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THE IMPACT OF RELIGIOSITY DIMENSIONS AND ETHNIC IDENTITY ON WELL-BEING IN AFRICAN AMERICAN WOMEN

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THE IMPACT OF RELGIOSITY DIMENSIONS AND ETHNIC IDENTITY ON
WELL-BEING IN AFRICAN AMERICAN WOMEN

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DISSERTATION

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A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Arts and Sciences
at the University of Kentucky

By

Ebony Vinson

Lexington, Kentucky

Director: Dr. Tamara L. Brown, Professor and Dean

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ABSTRACT OF DISSERTATION

THE IMPACT OF RELGIOSITY DIMENSIONS AND ETHNIC IDENTITY ON
WELL-BEING IN AFRICAN AMERICAN WOMEN

Religiosity is considered to be an important component of the cultural orientation and worldview of African Americans. African American women, in particular, have been found to be unique in their level of religious devotion and activity compared to other demographic groups but there has been minimal research examining the positive effects of religiosity over time.The purpose of the current study was to investigate the role of religiosity dimensions and ethnic identity in predicting self-esteem, social support, healthy behaviors, and licit drug use in African American women over time. Results indicate that behavioral and cognitive components of religiosity predict different indicators of well-being. Specifically, behavioral religiosity was found to be predictive of healthy behaviors while cognitive religiosity was found to be predictive of self-esteem. Results also indicate that examining ethnic identity as a moderator may offer a richer context in understanding the differential effects of religiosity in well-being for African American women. Limitations and recommendations for future research were also discussed.

KEYWORDS: African Americans, gender, religion, ethnic identity, well-being

Ebony S. Vinson

April 1, 2013

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Chapter One: Introduction and Literature Review

Boyd-Franklin (2010) defined religion as a set of beliefs and the formal practice of those beliefs through membership in a faith-based institution. There is a growing body of literature indicatingthat religiosity is associated with better mental health outcomes with respect to depression (Braam, et al., 1998; Van Olphen et al., 2003; Watlington& Murphy, 2006), well-being (Ayele, Mulligan, Gheorghiu, & Reyes-Ortiz, 1999; Frazier, Mintz, & Mobley, 2005), and self-esteem (Commerford&Rezinkoff, 1996; Sherkat& Reed, 1992). Researchers have suggested several explanations of why religiosity makes a difference in health outcomes, including encouragement of healthful lifestyles (proscriptions regarding negative behaviors such as drinking, drug use, risky sex), provision of opportunities for supportive relationships, assistance in finding meaning in adversity, and promotion of social connectivity (Koenig, McCullough, & Larson, 2001; Levin, Chatters, & Taylor, 1995; Musick, Koenig, Hays, & Cohen, 1998), but there has been minimal research aimed at understanding what aspects of religion promote mental health.

Generally, research finds that religiosity seems to be related to psychological well-being; however, important between-group differences in this phenomenon have been documented. Compared to European Americans, racial and ethnic minorities tend to be more religious and more likely to use religion as a means of coping (Ghorpade, Lackritz, & Singh, 2006). Historically and currently, African American culture places a strong emphasis on religious beliefs and activities. As an extension, a heightened level of religiosity has been viewed as an expression of African Americans' cultural identity (Koenig et al., 2001; Levin et al., 1995). Compared to European Americans, African

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Americans have been found to report a greater frequency of prayer, church attendance, religious consolation, Bible study, a stronger commitment to religious beliefs, a higher level of feeling close to God, and a higher level of the sense of divine control (Ferraro & Kelley-Moore, 2000; Krause 2003, 2005; Krause & Chatters, 2005; Levin & Taylor, 1997; Levin, Taylor, & Chatters, 1994; Musick, Traphagan, Koenig, & Larson, 2000; Schieman&Bierman, 2007; Schieman&Pudrovska, 2003; Taylor, Chatters,& Levin, 2004). It has even been suggested that African Americans may be the most religious group of people in the world (Gallup Report, 1985; Taylor, Mattis, & Chatters, 1999).

Not only do African Americans have a higher level of religiosity compared to other ethnic groups, they have also been found to believe that there is a connection between religiosity and health (Holt, Schulz, & Wynn, 2009), and the literature indicates some striking racial/ethnic differences regarding the benefits of religiosity. African Americans have shown greater health benefits from religious involvement than Hispanics or European Americans (Hawkley, Brown, &Cacioppo, 2005). Mental health, in particular, has been found to be greatly influenced by African American religiosity. In cross-racial studies, psychological well-being and religious belief have been found to be positively correlated only among African American participants (Blaine & Crocker, 1995; St. George & McNamara, 1984).

African American women are generally considered to be more religious and more involved in church than African American men (Chatters, Taylor, & Lincoln, 1999; Taylor, Chatters, Jayakody, & Levin, 1996). Feltey and Paloma (1991) found that gender was a predictor of church attendance and perceived closeness to God, but there was not an investigation into what this difference means with respect to well-being. One study

that examined gender differences in an African American sample found that church attendance was correlated with global happiness, family life satisfaction, and subjective health in females (St. George & McNamara, 1984). Similarly, religiosity is thought to provide a framework for understanding hardships (Vinson & Brown, 2013), a source of help in family matters (Baker, 2008) and a significant coping response within African American females (Bryant-Davis, Ullman, Tsong, &Gobin, 2011).

