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# Unseen, Unheard, and Nearly Invisible: An Examination of Sexual Orientation and Spirituality's Impact on Psychological Well-Being among Middle-Age and Older Black Men Living with HIV/AIDS: Implications for Caregiving

**Terrell D Brown***

*Department of Social Work, Florida A&M University, Tallahassee, FL, USA*

***Corresponding author:** Terrell D Brown, Department of Social Work, College of Social Sciences, Arts and Humanities, Florida A&M University, 1339 Wahnish Way, 300 Benjamin Banneker, Bldg. B, Tallahassee, FL 32307, USA, Tel: (850)599-3215; **E-mail:** terrell.brown@famu.edu

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## Abstract

Middle age and older men with HIV infection/AIDS, having often lived with the condition longer, are more likely to confront the stress of managing more advanced HIV disease than their younger counterparts. Meanwhile, they also are more likely to have less social support and experience more distress than younger persons with HIV infection. Previous research has shown that spirituality has positive effects on both mental and physical health; however very few studies have examined the influence of spirituality and sexuality on mental-well-being in people with human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS). Further, no studies have examined these variables specifically among middle-age and older Black men who are HIV positive or have AIDS-with caregiving implications. This study seeks to address those gaps with implications for caregiving. This article examines the relationship among spirituality, sexual orientation, and psychological well-being. Specifically, this research examines psychological well-being and the impact sexual orientation and spirituality have in predicting psychological well-being among 353 middle-age and older Black men living with HIV/AIDS, 49 years and over who are self-identified as homosexual/gay, bisexual, and heterosexual/straight. The theoretical framework utilized is the transactional model of stress and coping, which is a framework for evaluating coping with stressful life events. This research utilizes data from The Research on Older Adults with HIV (ROAH) study. The first comprehensive and in-depth study of this population, the ROAH study assessed a 1,000-person cohort in New York City, examining a comprehensive array of issues, including health status, stigma, depression, psychological well-being, sexual behavior, substance abuse, social networks, and spirituality. Bivariate tests along with multiple and hierarchical logistic regression was utilized to address research questions and hypotheses. The findings from this study imply that spirituality had a direct relationship with psychological well-being, and reveals the contribution of sexual orientation to psychological well-being and spirituality with middle –age and older adults living with HIV/AIDS. Implications for caregiving are also addressed.

**Keywords**: Spirituality; Sexuality; HIV/AIDS; Black men; Older men; Psychological well-being; Caregiving

## Introduction

The population of the United States and worldwide is "aging" as life expectancy increases and birth rates decrease [1]. In the year 2000, 12.7% (36.7 million) of Americans were age 65 or older, with higher concentrations in the following states: California, Florida, New York, Texas, and Pennsylvania [1]. By the year 2030 more than 20% of Americans will be 65 or older. By the year 2050, one out of every seven people in the world will be 65 years old or older [2]. Additionally, the older population worldwide is becoming more ethnically and racially diverse. The percentage of elders of color will grow from the current 17% to over 33% by 2050, faster than the growth rate of the Caucasian population [2,3]. Experts estimate that between 3 and 8% or 1.75 and 3.5 million Americans ages 60+ are gay, lesbian, bisexual, or transgender (GLBT) with their numbers expected to increase over the next 30 years [1,2,4].

These older adults will most likely experience increasingly complicated health care and social needs as they live longer [5]. This will create an even greater demand for psychologists, social workers, nurses, sociologists, and educators in a variety of medical and non-medical settings [6-8]. This increase in proportion and number of older people is expected to continue, especially as the Baby Boomer generation started turning age 65 in 2011.

Moreover, according to Pietsch and Braun [9], the aging of America has and will continue to have a significant impact across the nation on government, politics, communities, families, and business. The number of persons with 65 years of age and over is expected to double by the year 2030 and the fastest growing segment of the population consists of people who are 85 years of age and older. For some, aging will bring incapacity, poverty, and chronic illness. For many more aging will bring continued health and relative prosperity. For most, aging will bring an increased complexity to life. Contributing to this complexity is the growing diversity among older adults, socioeconomic status, family/living situations, and health/mental health issues [3]. However, the social work profession along with other helping professions and social science disciplines, and the White House are becoming progressively aware that a sizable population of older persons exists, along with their growing diversity, issues and many challenges. One such issue/challenge is the growing HIV epidemic among older adults who are 50 years and older [10-14].

With the introduction of combination antiretroviral therapy (cART), people infected with HIV have the prospect of living a long life [15]. Combining rapidly increasing longevity among long-term survivors with older adults becoming newly infected, estimates project that by 2015 approximately half of all people living with HIV in the U.S. will be 50 years old and over [15-17].

