Elford (2008), using a grounded theory approach, examined the role of spirituality and religion for individuals living with HIV in the UK. They reported that Black African heterosexual men and women found religion/spirituality to be extremely important to their health and well-being in coping with HIV. On the other hand, the gay men (mostly white) in the sample reported being less religious. Coleman et al. (2006) found that African Americans who are HIV/AIDS infected relied on the use of prayer to manage symptoms associated with the disease, while Jenkins (1995) found that, among HIV-seropositive military personnel, religious involvement was most
often utilized among African Americans as a response to stress. Another study (Morse et al., 2000) explored the use of religion among HIV-infected African American women and found that these women sought comfort through prayer more frequently than their uninfected counterparts. From these findings, the following hypothesis was tested.

- Hypothesis 1: Religiosity/spirituality positively influences quality of life (QOL).

### Social Support

Social relationships are an important component in the process of coping with chronic diseases (Cohen, 1988). Additionally, empirical research has found that social support acts as a protective factor for African Americans as well as groups of people from other ethnic backgrounds. Nisbet (1996) found that having neighbors and relatives across generations helps buffer the effects of stress and provide emotional support. Lincoln, Chatters & Taylor (2005) found that, for African Americans, informal social support networks are important for health and well-being and can be particularly helpful during difficult times. In contrast, in the absence of social support, respondents are more likely to blame themselves for the event, have negative thoughts, and express their feelings in ways such as anger, withdrawal, or depression (Nolen-Hoeksema & Davis, 1999).

Research has also suggested that social support can have negative influence. Reinhardt (2001) examined the influence of both negative and positive social support on well-being in later life and found that close relationships that provide comfort and physical assistance may also be a source of discord and tension. The study also found that negative support is more
characteristic of family than friend relationships in that friendships that are high in negative support are not as likely to be maintained as compared to involuntary family relationships.

Also, a study conducted by Hagihara et al. (2003) examined negative influences of social support on the relationship of work stress and alcohol consumption and found that social support is not of universal benefit in reducing excessive drinking and may sometimes be a reinforcing factor. Furthermore, Vosvick et al. (2004) explored the role of social support on sleep disturbance among HIV-positive adults and found social support to have differential influences on sleep disturbance depending on the source and type. Finding from this study suggested that assistance from friends were associated with more sleep disturbance among study participants.

Studies have found that HIV/AIDS infected individuals have self-reported that the presence of social support has helped decrease episodes of mood disturbance (Dew, Ragni, & Nimorwicz, 1990; Namir, Alumbaugh, Fawzy, & Wolcott, 1989), lower levels of emotional distress (Kalichman, Adair, Somali, & Weir, 1995), and improved levels of self-esteem (Donlou, Wolcott, Gottlieb, & Landsverk, 1985). Other studies have also found social support as an important determinant of health outcomes; and perceived support has been associated with adjustment and coping in relation to HIV diagnosis and its potentially chronic disabling course (Britton, Zarksi, & Hobfoll, 1993; Crystal & Kersting, 1998; Friedland, Renwick, & McColl, 1996; Grummon, Rigby, Orr, Procidano, & Reznikoff, 1994).

A number of studies have indicated that social support has a positive relationship with treatment adherence among HIV patients (Berkman, Glass, Brissette, & Seeman, 2000; Catz, Kelly, Bogart, Benotsch, & McAuliffe, 2000; Power et al. 2003). For instance, research has
investigated social support as a potential mediator in terms of the degree to which treatment adherence and resource accessibility influence clinical outcome (Catz et al., 2000; Gifford, Bormann, Shively, Wright, Richmann, & Bozzette, 2000; Gordillo, Del Amo, Soriano, & Gonzalez-Lahoz, 1999; Roberts, 2000; Singh et al., 1999).

It has also been found that social support can have a tremendous influence on an individual’s access to care and adherence to medication regimens (Logan, Cole, & Leukefeld, 2002; Reiter et al., 2000). Conversely, Logan et al. (2002) found lack of social support to be a predictor of poorer adherence. Social support has been identified as an important psychosocial factor related to adherence to antiretroviral medication and has been found to distinguish HIV-positive individuals with good adherence from those with poor adherence (Catz et al., 2000; Gonzalez et al., 2004; Singh et al., 1999).