Although a number of studies have measured some aspect of religiosity and psychological well-being in African Americans, there are at least three distinct limitations in the work that has been done so far. First, research focusing on religiosity often fails to link it with psychological well-being and related factors. Instead, researchers often investigate religion's link with psychological distress or mental illness which leaves the potential benefits of religiosity largely unknown. Second, the majority of the research in this area has been cross-sectional which investigates correlates more so than predictors of well-being. With this approach, it is impossible to determine if psychologically healthy people are just more likely to engage in religious practices or if religion actually predicts mental health. Finally, most of the literature that investigates positive mental health outcomes focuses exclusively on elderly African Americans resulting in minimal acquired knowledge about the influence of religiosity in young or middle-aged adults or the possibility of cohort effects.

Dimensions of Religiosity

Religion is a broad construct that scholars have proposed to be multidimensional. A substantial review of the previous religiosity literature was presented in the *Handbook of Religion and Health* (Koenig et al., 2001). The authors identified twelve religiosity

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dimensions based on a review of previous literature from the work of Glock (1962), Allport and Ross (1967), King and Hunt (1975), Batson (1976), and Paloutzian and Ellison (1982). The list included behavioral as well as cognitive components such as organizational religiosity, non-organizational religiosity, and religious beliefs. There are two dimensions that seem to be most consistent and have also been identified as importantreligiosity dimensions for African Americans (Vinson & Brown, 2013). These dimensions are the behavioral and cognitive dimensions.

Behavioral dimension. Within religiosity research, scholars have often assessed religiosity in terms of overt behavioral practices probably due to two primary reasons. First, religious behavior is often seen as a way to nurture one's religious identity and beliefs. In addition, behavioral practices can be easily quantified and analyzed. For this study, the behavioral component includes how a person practices their religion. Some theorists believe that religious ideation is rooted in religious activity (Berger, 1967). Behaviors such as prayer or church attendance may offer the opportunity to understand, grow in, and solidify core beliefs of the particular faith system (Schieman&Bierman, 2007). The frequency of church attendance and prayer are two of the most commonly studied forms of religious activity (Idler et al., 2003) especially in studies that find a positive association between religious activities and favorable health outcomes (Ellison & Boardman, 2001; Koenig, et al., 2001; Taylor et al., 2004). Vinson and Brown (2013) suggested that the behavioral dimension of African American religiosity may include three primary facets including public religious practice, private religious practice, and religious behavioral consequences. This study will focus on the commonly researched

public religious practices facet as well as the minimally researched facet of religious behavioral consequences.

*Public religious practice.*Public religious practice includes behaviors associated with the religious institution such as church attendance or membership. Frequency of religious service attendance is the most consistent correlate of subjective well-being (Ferriss, 2002) and has been found to account for most of the differences in life satisfaction between those with and without religious affiliations (Lim & Putnam, 2010). Greater religious service attendance has also been found to correlate with a larger number of social ties, more frequent social contact with others, and more frequent telephone contact (Ellison & George, 1994), which suggests that it could be an important contributor to having positive relationships with others and social support. Underlying mechanisms that have been suggested for the link between attendance and mental health include self-esteem enhancement (Carothers, Borkowski, Lefever, & Whitman, 2005), discouragement of risky behaviors (McLaughlin, Chuansheng, Greenberger, &Biermeier, 1997), a sense of purpose or meaning in life (Steger & Frazier, 2005), and greater social integration and interpersonal support (Ellison & Levin, 1998).

*Religious behavioral consequences.*The religious behavioral consequences facet encompasses the behavioral influence that religion has on daily life and practices in the secular world. Many previous researchers suggest that this component may be the most important mediator of the link between religiosity and psychological well-being. Religious teachings about sexual rules, rules about how to treat others, and the emphasis on self-denial may lead to a general reduction in risky behavior such as the use of licit and illicit drugs, placing value on material possessions, and risky sexual practices

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(Ellison & Levin, 1998; George, Ellison, & Larson, 2002; George, Larsons, Koenig, & McCullough, 2000; Koenig et al., 2001; Levin &Vanderpool, 1989; Mullen, 1990; Musick et al., 2000; Strawbridge, Shema, Cohen, & Kaplan, 2001). This reduction in risky behavior has been thought to reduce the frequency of negative life events and stressful circumstances in adulthood, which may then decrease overall stress and improve overall mental health.

　　　　Cognitive dimension. Second to the behavioral dimension of religiosity, components of religiosity related to how religion influences a person's thoughts have been recognized and researched. Vinson and Brown (2013) suggested that the cognitive dimension refers to what a person believes about their religion and how it relates to their life and circumstances. This dimension of religiosity is similar to previously identified dimensions such as creedal (Fukuyama, 1961), ideological (Glock, 1962), creed (Fichter, 1969), belief and social consequences (DeJong, Faulkner, &Warland,1976), and religious belief (Cornwall, Albrecht, Cunningham, & Pitcher, 1986; Koenig et al., 2001).