According to Linsk [18], older adults have consistently been a significant part of the HIV population and are affected by the HIV epidemic in a number of ways: like younger persons, older adults may be at risk for HIV infection by engaging in sex- or needle-related behaviors and may need to seek counseling and testing. They may not be knowledgeable about HIV risk in older adults and therefore require information, education, and behavioral changes. Older adults may be HIV-positive and concerned about care and services. Alternatively, they may be concerned about the possible risks for and HIV status of younger family members, including grandchildren or adult children for whom they may be serving as caregivers [19].

The study of HIV infection in later life is, for the most part, only recently emerging as an important concern. Until recently, research regarding HIV treatment and prevention, including pharmacologic trials conducted by federal agencies and private corporations, had generally excluded older adults from participation in clinical trials, and the use of antiretroviral drugs for HIV-infected older adults was generally at the discretion of the clinician. In 2011, the AIDS Community Research Initiative of America (ACRIA), the American Geriatrics Society (AGS), and the American Academy of HIV Medicine (AAHIVM) announced the release of a collaborative report offering "best practice" guidelines -- the first ever -- for managing co- existing conditions in older (age 50 and above) HIV positive patients. Nonetheless, HIV-related issues are complex for older adults. In addition to the direct effects of the disease on infected persons and their support networks, HIV continues to be associated with extreme social responses, including fear, stigma, and discrimination [15,20,21].

According to the National Institute on Aging [22], about 29% of all people with AIDS in the United States are age 50 or over. In 2001, this portion was 17%-37% of people with AIDS are older than 50. This number is increasing. There are three categories of older people with HIV: People who knowingly have been living with HIV for many years; older HIV- infected people who are just learning their HIV status; and older people who are newly infected with HIV. According to Emlet et al. [15], there is a need for education, prevention, and research as it relates to this population. Additionally, there are psychosocial complexities of living with the HIV disease. These issues are exacerbated when coupled with stigma and ageist attitudes that have serious consequences for older adults. Moreover, older Blacks and gay men are disproportionately affected by HIV [17].

## Profile of older men living with HIV/AIDS

While data and literature on older males living with HIV/AIDS is scant, a couple of studies were located to provide demographic characteristics of men over 50 years of age living with HIV. These data are available from the recently published study, Research on Older Adults with HIV (ROAH) in New York City [23,24]. The ROAH study is a groundbreaking first step in establishing a valid and comprehensive knowledge base of the unique characteristics and needs of this growing population living with HIV/AIDS. The data for this research came from the ROAH study. According to the study of Karpiak [24], on average, these men were 55.7 years of age. Forty-eight percent were non-Hispanic black, 32% were Hispanic, and 16% were non-Hispanic white, with 2% or less of other race/ethnicities. Among those reporting sexual orientation, 60% were heterosexual, 30% were homosexual, and 10% were bisexual. Over three-quarters lived alone. The experience of HIV had possibly affected employment in this group; 55% reported being on disability, 20% were unemployed, 8% were retired, and only 8% reported working full- or part-time, the other 9% is unknown. Thus, it is not surprising that 54% reported barely adequate incomes and an additional 23% reported inadequate incomes [23]. Nearly one-half (49%) disclosed having been incarcerated at some point in their lives, and 46% indicated past injection-drug use. The average time from HIV diagnosis was 13 years, and almost one-half (46%) were asymptomatic, 41% were HIV-symptomatic, and 13% reported AIDS. Eighty-six percent reported being on anti-HIV medications and only 18% had CD4 levels below 200, a testament to the success of modem therapies in combating HIV [23]. Hence, there are many complexities to this growing epidemic.

## Social support and caregiving for older adults living with HIV/AIDS

As society has stereotypical views about age-appropriate behavior and health practices, older people suffering from HIV/AIDS often find themselves in very unique social situations. Recent research has shown ways in which older adults have more trouble adjusting to their HIV diagnoses than other affected populations [20,25-31]. HIV-positive individuals aged 50 years and older are more socially isolated than their younger counterparts [32]. Whereas most older Americans rely on family members during times of illness [33], older HIV-positive individuals perceive many barriers to receiving emotional and instrumental social support from friends and family. These include concealment of HIV status and others' fear of casual transmission of HIV [34]. The social stigma associated with AIDS and the sexual and drug-using behaviors through which many people become HIV-infected can also limit caregivers' ability to access traditional social support networks and institutions of support, such as the African American church [35]. Additionally:

1. Older adults are less likely to reach out to family, friends, and community for emotional support and assistance [36].
2. Older adults may find it more difficult than younger adults to disclose or discuss their HIV diagnosis [37]. They may even face severe depression if they disclose their diagnosis and are ostracized [20,26,38].
3. It has been determined that older adults who receive inadequate care and support find themselves feeling isolated from the general population [20,30,39].
4. Older adults also have trouble disclosing their statuses to their children and close loved ones.
5. Older adults may have trouble receiving or reach out for help from organizations designed to assist those with HIV/AIDS [40,41]. Older people living with HIV/AIDS may not reach out for formal support if they were shunned from the immediate support of family and friends [36]. If they were able to access support network and get the help they needed, they were able to replace those they lost because of the stigma associated with the disease and their diagnosis [42].

Moreover, older adults belonging to a minority group have a higher risk of contracting HIV/AIDS than older adults in the dominant ethnic group [43,44]. Because of the fear of the stigma of being gay, older minority adult may choose to not disclose their sexual identities [45].

As aforementioned, many older adults living with HIV/AIDS are disconnected from traditional informal support networks, and rely heavily on formal care providers [39,46]. This is especially true of gay men with HIV, many of whom have been rejected by family members.

However many people living with HIV, including racial minority women, do rely on informal caregivers. Informal caregivers in the United States report high rates of depression [47] and emotional burden related to nondisclosure of the HIV status of the person for whom they care [48]. Informal caregivers often have less time to parent and to work, causing stress that can correlate with depression and an end to caregiving assistance [46,49].

Caregivers of people living with HIV/AIDS often experience "stress proliferation," a process whereby "stressors…beget stressors" [50]. Primary stressors, such as the physical and emotional burden of providing caregiving assistance, can beget secondary stressors in roles and activities outside caregiving. This can occur as one's caregiving role grows and becomes perceived as all-consuming. It also occurs when the strains caused by the caregiving role affect the other roles and activities of the caregiver, such as parent, spouse or partner, and employee [46,50]. A study of female caregivers of men with HIV (mothers and wives of the men) found that future uncertainty was a key element in the stress proliferation process for both female caregivers and the men living with HIV who were care recipients. It was positively associated with depressive symptomatology for men with HIV, but not for the caregivers [46,51].

This research will examine psychological well-being and the impact sexual orientation and spirituality have in predicting psychological well-being among middle –age and older HIV positive Black men, 49 years and over who are self-identified as homosexual/gay, bisexual, and heterosexual/straight. Thus, this was a comparative analysis of gay and straight older Black men living with HIV/AIDS. Specifically, this research will determine the contribution of sexual orientation and spirituality to psychological well-being, with implications for caregiving.

### Theoretical framework

The theoretical framework for this research is based on Lazarus and Folkman's [52] Transactional Model of Stress and Coping, which is a framework for evaluating the process of coping with stressful events. Stressful experiences are interpreted as person-environment transactions. These transactions depend on the impact of the external stressor. This is mediated firstly by the person's appraisal of the stressor and secondly on the social and cultural resources at his or her disposal [53-55]. Stressors are demands made by the external or internal environment that upsets balance, thus affecting and psychological and physical well-being and requiring action to restore balance [55].

## Methods

### Participants and procedures

Data were drawn from the *Research on Older Adults with HIV* (ROAH) study [24], a cross-sectional survey conducted in New York City (NYC) from March to October 2005. The ROAH is a cross-sectional study meaning that data was collected at one point in time [56,57] and inferences from this research is based on observations of older adults with HIV, spirituality, and psychological well-being observed at a single point-in-time. In 2001, the AIDS Community Research Initiative of America (ACRIA) launched a new research program in behavioral research to improve our understanding of those living with HIV, what their psychosocial needs are, and how we can most effectively support them in living happier, healthier, and lives [24]. The ROAH study assessed a 1,000-person group in New York City, examining a comprehensive array of issues, including stigma, health status, sexual behavior, spirituality, and social networks. Participation was limited to HIV-positive individuals ages 50 and older who resided in or received health care in New York City, were community dwelling (i.e., no institutionalized), were able to complete the survey instrument in English, and did not have significant cognitive impairment that would preclude completion of the questionnaire.

A total of 1,000 participants met these criteria and completed the survey, which resulted in 914 usable questionnaires. Informed consent was obtained in writing, and the Copernicus Group Institutional Review Board approved all study procedures. Data was collected using self-administered pen and paper questionnaires which took approximately 1.5 hours to complete. Surveys were completed at the project site located in New York City, at the community recruitment sites, or rarely at the respondent's residence [58].