Heaney and Israel (1997) found that social support may have both a direct link to adherence and an indirect link through different mediators, including coping behaviors. Their study suggests that individuals who have low perceived social support are more likely to use avoidance-oriented coping strategies such as denial and behavioral disengagement. The following hypotheses were tested.

- Hypothesis 2: Social support positively influences quality of life (QOL).

**HIV/AIDS Infection and Quality of Life**

Quality of life (QOL) incorporates many dimensions of health such as health status, mental well-being, social and role functionality (Vosvick, Gore-Felton, Koopman, Thoresen, Krumboltz, & Spiegel, 2002) and is identified as one of the most important factors that helps to
explain and understand the possible influence of HIV on overall health and differences in
quality of life following a diagnosis of HIV (Felton & Revenson, 1984). For instance, Vosvick et al.
(2002) found a relationship between coping strategies and psychological quality of life in
individuals who are HIV/AIDS infected. Their findings indicate that maladaptive coping is
associated with worse psychological quality of life.

For African Americans, the strongest influences on self-esteem are quality of family life,
relationships with friends, and religious involvement (Hughes & Demo, 1989; Blake & Darling,
2000; Utsey et al., 2007). However, racism, poverty, poor psychological and physical health, and
the lack of access to healthcare have been found to contribute to poor quality of life for African
Americans (Semmes, 1996; Utsey, Ponerotto, Reynolds, & Cancelli; Bolden et al., 2000). The
aforementioned factors help to explain a strong sense of spiritual connectedness and
wholeness which helps them improve quality of life by influencing the way they cope with
adversity (Utsey, Bolden, Lanier, & Williams, 2007) and by being better able to draw on their
inner resources for more positive quality of life outcomes (Boland, 2000). Adler et al. (1994)
conducted a study which found that higher socioeconomic status is consistent with better
health outcomes. Their study found that being African American was positively associated with
lower income and less education, which can be interpreted as stressors that negatively
influence cognitive functioning.

Other studies found that African Americans who are HIV/AIDS infected reported poor
social and emotional well-being more so than whites (Deepa, Hahn, Cella & Hernandez, 2007;
CDC, 2006; Sunil & McGehee, 2007). Some factors that contribute to these findings in the
African American community include social inequality, discrimination, and social stigma related
to HIV/AIDS (Deepa et al., 2007; Spigner, 1993). Another study (Stoskopf, Richter, & Yang, 2001) examined the health status of African Americans living with HIV/AIDS and found that these individuals face many challenges regarding health status biologically and socially. Challenges can include employment, income, ability to work, and health insurance.

These findings showed that HIV/AIDS infected African American individuals who had public health insurance (Medicaid or Medicare) reported having no significantly better health status or improved health related quality of life than those who do not. They also found there to be a positive influence on HIV/AIDS progression and survival rates in regards to early diagnoses and treatment in relationship to appropriate healthcare access.

This is consistent with studies that show a negative association between mortality and socioeconomic factors, thus indicating that more affluent individuals and groups, who have better access to healthcare, have longer survival (Pappas, Queen, Hadden, & Fisher, 1993).

- Hypothesis 3: Spirituality/religiosity, social support, demographic and medical variables explain a significant amount of variance in quality of life (QOL) among African Americans.
CHAPTER III

METHOD

Participants

This study uses data collected from PROJECT VOICES: Turning it Around, conducted by the Center for Psychosocial Health Research (CPHR) at the University of North Texas and was approved by the UNT IRB board. Participants were recruited via snowball method (which relies on referrals from initial subjects to generate additional subjects) and distributing flyers and handouts at various AIDS service organizations (ASO) in the Dallas-Ft. Worth metroplex. Participants from urban and rural areas comprised the study sample.