　　　　It is important to note that while the cognitive and behavioral dimensions of religiosity may be related, they are separate dimensions. Beliefs may inform behavior, but other motivational or access factors could interfere with actually carrying out religious behaviors. For example, an elderly African American woman may value religiosity and believe that it is extremely important to attend church but due to physical limitations have inconsistent church attendance. Likewise, an adult African American woman may believe that her body is a temple of God but struggle to engage in regular self-care such as eating healthy or exercising regularly due to a really time consuming job and a complicated family life. So, while certain religious behavior may often be an

extension of a religious belief, a certain belief will not always lead to a particular behavior.

Considering the amount of diversity within Christianity and its affiliations, it would be difficult to focus on specific beliefs within particular doctrines of the various denominations. However, research in this area has focused on some beliefs that may be common in various Christian faiths with a particular focus on beliefs about God. The specific beliefs that people hold about the nature of God are important in understanding the influence of religiosity on psychological well-being and these beliefs have been conceptualized as a facet of the cognitive dimension of religiosity for African Americans (Vinson & Brown, 2013). Viewing God as an involved being that is actively and positively involved in an individual's life has been found to be positive for psychological well-being while seeing God as judgmental and vengeful can decrease mental health (Kendler, et al., 2003). African Americans report higher levels of the sense of divine control or the belief that God personally exerts a commanding authority over the course and direction of one's life (Schieman&Pudrovska, 2003; Schieman, Pudrovska, Pearlin, & Ellison, 2006). Schieman and Bierman (2007) suggested that a belief in divine control may offer a sense that good and bad occurrences in life are elements of a divine plan and when unfortunate outcomes are encountered, believers can identify with the past religious sufferers such as the religious figure Job or the Children of Israel's difficult plight.

Religiosity and Well-Being in African Americans

Well-being is a broad construct that subsumes many different constructs. In this study, I chose to focus on more specific well-being indicators in an effort to understand how the various dimensions of religiosity differentiallyinfluence positive outcomes. It

seems quite plausible that different aspects of religiosity may vary in their importance when considering the different components of a healthy psychological state. Considering the small number of studies that measure psychological well-being or related constructs, this study will use four specific indicators of well-being: self-esteem, social support, and healthy behaviors, and licit drug use.

Self-esteem. Self-esteem has been defined as "the extent to which an individual likes, values, and accepts himself or herself" (Hoyle, Kernis, Leary, & Baldwin, 1999, p. 82). Recent studies suggest that African Americans have self-esteem that is at least equal to and often higher than European Americans. Gray-Little and Hafdahl (2000) found that African Americans often report higher levels of self-esteem than European Americans across different stages of life. For African American women in particular, the extant literature shows that African American women have higher levels of self-esteem over the life span compared to European American women(Boyd, 1993; DeFrancisco& Chatham-Carpenter, 2000; Sterk, Klein, &Elifson, 2004).   Self-esteem has been found to have many correlates in African American women including childhood experiences, financial stress, achievement outcomes, social support, and Black nationalism (Patterson, 2004; Sterk et al., 2004; Eaton et al., 2010).   Most important to this study, religiosity has also been linked to self-esteem in African American women (Sterk, et al., 2004), although there is limited research investigating the differential impact of religiosity dimensions on self-esteem in this group specifically (Sterk, et al., 2004).

Studies relating religiosity and self-esteem. Research examining the relationship between religiosity and self-esteem in African Americans have consistently found that various forms of religiosity contributes positively to self-esteem, with only one study

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finding no relationship between the two constructs. In that study, religiosity was represented as religious motivation (Colbert, Jefferson, Gallo, &Davis, 2009) so perhaps the focus on religious motivation, rather than religious behaviors or cognitions accounts for this divergent finding.

Within African American religiosity research, Schieman, Pudrovska, and Milkie (2005) investigated a new construct coined "sense of divine control" and its relationship to the self-concept in an older population. The authors administered items assessing both the cognitive and behavioral dimensions of religiosity. For the cognitive dimension, sense of divine control was measured with four items describing the extent to which an individual perceives that God controls the direction and outcomes of daily life, and more broadly, life in general (Schieman et al., 2005). Forms of behavioral religiosity including church membership, frequency of church attendance, and prayer frequency were also assessed with one item each. The study had multiple indicators of psychological well-being includingself-esteem. The participants were 65 years old or older and included samples from the District of Columbia area. A positive association between perceptions of divine control and self-esteem was found among African Americans with an especially strong association among African American women.

Krause (2005) investigated God-mediated Control and self-esteem among other outcome variables in a sample of elderly persons. God-Mediated Control is a cognitive construct based on the notion that problems can be overcome and goals in life can be reached by working together with God (GMC; Berrenberg, 1987). The participants included 752 older African Americans in a multi-racial nationwide survey of older adults. The results indicated that older African Americans are more likely than older European

Americans to believe they can control things that happen in life by working together with God. In addition to the heightened feelings of God-mediated control, ordinary least squares multiple regression analyses indicated that African Americans also seemed to show greater benefits from those beliefs as compared to European Americans. Specifically, older people with a strong sense of God-mediated control tended to have greater feelings of self-worth than older adults who were less inclined to believe God helps them control things that happen in life. In support of African Americans garnering more benefits from religious beliefs, the size of the relationship between God-Mediated Control and self-esteem was three times larger in African Americans than the corresponding estimates for older European Americans.