From the total sample of 914 participants (647 men, 267 women), this researcher only included male participants who identified as Black/African American (n=375). In addition, the sample was limited to those male participants who self-identified as heterosexual/straight (n=260), non-heterosexual/gay or bisexual (n=93). Other participants identified as 'other' or did not provide a response [23]. This restriction was made in order to facilitate comparisons of sexual orientation among Black male participants. Thus, this resulted in a final analytic sample of 353 Black men.

### Tools/Measures

**Demographic profile:** Single items assessed participants' age, race/ethnicity, sex, education, health status, living arrangement, employment status, religious affiliation and participation, sexual orientation, income adequacy, history of incarceration, health coverage, and life satisfaction [24].

**HIV status:** Single items assessed date of HIV diagnosis, receipt of an AIDS diagnosis, prior history of HIV testing, CD4 count, HIV infection risk factors, use of HAART and complementary and alternative medicine use, and type of healthcare provider [24].

**Psychological well-being:** Ryff's [59] theoretically-derived subscales were used to assess psychological well-being. Each of the six 9-item subscales (e.g., autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance) utilize a 6-point scale ranging from 'strongly disagree' (1) to 'strongly agree' (6) to assess well- being with higher scores indicating better psychological well-being. Internal consistency for the scales is high, ranging from .86 (self-acceptance) to .93 (autonomy). These scales provide positive indicators of mental health and quality of life, as opposed to only assessing deficits [24].

**Spirituality:** The Spirituality Assessment Scale (SAS) [60] is a 28-item self-report instrument constructed to measure four critical attributes of spirituality (e.g., purpose and meaning in life, inner resources, unifying interconnectedness and transcendence). The SAS employs a 6-point response format ranging from Strongly Disagree to Strongly Agree (with no neutral option). The SAS is scored by summing the responses to all 28 items; each of the four subscale scores (7 items each) may also be obtained by summing the responses of the subscale items. The SAS provides scores that range from 28-168 related to the four aspects aforementioned [60], with higher scores indicative of higher levels of spirituality. The average score among participants in the ROAH study was 133, indicating that spirituality is a critical element for them [24]. The instrument was found to have high internal consistency, $\alpha$=.92. The four subscales were found to have acceptably high internal consistency, $\alpha$=.71 to $\alpha$=.91. Researchers have used Howden's SAS tool [60] in studies regarding spirituality in older adults after spousal loss, undergraduate nursing students, and patients dealing with weight management and substance abuse [61].

**HIV-related stigma:** The HIV Stigma Scale [62] is a 40-item instrument used to quantify the stigma discerned by people with HIV.

Analyses from previous studies of diverse samples of people living with HIV have identified four factors (e.g., disclosure concerns, personalized stigma, negative self image, and concern with public attitudes toward people with HIV) and an overall summary score. The scale was developed based on the literature on stigma and psychosocial aspects of having HIV. The 40 items of the HIV Stigma Scale focus on experiences, feelings, and opinions as to how people living with HIV feel and how they are treated. The person living with HIV responds to these items using a four-point scale to indicate level of agreement or disagreement [62]. The range of possible scores depends on the number of items in each subscale. For the total HIV Stigma Scale, scores can range from 40 to 160, with higher scores indicative of more stigmas encountered. Coefficient alphas between .90 and .93 for the subscales and .96 for the 40-item instrument indicate a high level of internal consistency. For this research, scores on this scale are in the discussion to provide context, as stigma was not a focal variable.

### Statistical analysis

**Multiple regression:** In order to answer research questions, multiple regression analysis (MRA) was employed. The purpose of multiple regression is to examine the effect of multiple independent variables (two or more) on only one dependent variable [63]. "In general, MRA estimates a model of multiple factors that are the best predicts the criterion" [63]. As such, in this research MRA was used to determine which independent variables (spirituality, sexual orientation, education, stigma, social supports, and age) are more statistically significant predictors of psychological well-being in middle-age and older Black men for question one; and to determine whether sexual orientation moderates the relationship between spirituality and psychological well-being for question two; and stigma for question three. Specifically for question one, *simultaneous multiple regression* was used to investigate hypothesis 1.