Procedure

All study participants went through a screening process for inclusion. The inclusion criteria included being HIV positive, 18 years or older, and able to speak, read and write English. Participants were excluded if they appeared to be under the influence of alcohol and/or drugs or mentally incompetent. In these cases participants were provided with resources where they could seek treatment. Upon meeting eligibility requirements participants completed informed consent and were given a $15 cash incentive for their time after completion of the survey. To maintain confidentiality, participants’ names appeared only on their consent forms and data were identified by a random number that does not relate to any participant’s name.

Data Collection

This study used a cross-sectional correlational design whereby data were gathered over
a one and a half year period from 2003-2005. A pencil and paper survey was administered to participants and took approximately two and a half hours to complete. Surveys were completed by participants at various AIDS service organizations (ASO). A researcher was on standby if the participant needed clarification of any questions on the survey. Data were cleaned and input into a database over a period of seven months. To ensure accuracy, data were entered simultaneously by two researchers and entries were compared to one another.

Measures

Demographic and HIV-Related Variables

A standard demographic instrument assessed gender, sexual orientation, age, education and income as well as medical variables regarding HIV/AIDS such as diagnosis of AIDS and if the participant was taking HIV medications by race (African American and non-African American).

Social Support

The Multidimensional Scale of Perceived Social Support (MSPSS) by Zimmet, Dahlem, Zimmet and Farley (1988) consists of 12 items divided into three subscales that measure an individual’s perception of social support from family, friends and significant other. Responses are on a seven point Likert-type scale ranging from 1 (very strongly disagree) to 7 (very strongly agree). Example items include: (1) “I get the emotional help and support I need from my family” (2) “I have friends with whom I can share my joy and sorrows”. All items were calculated and summed to obtain a total score of overall social support. For this study, the alpha calculated for the total scale is $\alpha = .96$ for African Americans and .94 for non-African Americans. The original
instrument yields a total scale score of $\alpha=.88$ and a test re-test reliability of $\alpha = .85$. Construct validity for the MSPSS is reported as moderate (Zimet, Dahlem, Zimet & Farley, 1988).

Religiosity/Spirituality

The third instrument is the Ironson-Woods Spirituality & Religiosity Index (IWSR) developed by Ironson et al. (2002) which consists of 25 items with four subscales that measure spirituality and religiousness using a five point Likert-type response ranging from 1 (strongly disagree) to 5 (strongly agree). For this study, religiosity/spirituality will be measured by using the Faith in God subscale which consists of six items. Examples of scale items are as follows: (1) “I believe God created all things in the universe” (2) “When I am ill, God gives me courage to cope with my illness”.

Items from the subscale were summed to get total scale score. Scores ranged from 6 being the lowest and 30 being the highest. High scores were significantly related to long survival with AIDS (Ironson et al, 2002). For this study, the calculated alpha for the subscale is $\alpha=.98$ for African Americans and .95 for non-African Americans. The subscale score for the original instrument is $\alpha=.93$. The test–retest reliability, rated as “excellent” by Robinson et al. (1997) for the subscale was $\alpha=.62$. Convergent or discriminant validity was supported by the higher correlations of the IWSR with three measures of religiousness/spirituality (Tables 4 & 5).

Quality of Life (QOL)

Quality of Life (QOL) was measured using the Medical Outcomes Study HIV Health Survey (MOS-HIV) developed by Wu et al. (1987). The scale is composed of 35 items with 10
subscales that measure quality of life using a Likert-type scale. For this study, the quality of life (QOL) subscale item is the dependent variable.

Quality of life (QOL) (1 item):

(1) How has the quality of your life been during the past four weeks? That is, how have things been going for you?

Several studies have reported consistent reliability for MOS- HIV with an alpha exceeding .70 being considered adequate reliability for group comparison (Ichikawa & Natpratan, 2004; Lau, Tsui, Patrick, Rita & Molassiotis, 2006; McDonnell,Gielen, O’Campo & Burke, 2005). Multitrait analyses support the convergent and discriminant construct validity of the scales and suggest that they measure distinct aspects of health across different stages of illness. The subscales of MOS-HIV are scored as summated rating scales on a 0-100 scale in which higher scores indicate better health.