In addition to the research on divine control, social and behavioral measures of religiosity have also been associated with higher self-esteem (Krause, 2003; Sterk et al.,2004). Krause (2003)studied racial differences in the relationship between social interaction with clergy persons and feelings of self-worth. He found that emotional support from clergy persons was associated with high self-esteem for African Americans only. Specifically, the author concluded that experiences of discrimination and prejudices may elevate the importance of church to a central position in elderly African Americans and due to their social limitations, the church and leadership within the church may become a primary source of self-esteem. In an investigation of self-esteem in"at-risk" women, Sterk et al. (2004) examined the potential effects of the interaction of frequency of religious service attendance and perceived importance of religion upon one's behavior on self-esteem in a sample of 250 predominately African American women. The results indicated that higher self-esteem was reported by women who were

more religious.

Blaine and Crocker (1995) investigated both the cognitive and behavioral dimensions of religiosity in relation to race and psychological well-being. The cognitive dimension was measured as the prominence of religion in everyday thoughts and feelings (the Religiosity Salience-Cognition scale; King& Hunt, 1975). Religious behavior was measured by the average number of times the participants attended religious services each month and psychological well-being was measured with multiple indicators including personal and collective self-esteem (Luhtanen& Crocker, 1992). Unlike previous studies, this sample included a young adult population that included 66 African Americans. Consistent with Krause (2003, 2005) and Schieman et al. (2005), results were dissimilar for African Americans and European Americans. Specifically, religiousness was found to be more predictive of psychological well-being among African Americans than European Americans. African Americans reported greater religious belief salience and more frequent participation in religious services, and they used religion to explain life events to a greater extent than European Americans did. Additionally, religious belief salience was marginally predictive of higher self-esteem among only African American participants.

Ellison (1993) investigated religious involvement and self perception among African Americans as well. Religious involvement was divided into two categories of the behavioral religiosity dimension: public religious participation indicated by frequency of church attendance and frequency of participation in other church-related activities, and private devotional activity as represented by the frequency of reading religious books, frequency of religious television or radio consumption, and frequency of personal prayer.

Also, in an effort to measure other important covariates that may influence self-esteem, the authors included the interviewer's perception of the participant's physical attractiveness and skin color along with the client's report of chronic and acute stressors. The data was collected via sessions with African American interviewers as part of the National Survey of Black Americans, which is a household probability sample survey that was conducted by the Survey Research Center at the University of Michigan during 1979-1980. A little over two thousand (n=2107) African Americans were included for this study's analyses. They found that both public and private religious activity bear modest but statistically significant relationships to self-esteem among African Americans and that these effects appear to be independent of both affective familial ties and role specific evaluations. Interestingly, public and private religious activities seemed to have various buffering effects for two specific stressors. Specifically, regular participation in church activities mitigated the negative impact of physical unattractiveness on overall self-esteem while regular devotional activity had a strong buffering effect on the negative effects of chronic illness on self-esteem.

Overall, the religiosity and self-esteem literature suggest that facets of the cognitive and behavioral dimensions of religiosity have positive effects on self-esteem for both older and younger African American adults. Within this body of literature, possible within group differences as a function of gender were not emphasized, so it is unknown if women specifically may have stronger or weaker associations between religiosity and self-esteem. One study (Sterk et al., 2004) did find a positive association between religious behavior and self-esteem in African American women but more

research is needed to elucidate that finding and to investigate the potential impact of other religiosity dimensions.   `

Social support. An essential component of healthy relationships with others is perceived social support or the beliefs that a person holds about the relationships in his or her life. Increased social support has been found to be positively associated with higher levels of physical and mental functioning (Seeman& Chen, 2002) as well as life satisfaction, well-being, and positive affect (Cohen, Gottlieb, & Underwood, 2000; House& Landis, 1988; Wong, Yoo, & Stewart, 2007). Social support may affect an individual's functioning by either influencing well-being under all conditions (Loucks, Berkman, Gruenwald, &Seeman, 2006), being protective during times of stress (Uchino, 2006) or a combination of both. Research suggests that the quality and quantity of social support may have a more profound impact on women compared to men (Antonucci& Jackson, 1987; Antonucci& Akiyama, 1995).

Social support for African American women has been defined as "those helping agents who provide social support and feedback in solving problems or during periods of crisis" (Myers, 1980 p. 26). In African American females specifically, social support has been found to be associated with a more positive self-perception (Pierce, Sarason, &Sarason, 1996), positive coping after trauma, mental health (Shorter-Gooden, 2004), physical health, and well-being.Additionally, it has been suggested that strong community environments, such as a church congregation, can increase and promote socially supportive relationships (Stansfield, 1999) and individuals who are part of religious institutions are often supported by social norms and social networks within their religious community (Stack & Wasserman, 1992). Though social support is thought to

be an important underlying mechanism of the relationship between religiosity and well-being, there has been minimal research examining the different effects of religiosity dimensions on social support. Specifically, being an involved church member has been suggested to increase social support (Stansfield, 1999) but little is known about how the role of positive beliefs about God may influence a person's perception of social support.