**Multiple regression (Moderation/Interaction effects):** In order to answer research questions, a moderation/ interaction effect in multiple regression was utilized. It was hypothesized that sexual orientation would moderate the relationship between spirituality and psychological well- being. It was also hypothesized that stigma would moderate the relationship between spirituality, sexual orientation and psychological well-being. According to Stevens [64], this is a complex topic. Interaction effects represent the combined effects of variables (sexual orientation and spirituality) on the criterion or dependent measure (psychological well-being). When an interaction effect is present, the impact of one variable depends on the level of the other variable. Part of the power of MR is the ability to estimate and test interaction effects when the predictor variables are either categorical or continuous [64]. As Pedhazur and Schmelkin [65] note, the idea that multiple effects should be studied in research rather than the isolated effects of single variables is one of the important contributions of Sir Ronald Fisher.

**Moderation analyses:** Moderation analyses was used to examine to what extent the strength and direction of the relation of two predictor variables (spirituality and psychological well-being) was different for people who vary in terms of a third variable (sexual orientation). This occurrence refers to interaction effects or the multiplicative effect of the two predictors on the outcome of interest [66]. To test the interaction effect a new variable – called interaction term- is computed multiplying the value of the two variables of interest for each participant – (sexual orientation x spirituality, in this case). The interaction term is entered in the third step. If the $\Delta R^2$ or additional amount of variance explained by the third step is statistically significant; it means that there is an interaction, or moderator, effect [66].

## Results

Analysis was performed on 353 males who self-identified as Black/ African- American/Caribbean. The age range was 49-78 years old with a mean age of 55.45 (SD=4.78). Sixty-nine percent of participants self-identified as straight, 15% as gay, 10% as bisexual, 1% as other, and 5% did not provide a response. In keeping with the research question which asks about heterosexual vs. non heterosexual, and to allow for regression analysis to be performed, sexual orientation was dummy coded as straight (code 0) and bisexual/gay (code 1) and participants who responded other or did not provide a response had missing data for this variable. Additionally, a series of central tendencies and frequencies were conducted in order to provide more detailed demographics on this sample of Black men. A chi-squared analysis revealed that there is no difference across sexual orientations in the particular religion they identified with $\chi^2(4)=2.70$, $p=.61$. A chi-squared analysis revealed that there is no difference across sexual orientations in whether they report attending services or not, $\chi^2(3)=3.03$, $p=.39$, in all cases the majority of people report not attending services. However, looking at the frequency of attendance at religious services it appears that heterosexual participants are more likely to do so more frequently, which is confirmed with an ANOVA, $F(3,263)=3.45$, $p=.02$. In particular, post-hoc analysis showed that straight participants attend significantly more often than bisexual participants ($p=.02$). In addition, straight people attend marginally more often than gay participants ($p=.09$).There was no significant difference how frequently between there was a significant difference between gay and bisexual participants ($p=.46$) (Table 1).

The first hypothesis was that spirituality is a more statistically significant predictor of higher levels of psychological well-being than other predictors. To test this hypothesis a series six moderation analyses using simultaneous multiple regression was performed, one for each of the six measures of wellbeing, each time entering the predictors sexual orientation, education, stigma, instrumental support (availability and adequacy), emotional support (availability and adequacy), age, and spirituality. The results of these analyses are presented in Table 2. Spirituality is the most significant predictor of five of the six indexes of wellbeing: personal growth, self-acceptance, purpose in life, environmental mastery, and autonomy. For the index of positive relations, spirituality is a strong and significant predictor, but stigma is slightly stronger. Therefore, hypothesis one is for the most part supported. Controlling for other factors, spirituality is a more significant predictor of increased wellbeing (Table 2).

The second hypothesis was that the relationship between spirituality and psychological well- being is moderated by sexual orientation and specifically that the relationship between spirituality and psychological well-being is stronger when sexual orientation is non-heterosexual (gay/ bisexual). In order to test this hypothesis a new variable was computed to represent the interaction between spirituality and sexual orientation. Then, a series of moderation analyses using hierarchical multiple regression were performed, one for each of the six measures of wellbeing, each time entering the predictors spirituality and sexual orientation at the first step and then the interaction term at the second step. The results of these analyses are presented in Table 3. The interaction of spirituality and sexual orientation was significant for self-acceptance, positive relations with others, and environmental mastery.