Descriptives

Means, standard deviations, frequencies, percentages and ranges were calculated for relevant demographic and medical variables. These include gender, age, race, education, sexual orientation and income. Medical variables included medication status (on HIV meds vs. off HIV meds) and disease status (HIV vs. AIDS).

Univariate Analysis

Univariate statistics were calculated for all three scales. Means, standard deviations, ranges and alpha were calculated. Scale variables included the Ironson Woods Faith in God subscale, MOS-HIV Quality of Life subscale and MSPSS 12-item scale summed into one variable.
Bivariate Analysis

Bivariate correlations were conducted separately for African Americans and non-African Americans to assess the relationship between demographic variables, Ironson Woods spirituality/religiousness index (IWRS), Multidimensional scale of Perceived Social Support (MPSS) and Medical Outcomes Study HIV Health (MOS-HIV) to test for statistical significance among variables and to check for multicollinearity.

Regression Model

After analyzing descriptive, univariate statistics and bivariate correlations, demographic variables as well as variables of interest, a reduced and complete linear regression model was used (Agresti & Tinday, 1999) to assess the association between religiosity/spirituality, social support, and quality of life. For this study, there were two separate reduced and complete linear regression models, one model for African Americans and a model for non-African Americans. Quality of life (QOL) was the dependent variable and religion and social support were the independent variables in addition to the control variables.
CHAPTER IV  
RESULTS 
Demographics, Medical Variables and Univariate

African Americans

Over half the sample were African American 54.2% \((n = 156)\). About 47% \((n = 74)\) were male, 52% \((n = 81)\) female and 1% \((n = 1)\) transgendered. About 62% \((n = 94)\) reported being heterosexual, while 20% \((n = 30)\) reported being gay/homosexual and 18% \((n = 27)\) identified themselves as bisexual. The mean age was 42.66 years and the mean for education was 12.74 years. About 24% \((n = 37)\) reported an income of less than $10,000 and 76% \((n = 115)\) reported an income of $10,000 and above. Mean scores for social support was 4.86, faith in God, 25.71, and 45.35 for quality of life (QOL). Medical variables consisted of disease status (HIV or AIDS diagnosis) and medication status (taking HIV meds or not taking HIV meds). About 51% \((n = 78)\) of study participants reported having a diagnosis of AIDS and 49% \((n = 76)\) reported having HIV. About 67% \((n = 104)\) of study participants were on HIV medications and 33% \((n = 52)\) were not taking HIV medications. (Table 2)

Non-African Americans

Forty-six percent \((n = 131)\) of the participants in the sample were non-African Americans. Caucasians made up the majority of the sample at 65% \((n = 85)\), followed by Latino at 24% \((n = 32)\) and other races at 11% \((n = 5)\). There were 50% males \((n = 66)\), 47% females \((n = 61)\) and 3% transgendered \((n = 4)\). About 49% \((n = 64)\) reported being heterosexual, 39% \((n = 51)\) reported being homosexual/gay, and 12% \((n = 16)\) reported being bisexual. The mean age
was 40.47 years and education was 11.98 years. About 67% \( (n = 84) \) reported an income of $10,000 and above while about 33% \( (n = 41) \) reported an income of less than $10,000. Mean scores were 5.13 for social support, 24.34 for faith in God and 43.23 for quality of life (QOL). About 51% \( (n = 67) \) reported having AIDS while 49% \( (n = 64) \) reported having HIV. Eighty-one percent \( (n = 106) \) of participants were taking HIV/AIDS medications and 19% \( (n = 25) \) were not.