Studies relating religiosity with social support. Ellison (1993) investigated religious involvement and some interpersonal outcomes among African Americans. Under public religious participation, African American church goers were found to enjoy closer extended family relationships and more positive perceptions of their interpersonal performance and work roles. The research regarding religiosity's affect oninterpersonal relationships and social support in general seems to be limited to the behavioral dimension so it is unknown if the cognitive dimension could also contribute to more positive relationships. Additionally, gender differences were not a focus of the extant research so it is unclear if the positive effects of behavior or cognitive religiosity may be more robust or function differently in African American women.

Healthy behaviors and licit drug use. Healthy behaviors have been described and operationalized in many different ways including behaviors such as having a healthy diet, exercising regularly, adhering to a prescribed medication regimen, having safe sexual practices (abstinence, condom use, small number of partners), no drug use, no tobacco use, and minimal alcohol consumption. Many researchers have suggested that the positive effects of religiosity may largely be due to the increase in healthy behaviors (Ellison & Levin, 1998; George et al.,2002; George et al., 2000; Koenig et al., 2001; Levin &Vanderpool, 1989; Mullen, 1990; Musick et al., 2000; Strawbridge et al., 2001),

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but surprisingly, the exploration of this relationship is fairly new in the literature. There is minimal research attempting to understand how different religiosity dimensions may influence healthy lifestyle behaviors in African American populations.

African American religious communities have been found to promote spiritual, mental, and physical well-being. Though African American women are more religious than other groups, the link between religiosity and healthy behaviors has been grossly understudied in this population. African American women have been found to report that biblical scriptures describe the need to engage in healthy behaviors including being physically active and consuming a balanced, healthy diet (Bopp et al., 2007), but there may be a disconnect between the belief and behavior. Considering the high level of religious involvement and observance in African American women, thelow physical activity in this group (Kruger, Ham, & Kohl, 2005;Felton, Ott, Jeter, 2000; Rohm&Voorhes, 2003; Wilbur, Chandler, Dancy, & Lee, 2003) may suggest that the link between religiosity and healthy behaviors may be different compared to other groups. It is possible that examining different religiosity dimensions may aid in improving our understanding of the link in this group.

Studies relating religiosity to healthy behaviors and licit drug use. The extant research investigating the link between religiosity and healthy behaviors in African Americans has generally found that religiosity does have a positive influence on various healthy behaviors and licit drug use. Most recently, Dodor (2012) examined religiosity and healthy behaviors, defined as eating habits and physical activity, in a national sample of 3,620 African American adults ages 28 to 34. The results indicated that high levels of church attendance along with other religious practices were related to healthier eating

habits. Interestingly, the author also found that frequent prayer and religion salience was associated with poor eating habits. These results suggest that public religious practices positively influence healthier eating while private religious practices may have a deleterious effect.Holt, Haire-Joshu, Lukwago, Lewellyn, andKreuter (2005) found a positive relationship between religiosity and positive dietary behaviors in a sample of urban African American women. The religiosity measure assessed various dimensions of religiosity including behaviors and beliefs of religiosity in two subscales (Lukwago, Kreuter, Bucholtz, Holt, and Clark, 2001). The authors also measured the importance and interest in eating fruits and vegetables as well as the behavior of consuming fruits and vegetables. Holt et al. (2005) found that those who were characterized as highly religious thought it was more important and had more interest in eating more fruits and vegetables than those in the low religious group. Also, the highly religious group believed eating more vegetables was more important than those in the belief only group. Those in the behavior only group had a significantly higher interest in eating more vegetables than the low religious group. Regarding consumption, the high religious group ate significantly more fruit and vegetable servings than those in low religious groups and the belief-only and behavior-only groups ate more fruit than the low religious groups.

In 1997, Parmer and Rogers investigated differences in healthy behaviors among two African American church denominations, with a particular focus on gender differences. The authors used a sample of African American adults (ages 18 to 50) from three Seventh Day Adventist and two Baptist congregations in Ohio. The participants completed the Health Belief Model Questionnaire (HBMQ; Becker, 1974) which assesses

individual health practices, concerns, susceptibility, and beliefs. In regard to health

practices, African American males were more likely to report that they exercised

regularly. Concerning beliefs, African Americans that were attending Baptist churches

were more likely than Seven Day Adventist to engage in unhealthy behaviors. Brown

and Gary (1994) investigated the link between religious involvement and health in a

sample of 537 African American males residing in urban areas. Religiosity was

measured by religious affiliation, church attendance, and a 10-item version of the scale

developed by Kenny, Cromwell, & Vaughan (1977) that assesses traditional forms of

formal religious group activities, individual religious practices or beliefs, and religious

media use. To measure healthy behaviors, the authors included two items about cigarette

use and alcohol consumption. Results indicated that religious involvement did influence

these particular healthy behaviors. Specifically, the percentage of current smokers was

lowest among those who had the highest level of religious activity. Also, being a part of

a religious denomination, attending church a few times a month, and having moderate to

high levels of religiosity were related to lower frequency of daily drinking in the African

American male sample.