To interpret how the relationship between spirituality and each of the well-being outcomes is different depending on one's sexual orientation post-hoc analysis was performed examining the correlation between spirituality and wellbeing separately for straight and gay/bisexual respondents. Spirituality is positively correlated with self-acceptance for both straight and gay/bisexual groups, but the correlation is significantly stronger in the gay/bisexual subsample, $r$ (93)=.77, $p<.001$ than in

| | Straight (n=260) | Bisexual (n=36) | Gay/Les bian (n=57) | Other (n=3) |
|---|---|---|---|---|
| **Age** (mean and SD) | 55.82 (4.88) | 54.28 (3.25) | 55.37 (5.32) | 52.00 (3.46) |
| **Education** (median) | 3(graduated high school) | 4 (some college) | 4 (some college) | 3 (graduated high school) |
| **Employment** (mode) | 5 (disability) | 5 (disability) | 5 (disability) | 3 (unemployed) |
| **Partner** (mode) | 3 (one sexual partner) | 1(not sexually active) | 2 (masturbation) and 3 (one sexual partner) | 1 (not sexually active) |
| **Lives with** (mode) | 0 (alone) | 0 (alone) | 0 (alone) | 0 (alone) |
| **Income** (mean and SD) | 1.97 (0.80) | 2.34 (1.00) | 2.18 (0.71) | 2.00 (0.00) |
| **Religious affiliation** (frequency) | Catholic=32 (18%), Protestant=98 (54%), Jewish=0, Muslim=33 (18%), Buddhist=1 (0.5%), Atheist=1 (0.5%), Other=15 (8%) | Catholic=12 (44%), Protestant=10 (37%), Jewish=0, Muslim=0, Buddhist=0, Atheist=1 (4%), Other=4 (15%) | Catholic=6 (15%), Protestant=20 (50%), Jewish=2 (5%), Muslim=0, Buddhist=3 (8%), Atheist=0, Other=9 (23%) | Catholic=2 (67%), Protestant=0, Jewish=0, Muslim=0, Buddhist=0, Atheist=0, Other=1 (33%) |
| **Attends services** (frequencies) | Yes=122 (47%) No=136 (53%) | Yes=12 (33%) No=24 (67%) | Yes=23 (41%) No=33 (59%) | Yes=1 (33%) No=2 (67%) |
| **Frequency of attendance** (frequencies and valid percentages) | Weekly/more=58 (30%) Monthly=48 (25%) Few times year=41 (21%) Once year/less=46 (24%) | Weekly/more=4 (14%) Monthly=7 (25%) Few times year=4 (14%) Once year/less=13 (46%) | Weekly/more=7 (16%) Monthly=15 (35%) Few times year=4 (9%) Once year/less=17 (40%) | Weekly/more=2 (67%) Monthly=1 (33%) Few times year=0 Once year/less=0 |

**Table 1:** Demographic Table

| | Sexual Orientation | Education | Stigma | I.S. Availability | I.S. Adequacy | E.S Availability | E.S. Adequacy | Age | Spirituality |
|---|---|---|---|---|---|---|---|---|---|
| Personal Growth | .02 | .22*** | -.20*** | -.01 | .10 | .01 | -.01 | -.12* | .33*** |
| Self-Acceptance | .03 | .10** | -.25*** | -.02 | .05 | .00 | .10 | -.02 | .41*** |
| Positive Relations | .02 | .10* | .35*** | -.05 | .13* | .19*** | .07 | -.08 | .31*** |
| Purpose in Life | -.04 | .09 | -.28*** | -.01 | .06 | .10 | .08 | -.13*** | .36*** |
| Environmental Mastery | -.01 | .04 | -.22*** | -.05 | .07 | -.06 | .17*** | -.09 | .46*** |
| Autonomy | .01 | .19*** | -.19*** | -.13* | .10 | .04 | -.02 | -.07 | .40*** |

**Table 2:** Predictors of Well-being

| | Heterosexual | Non-heterosexual | Z test |
|---|---|---|---|
| Self-acceptance and spirituality | r(250)=.43, p<.001 | r(93)=.77, p<.001 | z=-4.50,p<.001 |
| Personal relationship and spirituality | r(248)=.35, p<.001 | r(92)=.62, p<.001 | z=-2.81,p<.001 |
| Environmental and spirituality | r(250)=.44, p<.001 | r(92)=.63, p<.001 | z=-2.13,p<.02 |

**Table 3:** Interaction of Sexual Orientation and Spirituality—Post hoc

the straight subsample $r(250)=.43$, $p<.001$, $z=-4.50$, $p<.001$. Secondly, spirituality is positively correlated with positive relations with others for both straight and gay/bisexual groups, but the correlation is significantly stronger in the gay/bisexual subsample, $r(92)=.62$, $p<.001$ than in the straight subsample $r(248)=.35$, $p<.001$, $z=-2.81$, $p<.001$. Finally, spirituality is positively correlated with environmental mastery for both straight and gay/bisexual groups, but the correlations is significantly stronger in the gay/bisexual subsample, $r(92)=.63$, $p<.001$ than in the straight subsample $r(250)=.44$, $p<.001$, $z=-2.13$, $p=.02$.