(Table 3)

Bivariates

Pearson bivariate correlations were conducted whereby the study sample was separated between African Americans and non-African Americans (Caucasian, Latino and other) and were used to determine the association among demographic variables, medical variables and scale variables. Correlations were used to determine the association between religiosity/spirituality, social support and quality of life. Several significant correlations were found between the demographic variables of both correlation matrixes. The correlation matrix for African Americans found that social support was positively associated with income and faith in God. Quality of life was also found to be positively correlated with faith in God and social support. African American participants who reported being homosexual/gay also reported having higher levels of income. Also income was found to be negatively associated with age in the African American correlation matrix. For African Americans, social support was positively significantly correlated with income \( (r = .212, p< 0.05) \) and Faith in God \( (r = .237, p< 0.01) \) which suggests that as income increases, levels of reported social support also increases as well as levels of Faith in God.
The dependent variable Quality of Life (QOL) was found to be positively significantly correlated with Faith in God \((r = .167, p < 0.01)\) and social support \((r = .264, p < 0.01)\) suggesting that higher reported levels of quality of life (QOL) lead to higher levels of Faith in God and higher levels of reported social support. There was also found to be a positive significant correlation between income and being homosexual/gay suggesting that participants that reported being gay also reported higher income \((r = .224, p < 0.01)\). Positive significant correlations were found in the correlation matrix for non-African Americans as well. Education was found to be positively significantly associated with income \((r = .321, p < 0.01)\) and age \((r = .369, p < 0.01)\) suggesting that as level of education increases so does level of income and as age increases so does level of education. Non-African American participants that reported being gay also reported higher levels of income \((r = .277, p < 0.01)\) and education \((r = .197, p < 0.05)\).

Faith in God was found to be positively significantly correlated with income suggesting that as level of income increased so did reported levels of faith \((r = .217, p < 0.05)\). Social support was found to be positively significantly correlated with sex \((r = .278, p < 0.01)\) and the dependent variable quality of life (QOL) \((r = .178, p < 0.05)\). (Tables 6 &7)

Reduced Complete Linear Regression Models

For this study, six linear regression models were used (two partial models and one full model for each group). Model 1 in both racial groups examines the relationship between the dependent variable, quality of life (QOL) and the two variables of interest, social support and faith in God. In Model 2, two medical variables, medication status and disease status were added as control variables to the variables in Model 1. The two medical variables were dummy
coded where medication status is coded as “1” for being on HIV/AIDS medications and AIDS status is coded as “1” for positive AIDS status. Model 3 is the same for both racial groups as in the two previous models except for the demographic variables which were added (age, education, income, gender, transgendered, gay and bisexual) as control variables. The demographic variable “gender” was dummy coded where “1” is for female. Sexual orientation is also a dummy variable with four categories such as transgendered, gay, bisexual and heterosexual (with heterosexual as the reference group). The African American regression models indicate that Model 1 significantly predicts quality of life (QOL), $R^2 = .078$, $R^2$ adj = .064 $F(2, 131) = 5.531, p < .01$. The $R^2$ of .078 in Model 1 accounts for about 8% of the variance in quality of life (QOL).

In Model 1, the variable of interest, social support is significantly related to the dependent variable, quality of life (QOL), but faith in God was not significant. The unstandardized coefficient of 2.501 ($p < .05$) associated with social support suggests that on average the quality of life (QOL) increases by about 2.5 points with each additional level of social support for African Americans. In Model 2, the two medical variables (disease status and medication status) were added and compared to Model 1. Model 2 shows a significant change in quality of life (QOL) among African Americans, $R^2 = .097$, $R^2$ adj = .071 $F(4, 129) = 3.699, p < .01$. The $R^2$ of .097 suggests that the Model 2 accounts for about 10% of the variance in quality of life (QOL). Model 2 also showed a slight increase in the coefficient for social support from 2.501 (Model 1), the beta for social support is 2.976 (Model 2). The increase in the coefficient for social support and the value of $R^2$ is evidence both medical variables (medication status and
disease status) have an effect on the relationship between the dependent variable, quality of life (QOL) and social support, an interest variable.

In Model 3, seven control variables were added and were shown to decrease the coefficient for social support from 2.976 (in Model 2) to 2.331 (in Model 3). The decrease in the coefficient for social support shows that the demographic variables have a buffering effect on the relationship between quality of life (QOL) and social support. Contrary to the coefficient for social support, the value of $R^2$ for Model 3 increases from .097 (in Model 2) to .112 (in Model 3). Despite this increase in the value of $R^2$, Model 3 is not significant, $R^2 = .112$, $R^2$ adj = .031 $F (11, 122) = 1.392, p = .185$. When all $R^2$ and $p$ values in the models are compared (.078 with $p = .005$ in Model 1; .097 with $p = .007$ in Model 2, and .112 with $p = .185$ in Model 3), Model 2 is the best model in predicting quality of life (QOL) among African Americans.