Overall, the research investigating the link between religiosity and healthy

behaviors indicates that religious participation or public activity can have a positive

influence on healthy eating, cigarette use, and alcohol consumption. However, private

religious practices (prayer) and the importance of religion was related to more unhealthy

eating habits which suggest that the public practices may be more important than

idiographic practices or thoughts (Dodor, 2012). These findings could be related to the

positive influence of social support within the congregation that may not be paralleled

with private practices. Specifically, it is possible that those who attend church services may broaden and strengthen their social support network which has been found to be associated with more positive healthy behaviors(Hurdle, 2001). Though these results are interesting, more research is needed to deepen our understanding of the religion andhealthy behaviors link in African Americans, especially in African American females.

Models of Religiosity and Health

The need to understand the mechanisms of the religion and well-being link has not been overlooked. Previously, scholars have presented multiple models specifically focused on explaining why religion is related to physical health. Scholars have suggested that the most promising mechanisms in the connection of religion and health include healthy behaviors or lifestyle, positive affect, social support and integration, positive self-perceptions, coping, healthy beliefs, healing bioenergy, super empirical influences and finding meaning in why things happen (Ellison & Levin, 1998; George et al., 2000; Levin &Vanderpool, 1989; Musick et al., 2000; Oman &Thoresen, 2002). After a literature review, George et al., (2000) estimated that health-related behaviors account for 10% of the variance in the religion-health connection, that social support accounts for between 5 to 10% of the variance and that sense of meaning or coherence accounts for between 20 to 30%.

Koenig et al. (2001) added to the literature in proposing a model about religion's effects on mental health. The authors noted that religion may directly impact emotional well-being through arousing complex emotions but the illustrated model focused on the mediators such as genetic or biological factors, developmental experiences, stressful events during adulthood, cognitive appraisal of events, coping resources and coping

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behaviors. The model added to the literature by creating a model specifically designed to address mental health but it did not acknowledge the possibility of cultural or social influences.Models that attempt to address the underlying mechanisms of the connection between religion and mental health move us in the right direction; however, the previous models seem to have limitations in regards to African American religiosity and psychological well-being.

First, there has been a lack of focus on mental health or well-being. Though physical and mental health could have the same contributing factors there may be some important differences. Secondly, all of the models seem to ignore the role of culture or ethnic group differences. APA (2003) encourages researchers to conduct culturally centered and ethical psychological research with ethnic minority populations so it is imperative to be purposeful in creating culturally sensitive theories with African Americans. Finally, with the degree of salience and importance in this particular group, it is unlikely that previous models would adequately capture the link within African Americans. Not only do African Americans seem to have a higher average level of involvement in religion, their involvement seems to have a stronger impact on their well-being. Thus, there may be something qualitatively different about the nature of religiosity and its benefits in the African American community. This possible qualitative difference may be a result of either a difference in the strength of mechanisms, unique mechanisms, or a combination of both underlying a link between religiosity and psychological well-being that would not otherwise be identified with a model created for the dominant, European American culture.

Since the link between religion and psychological well-being seems to be stronger for African Americans, it is critical to understand the mechanisms underlying this link in the hopes of advancing understanding of the distinctive nature of African American religiosity in people's lives. In an attempt to understand this link better among African Americans, the proposed study involves testing aspects of Vinson and Brown's (2013) model depicting the religiosity and psychological well-being link in African Americans. The focus of this study will be on the cognitive and behavioral dimensions of religiosity and how they relate to self-esteem, social support, healthy behaviors, and licit drug use.

Ethnic identity. Many persons of African descent were brought to the United States under tumultuous circumstances. These circumstances were instrumental in detaching many African persons from their original heritage and cultural practices, but over time, African Americans created unique ethnic and cultural identities and practices in this country (Sellers et al., 1998). Importantly, these potentially protective factors, which may be uniquely relevant for African Americans in general and African American women in particular, have received minimal attention in the literature (Stevens-Watkins, Perry, Harp &Oser, 2011). Though there have been multiple ways of measuring cultural identification, ethnic identity seems to a central component that promotes mental health and well-being in African Americans (Outten, Schmitt, Garcia, &Branscombe, 2009; Verkuyten, 2010).

Ethnic identity is a multifaceted construct that refers to one's sense of belonging to an ethnic group and the part of one's thinking, perceptions, feelings, and behaviors that is due to ethnic group membership (Phinney&Ong, 2007). Ethnic identity is believed to be more important for African Americans than European Americans (French, Seidman,

Allen, &Aber, 2006; Phinney&Ong, 2007), possibly due to the strong need to resolve issues regarding balancing one's own culture with the dominant European American culture (Phinney, 1992). It is suggested that ethnic identity along with other cultural factors are important in understanding the severity of mental health challenges for ethnic minority groups (U.S. Department of Health and Human Services, 2001) and studies have found that a positive ethnic identity serves as a buffer against negative mental health outcomes (Branscombe, Schmitt, & Harvey, 1999; Mossakowski, 2003).