Based on the regression and post-hoc analysis hypothesis two was supported in part, that is the relationships between three of the six wellbeing indexes (self-acceptance, positive relations with others, and environmental mastery) are moderated by sexual orientation in the expected manner—the relationship between spirituality and wellbeing is stronger when sexual orientation is non-heterosexual (Table 3).

This research investigated three research questions. The first question was to determine what factors (sexual orientation, spirituality, education, stigma, social support, age) are statistically significant predictors of psychological well-being among middle-age and older Black men living with HIV/AIDS. In order to answer this question, first, a series of bivariate correlations were conducted to demonstrate which aforementioned factors are significant predictors of each of the six measures of psychological well-being. Similar to findings reported in the literature review, a number of the proposed factors are correlated with one or more the well-being measures and thus can be considered significant predictors. Namely, adequate emotional and instrumental support (social supports) is associated with higher-levels of well-being.

Additionally, all of the well-being indexes are correlated quite strongly with stigma such that people who experience more stigma have lower levels of well-being. These findings are totally consistent with existing literature that suggests that older adults who receive inadequate social support have greater problems with issues of stigma and isolation [20,30,39]. However, the literature also suggests that older adults are less likely to seek out community supports and less likely to have family members or siblings who can care for them [36]. Herein presents a dilemma, but an opportunity for social work practice in general, but particularly with older adults and

families infected and affected by HIV/AIDS. Another consistent finding in this research was related to age and well-being. Age did not appear to be an important predictor of well-being in this research as some previous studies have suggested and others have refuted. One very interesting finding is that sexual orientation appears to be positively correlated with well-being, which is consistent with the very few studies that have found this to be the case [67-72]. This research adds to this knowledge base.

Findings were supportive of the hypothesis which stated that spirituality would be a more statistically significant predictor of higher levels of psychological well-being when taking the other predictors into account. The results revealed all of the well-being indexes correlated strongly with spirituality such that those people who are more spiritual show higher levels of well-being. This finding is completely consistent with the existing literature that shows that spirituality provides positive effects in the Black community and that it is significantly correlated to both physical and mental health outcomes [67-72]. Moreover, adults aging with HIV have also been shown to benefit from spirituality [73-75].

The second question was whether sexual orientation moderated the relationship between spirituality and psychological well-being. The hypothesis stated that the relationship between spirituality and psychological well-being is moderated by sexual orientation and specifically that the relationship between spirituality and psychological well-being is stronger for Black men who identified as non-heterosexual (gay/bisexual). This hypothesis was based in part on the literature from studies that have investigated such topics and in some cases have reported that sexual orientation was associated with less depression, improved hope, less anxiety, and reports of higher mental well-being [67-72]. Moreover, one study indicated that heterosexuals with HIV/AIDS reported more depression, more anxiety, and less hope [69]. The results of this research indicate that of all the six well-being indexes, the interaction of spirituality and sexual orientation was significant for self-acceptance, positive relations with others, and environmental mastery. In other words, hypothesis two was supported in part, that is the relationships between three of the six well-being indexes (self-acceptance, positive relations with others, and environmental mastery) are moderated by sexual orientation. Thus, the relationship between spirituality and well-being (or aspects if it) is stronger for non-heterosexual men as it relates to their self acceptance, positive relations with others, and environmental mastery. These are important aspects of well-being in general, but particularly for older adults with HIV, especially those who identify as non-heterosexual as they may face triple or quadruple jeopardy of ageism, homophobia, stigma, and racism.

Individuals who score high in these areas tend to have better physical and mental health outcomes [24]. An individual who self-accepts "possesses a positive attitude; acknowledges and accepts both good and bad aspects of him or herself; and feels positive about his or her past life". Likewise, and older adult who is HIV seropositive who has strong relationships with others and is capable of affection, empathy and affection can develop "mutually beneficial" relationships, which can provide the needed instrumental and emotional support that some many HIV infected older adults lack. Lastly, and probably most important to social work practice is the individual being capable of mastering their environment. One who is able to master their environment can adjust to and/or create a pleasant space that is suitable to his personal needs and values. This particular aspect of well-being is ever so critical and essential to older HIV seropositive adults' ability to live in a society that discriminates against people with HIV, who may also be non-heterosexual [24]. This research adds to the literature on the relationship between sexual orientation, spirituality and well-being; and adds new knowledge on older Black men with HIV in this regard. Additionally, these findings may support the notion of crisis competence in older non-heterosexuals.