Social support was only significant in one model for the non-African Americans (Model 3). However the whole Model 3 is not statistically significant, $R^2 = .126$, $R^2$ adj = .030 $F (4, 107) = 1.458, p = .0186$. For African Americans, social support seems to be a significant factor influencing quality of life when controlling for medical variables. However, Faith in God was not significantly correlated with quality of life (QOL) in all three models for both racial groups. (Table 8)
CHAPTER V

DISCUSSION

This study examines the influence of religiosity and social support on quality of life (QOL) and compares two racial groups (African Americans and non-African Americans) living with HIV/AIDS in Dallas/Ft. Worth, TX. The results found in this study are an important contribution to literature surrounding HIV/AIDS, religiosity/spirituality, social support and quality of life. Living with HIV/AIDS can have traumatic effects on quality of life. Therefore the goal of social service agencies and faith based organizations should be to understand and consider the role of social support as perceived by the individuals that utilize services. Future policies should also be directed toward integrating this component into program services. This study used data from Project VOICES: Turning it Around collected by Center for Psychosocial Health Research (CPHR) in 2003, future research should be conducted to obtain updated information.

Demographics

The study sample consisted of a total of 287 participants. About 54% (n = 156) of the sample were African American and 46% were non-African American (n = 131). Sixty percent (n = 94) of the African Americans in the sample listed their sexual orientation as heterosexual and 49% (n = 64) percent of non-African Americans reported being heterosexual. The mean age for African Americans was 42.66 years and 40.47 years for non-African Americans. African Americans mean years of education were 12.74 years and non-African Americans was 11.98 years. Twenty-four percent (n = 37) of African American reported an income of less than
$10,000 and 74% (n = 115) reported an income of more than $10,000 while about 63% (n = 84) of non-African Americans reported an income of $10,000 and above and 31% (n = 41) reported an income of less than $10,000.

Hypotheses

For this study, three hypotheses were tested.

• Hypothesis 1: Religiosity/spirituality positively influences quality of life (QOL).

The first hypothesis was not confirmed, higher levels of Faith in God did not appear to be associated with better quality of life for all three models in both racial groups, contrary to studies that have found that religiosity/spirituality is associated with better quality of life (Bussing, Ostermann, & Koenig, 2007; McClain, Rosenfeld, & Breitbart, 2003; Kennedy, Abbott, & Rosenberg, 2002; Beery, Baas, Fowler, & Allen, 2002; Coleman & Holzemer, 1999; Braxton, Lang, Sales, Wingood, & DiClemente, 2007; Morse, Morse, Kleba, Stock, Forehand, & Panayotova, 2000) for individuals coping with different illnesses. However, these studies did not particularly examine the influences of religiosity/spirituality on quality of life in the lives of African Americans. In fact, a study conducted by (Khosrovani, Poudeh, & Parks-Yancy, 2008) found that African American religious communities still display negative attitudes and behaviors when it comes to dealing with HIV/AIDS and religious leaders rarely speak about HIV/AIDS to their congregation. Perhaps, these findings reflect negative religious experiences of African Americans living with HIV/AIDS. This may explain why there were no significant findings for religiosity/spirituality for this study.
Additionally, the Ironson-Woods Spirituality/Religiosity Scale may not be an ideal scale to measure religiosity/spirituality for this population because it may not capture their religious experiences. Further research is needed on African Americans who are HIV positive and from different social classes to look at the relationship between religiosity and quality of life.