Having a strong ethnic identity has been linked to many positive outcomes. A strong ethnic identification has most consistently been linked to positive self-esteem (Phelps, Taylor, & Gerard, 2001; Phinney, Cantu, & Kurtz, 1997; Smith, Walker, Fields, Brookins, &Seay, 1999) along with resiliency (Belgrave, Van Oss Marin, & Chambers, 2000; Miller, 1999), self-efficacy (Smith et al., 1999), and quality of life (Utsey, Chae, Brown, & Kelly, 2002). Phinney (1992) suggested that a central component of ethnic identity lies in engaging in social activities with members of one's ethnic group and feelings of belonging to one's group which could lead to a greater perception of social support. Having a strong ethnic identity has also been found to be protective against psychological distress (Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003) and reduces the risk of drug and alcohol use (Brook et al., 2010; Caldwell et al., 2004).

Trimble (2000) noted that it is surprising that few researchers have examined the relationship between ethnic identity and religiosity. Ethnic identification has been found to be important in understanding religiosity in other religious groups (Muslim and Christian Palestinians in Israel; Abu-Rayya& Abu- Rayya, 2009) but like other potential moderators in the religiosity and well-being link in African Americans, there has been

only a small amount of research dedicated to cultural orientation and how it may influence the link between religiosity and psychological well-being in African Americans. The extant literature that does investigate within group cultural differences suggests that cultural orientation could be important in African Americans. Sanchez and Carter (2005) found a positive relationship between strong racial identity status attitudes and religious involvement or orientation in African Americans. Interestingly, the beneficial influence of religiosity on well-being was found to be stronger for those with a high level of adherence to traditional African American culture in African American elders (Jang et al., 2006). Specifically, the more fully the elder has accepted African American culture and experience, the more likely religious experiences were to enhance satisfaction with life (Jang et al., 2006).

Traditional African cultures emphasize the group over the individual and that cultural norm has been thought to persist in today's African American culture (Baldwin & Hopkins, 1990). Research suggests that collectivists and individualists vary in adherence to religiosity. Collectivists or those who prioritize their group membership (such as their family or racial group) have been found to be more likely to have higher levels of religiosity (Cukur, 2004), but again it would be premature to conclude that these higher levels lead to more positive mental health outcomes. In sum, there is a need for additional research on the role of ethnic identity in moderating the link between religiosity and well-being, specifically in African American women. This exploration is essential to expanding our understanding of culturally relevant and potentially protective factors that are often overlooked when studying African American populations.

Study Purpose and Hypotheses

The goal of this study is to investigate the relative role of religiosity dimensions and ethnic identity in predicting four well-being indicators in African American women. This study will advance the literature about the effects of religion on well-being in four ways. First, this study will examine religiosity dimensions separately which may lead to greater understanding of which components of religiosity are most beneficial. Second, longitudinal data will be used in this study in an effort to determine if religiosity predicts positive outcomes over time. Third, it adds to the literature that quantitatively examines the link between religiosity and well-being indicators in African American women specifically. Finally, this study will investigate the role of within group variation by investigating how ethnic identity may impact the link between religiosity and different indicators of well-being among African American females.

It is proposed that the various facets of the behavioral dimension may contribute to different factors of psychological well-being. Public religious practices and religious behavioral consequences are the facets of focus in this study. Public religious practices are hypothesized to positively predict social support and healthy behaviors. As previously noted, religious institutions offer multiple kinds of support including emotional, instrumental, and spiritual so public participation may lead to a greater perception of social support in general. Regarding the link to healthy behaviors, public religious practices have been found to be linked to healthier eating habits in African American women (Dodor, 2012; Holt et al., 2005). Though church attendance and support seem to be consistently linked to better eating habits, there is minimal research examining a combination of healthy behaviors in African American women so testing

this hypothesis will significantly add to the literature.   Behavioral consequences are hypothesized to positively predict healthy behaviors and licit drug use. It seems plausible that people who internalize their religious beliefs and use those beliefs to dictate their behavior will be more likely to engage in healthy behaviors and use substances less frequently.

The cognitive facet of interest in this study is positive beliefs about God which generally refers to God being viewed as a forgiving, loving, and an interested figure that determines one's path. It is hypothesized that positive beliefs about God will positively predict greater self-esteem. A belief that God loves an individual unconditionally may make a person more self-accepting of their own flaws and imperfections. The link between beliefs about God and social support, healthy behaviors, and licit drug use has not yet been examined in African American women so examining if these positive beliefs could also influence these social and behavioral well-being indicators is an important advancement in the literature. Additionally, exploring the role of ethnic identity as a potential moderator should add substantially to the literature by exploring the role of intersecting identities in this group.