The third question has two (2) parts and was concerned with the role of stigma. Specifically, whether the relationship between spirituality and psychological well-being is moderated by stigma and secondly, whether the correlation between sexual orientation and psychological well- being is moderated by stigma. Although only a small number of studies have given glimpses into the issue of HIV stigma and older adults [26,27], and very little is known about stigma in older Blacks with HIV [76], it is known HIV stigma is a critical issue that impacts the quality of life of all persons living with the disease [26]. As such this question was exploratory in nature.

The first part of the hypothesis states that the relationship between spirituality and psychological well-being is moderated by stigma and specifically that this relationship is strengthened in individuals who experience higher levels of stigma. This hypothesis was based in part on the literature that has found that in some cases individuals become more spiritual following an HIV/AIDS diagnosis [77,78]. However, the results show the interaction of spirituality and stigma is not significant for any of the six indexes of well-being and therefore hypothesis 3a is not supported. Thus, the relationship between spirituality and well-being is not moderated by the level of stigma a person experiences. This might be due to the impact stigma has on how older men with HIV are received by their spiritual/religious communities. Some religious organizations take a more proactive stance toward caring for those living with HIV/AIDS, while many others have reacted with "AIDS phobia" and homophobia [79,80]. Alternative explanations beyond the scope of this research might also include the concept of spirituality versus religiosity/organized religion. This research solely focuses on spirituality, which is defined in this research as one's inner relationship/outlook with self and a higher power. So, one can conclude that stigma does not alter the relationship between spirituality and well-being because of the possible differences that spirituality and religiosity embody, respectively.

The second part of the hypothesis states that the relationship between sexual orientation and psychological well-being is moderated by stigma and specifically that this relationship is strengthened in individuals who experience higher levels of stigma and who are non- heterosexual (gay/bisexual). The hypothesis was partly based on the literature where studies have found that sexual orientation was associated with less depression, less anxiety, and higher levels of mental well-being [67-72]. Additionally, the concept of crisis competency [81-84], which is the notion that homosexual men have had a history of addressing crises (coming out, discrimination, stigma, isolation, death, loss, HIV/AIDS, etc.) more often than their heterosexual counterparts and by virtue of this, have an easier time dealing with the crises that accompany old age. However, the results indicate that the interaction of sexual orientation and stigma is not significant for any of the six indexes of well-being and therefore hypothesis 3b is not supported. Thus, the relationship between sexual orientation and well-being is not moderated by the level of stigma a person experiences. The literature does not identify reasons why this hypothesis is not supported. A major reason is that very little research exists related to older adults and stigma [26,27,76] and even smaller research related to middle-age and older Black gay men. This research adds to the literature in this regard. However, further investigation is needed.

## Conclusion

As the number of HIV-positive people aged 50 years and older increases in the United States, it is necessary to take appropriate measures to ensure that the needs of this diverse population are met. Providers must recognize the high incidence of comorbidities, and the long-term effects of HAART. The social context, in which older adults with HIV/AIDS live, including the damaging effects of stigma on their physical and emotional well-being, must also be considered in improving care. Technical assistance and

formal/informal social support for caregivers is a must and will become even more imperative. Furthermore, increased training for the geriatric care workforce is essential to promote and maintain the long-term health of this population. Changes in policy could dramatically improve health outcomes for HIV-positive older adults by increasing access to treatment and support. A collaborative effort involving multiple agencies and levels of government is needed to effectively address the complexities of the burgeoning population of HIV-positive older adults [46].

This research was developed to examine the speculation in the literature in which some scholars posited that sexual orientation positively impacted well-being. Despite speculation, very limited evidence was available and no empirical evidence was present for older Black men. As such, the aim of this research was to determine the contribution of sexual orientation and spirituality to psychological well-being among older Black men living with HIV/AIDS who self-identified as heterosexual or non-heterosexual. Findings indicated that while spirituality is the most statistically significant predictor of well-being, sexual orientation is significant for non-heterosexual Black men with certain dimensions of well-being; lastly, stigma does not moderate the relationships between spirituality, sexual orientation and psychological well-being.

Indeed there are many more rivers to cross. Older men living with HIV will emerge as one of the largest segments of the HIV population in the coming decades. These individuals face unique challenges, including feelings of invisibility, confrontations with ageism, sexism, and discrimination, limited access to gay-friendly health care, internalized homophobia, social isolation, accelerates aging, and loneliness [85,86]. However, some research posits that these older adults with the benefit of crisis competence have weathered the storm and trials and have developed positive self-identities [87]. Enormous demands will be placed on private and governmental social service agencies, health care providers and caregivers.

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