- **Hypothesis 2: Social support positively influences quality of life (QOL).**

The second hypothesis was confirmed. Social support was significant in all three models of the African American group and only one model of the non-African American group. Model 1 for both racial groups only contained the variables of interest whereby social support was found to be positively significantly correlated with quality of life (QOL) for the African American group $R^2 = .078$, $R^2 \text{ adj} = .064$ $F(2, 131) = 5.531, p < .01$ but no significance was found in the non-African American group. For Model 2, two additional medical variables were added to the variables in Model 1 for both racial groups. The non-African American group showed no significance however, the African American group showed a positive significant correlation between social support and the dependent variable when controlling for medical variables $R^2 = .097$, $R^2 \text{ adj} = .071$ $F(4, 129) = 3.699, p < .01$.

In the third and final model for both racial groups demographics were used as controlling variables and social support was found to be significant for both racial groups; however the overall model was not found to be significant. This evidence partially suggests the more social support one has, the better their quality of life. Several studies have found that social support helps to buffer against the effects of illness (Cobb, 1976; Payne & Jones, 1987).

Other studies have found that social support plays an important role in the lives of African Americans as well (Gibbs, 1997; Nisbet 1996; Broman 1996; Sunil & McGehee, 2007; Galvan, Davis, Banks, & Bing, 2008). These findings are important because they contribute to the understanding of the importance of social support in the lives of African Americans.

- Hypothesis 3: Spirituality/religiosity, social support, demographic and medical variables explain a significant amount of variance in quality of life (QOL) among African Americans.

The third hypothesis was not supported. The model was not significant when all variables were considered for both racial groups.

Limitations

For this particular research study, several limitations should be considered. First, the data collected are based on self-reported answers. Due to the personal nature of some questions, participants may have not reported answers that were truthful and accurate. Secondly, this study used a convenience sample and generalizability should only apply to study participants who utilize AIDS services organizations (ASO) in the Dallas/Ft. Worth metroplex. This may mean that the sample is different from those that do not use these services and do not reside in this region. Third, the sample was of limited variability because of the screening criteria. Participants had to be at least 18 years of age and be able to speak, read and write English.
Due to restrictions in age range, location, and language, the variability of the sample may have been affected. If the sample had been less restricted, more significant relationships could have been found between our variables. Fourth, caution should be applied when generalizing religiosity/spirituality of any population or group in that an individual’s perceptions of religion or faith can vary by culture and race. Finally, the dependent variable measured quality of life (QOL) over a short time period and therefore may not fully reflect positive or negative quality of life experiences of participants. The study is a cross-sectional correlation study from which causality cannot be inferred.

Future Research

Future research should include a larger, ethnically and socioeconomically diverse sample, not only from AIDS service organizations (ASO) but also from other agencies and medical facilities. Studies examining religiosity/spirituality and social support should recruit equal numbers of religiously diverse groups to be able to make comparisons among them and better explain the relationship between religiosity/spirituality and social support on quality of life among HIV/AIDS infected individuals of different racial backgrounds.

These study implications are the basis for further research into understanding the importance of religiosity/spirituality in the lives of African Americans infected with HIV/AIDS. The study implications are of particular importance being that African Americans bear the burden of HIV/AIDS more so than any other race or ethnicity (CDC, 2010). As we begin to better understand the influence of religiosity/spirituality and social support on quality of life in the lives of African Americans, we can develop policy and intervention that focus on the
aforementioned variables in order to make quality of life better for African Americans living with HIV/AIDS. This could result in better health outcomes and longer survival and reduce the stigma associated with being infected with HIV/AIDS.

Table 1

Coding Scheme for Variables in the Models

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet &amp; Farley, 1988); 12 items (summed into one variable)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ironson-Woods Spirituality/Religiosity Scale (Ironson, 2002)</td>
</tr>
<tr>
<td></td>
<td>Faith in God Subscale; 6 items (summed into one variable)</td>
</tr>
<tr>
<td>Income (2 categories)</td>
<td>• earned at least $10,000</td>
</tr>
<tr>
<td></td>
<td>• earned less than $10,000</td>
</tr>
<tr>
<td>Race (2 categories)</td>
<td>• African American</td>
</tr>
<tr>
<td></td>
<td>• Non-African American (Caucasian, Hispanic, Asian, Native American) – reference category</td>
</tr>
<tr>
<td>Age</td>
<td>Single year</td>
</tr>
<tr>
<td>Education</td>
<td>Single year</td>
</tr>
<tr>
<td>AIDS Diagnosis (2 categories)</td>
<td>• have been diagnosed with AIDS</td>
</tr>
<tr>
<td></td>
<td>• have not been diagnosed with AIDS – reference category</td>
</tr>
<tr>
<td>Sex (2 categories)</td>
<td>• Female</td>
</tr>
<tr>
<td></td>
<td>• Male - reference category</td>
</tr>
<tr>
<td>Sexual Orientation</td>
<td>• homosexual/gay</td>
</tr>
<tr>
<td></td>
<td>• bisexual</td>
</tr>
<tr>
<td></td>
<td>• transgendered</td>
</tr>
<tr>
<td></td>
<td>• heterosexual - reference category</td>
</tr>
<tr>
<td>HIV Medication (2 categories)</td>
<td>• taking HIV medication</td>
</tr>
<tr>
<td></td>
<td>• not taking HIV medication – reference category</td>
</tr>
<tr>
<td>Dependent Variable</td>
<td>MOS-HIV Health Survey (Wu AW, Revicki DA, Jacobson D, Malitz FE, 1987); Quality of Life (QOL) Subscale (1 item): How has the quality of your life been during the past 4 weeks? That is, how have things been going for you?</td>
</tr>
</tbody>
</table>
Table 2

*Descriptive Statistics for African Americans*

<table>
<thead>
<tr>
<th>Demographics</th>
<th>%</th>
<th>n</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
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<td>20-68</td>
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<tr>
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<tr>
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<td>Homosexual</td>
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</tr>
<tr>
<td>Bisexual</td>
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<td>27</td>
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<tr>
<td>Income &lt; $10,000</td>
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<td>AIDS (diagnosis)</td>
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</tr>
<tr>
<td>Not taking HIV meds</td>
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Table 3

*Descriptive Statistics for Non-African Americans*

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<th>n</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
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<td>Age</td>
<td>19-65</td>
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<td>Education</td>
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<td>Heterosexual</td>
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<td>Homosexual</td>
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<tr>
<td>Bisexual</td>
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<td>16</td>
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<tr>
<td>Income &lt; $10,000</td>
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<tr>
<td>Income &gt; $10,000</td>
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<td>41</td>
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<tr>
<td>HIV (diagnosis)</td>
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<tr>
<td>AIDS (diagnosis)</td>
<td>51.1</td>
<td>67</td>
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<tr>
<td>Taking HIV meds</td>
<td>80.9</td>
<td>106</td>
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<tr>
<td>Not taking HIV meds</td>
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<td>Other race(s)</td>
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Table 4

*Univariate Statistics for African Americans*

<table>
<thead>
<tr>
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<th>Possible Range</th>
<th>Mean</th>
<th>SD</th>
<th>α</th>
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</thead>
<tbody>
<tr>
<td>Faith in God</td>
<td>6-24</td>
<td>6-30</td>
<td>25.71</td>
<td>6.47</td>
</tr>
<tr>
<td>Social Support</td>
<td>1-6</td>
<td>1-7</td>
<td>4.86</td>
<td>1.81</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>0-80</td>
<td>0-80</td>
<td>45.35</td>
<td>21.88</td>
</tr>
</tbody>
</table>

Table 5

*Univariate Statistics for Non-African Americans*

<table>
<thead>
<tr>
<th>Actual Range</th>
<th>Possible Range</th>
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Correlation Matrix (African Americans)

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*Correlation is significant at the 0.05 level (2-tailed).  **Correlation is significant at the 0.01 level (2-tailed).
Table 7

*Correlation Matrix (Non-African Americans)*

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*Correlation is significant at the 0.05 level (2-tailed).  **Correlation is significant at the 0.01 level (2-tailed).
Table 8

Reduced and Complete Linear Regression Models: Variables Associated with Quality of Life (QOL)

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*Male as reference. **Homosexual as reference.
REFERENCES