Table 3.1

Means, Standard Deviations, and Intercorrelations of the Study's Variables at Wave 1

Variables	*M*	*SD*	2	3	4	5	6	7	8	9
1. Cognitive Religiosity	.31	.65	38***	.45***	57***	24**	50***	31***	04	20**
2. Church Membership	.69	.47		.46***	31***	.04	.22**	.15*	06	.10
3. Church Attendance	.23	.67			43***	.07	23**	.16*	-.02	28***
4. Religious Behavioral Consequences	.14	.93				21**	28***	.13	07	27***
5. Ethnic Identity	.22	.46					.17*	.12	11	.03
6. Self-Esteem	.24	.53						39***	07	.19**
7. Social Support	.38	.36							-.01	.07
8. Healthy Behaviors	.34	.67								-.11
9. Licit Drug Use	0.34	.88								

Note. N = 198

*p < .05, **p < .01, ***p < .001

Table 3.2

Means and Standard Deviations of the Dependent Variables at Wave 1 and Wave 2

	Wave 1		Wave 2	
Variables	M	SD	M	SD
Self-Esteem	3.24	0.53	3.35**	0.48
Social Support	5.38***	1.36	4.49	0.91
Healthy Behaviors	7.34	3.67	7.38	3.88
Licit Drug Use	10.34	4.88	10.93***	4.76

Note. N = 198

** Indicates the wave with the significantly higher score at the p < .01 level

*** Indicates the wave with the significantly higher score at the p < .001 level

Table 3.3

Summary of Hierarchical Regression Analysis for Behavioral Religiosity and Ethnic Identity Predicting Social Support

(n=198)

Variables	Model 1			Model 2			Model 3			Model 4		
	SE	*B*	β	*SE*	*B*	β	*SE*	*B*	β	*SE*	*B*	β
Age	01	00	.09	01	00	07	01	00	07	00	00	06
Education	04	03	.10	04	03	09	03	03	08	04	03	09
Income	02	03	.03	02	03	04	01	04	03	02	04	05
Married	05	16	.02	06	17	02	07	17	02	08	17	03
Illicit Drug Use	.15	13	-.07	-.09	15	-.04	.07	15	.03	.06	15	.03
Social Support	36	04	54***	36	04	54***	36	04	.53***	34	04	51***
Church Membership				03	13	01	03	13	02	01	13	01
Church Attendance				01	04	02	02	04	03	02	04	03
Religious Behavioral Consequences				05	07	05	04	07	05	08	07	08
Ethnic Identity							11	12	06	32	29	16
Church Membership x EI										.32	35	.15
Church Attendance x EI										.01	09	.01
RBC x EI										31	17	13†
R^2	.											

	37	37	38	39
F for change in R^2	1			
	8.70***	43	82	27

† p = .06. *** p < .001

Table 3.4

Summary of Poisson Regression Analysis for Behavioral Religiosity and Ethnic Identity

Predicting Healthy Behaviors (n=198)

Variable	*B*	*Mean Ratio*	*95% CI*
Age	-.00	1.00	0.99-1.00
Education	-.02	0.98	0.96-1.01
Income	.01	1.01	0.98-1.05
Married	.05	1.05	0.89-1.24
Illicit Drug Use	-.25	0.78	0.68-0.90**
Health Behaviors	.05	1.06	1.04-1.07***
Church Membership	.00	1.06	1.04-1.07
Church Attendance	.04	1.04	1.00-1.08*
Religious Behavioral Consequences	.05	1.05	0.98-1.13
Ethnic Identity	-.03	0.97	0.73-1.29
Church Membership * Ethnic Identity	.11	1.13	0.80-1.60
Church Attendance x Ethnic Identity	.00	1.00	0.92-1.09
Religious Behavioral Consequences * Ethnic Identity	-.02	0.99	0.84-1.16

* p< .05. ** p< .01. *** p< .001.

Table 3.5

Summary of Hierarchical Regression Analysis for Cognitive Religiosity and Ethnic Identity Predicting Self-Esteem (n=198)

Variables	Model 1 B	Model 1 SE B	Model 1 β	Model 2 B	Model 2 SE B	Model 2 β	Model 3 B	Model 3 SE B	Model 3 β	Model 4 B	Model 4 SE B	Model 4 β
Age	.00	.00	.01	-.00	.00	-.02	-.00	.00	-.02	-.00	.00	-.02
Education	.01	.01	.03	.00	.01	.02	.01	.01	.03	.01	.01	.03
Income	-.01	.02	-.06	-.01	.02	-.05	-.01	.02	-.05	-.01	.02	-.05
Married	.11	.09	.07	.11	.09	.08	.11	.09	.07	.11	.09	.07
Illicit Drug Use	.05	.07	.04	-.04	.07	-.03	-.04	.07	-.04	-.04	.07	-.04
Self-Esteem	.54	.06	.59***	.48	.07	.52***	.48	.07	.52***	.48	.07	.52***
Cognitive Religiosity				.10	.05	.13*	.11	.05	.14*	.11	.05	.15*
Ethnic Identity							-.05	.06	-.05	-.06	.07	-.06
Cog Religiosity x EI										.04	.11	.02
R^2		.36			.37			.37			.37	
F for change in R^2		7.75***			.85*			63			14	

* $p < .05$. *** $p < .001$.

Table 3.6

Summary of Hierarchical Regression Analysis for Cognitive Religiosity and Ethnic Identity Predicting Licit Drug Use (n=198)

Variables	Model 1			Model 2			Model 3			Model 4		
	B	SE B	β	B	SE B	β	B	SE B	β	B	SE B	β
Age	.01	.02	.02	.01	.02	.02	.01	.02	.02	.01	.02	.03
Education	.15	.10	.07	.13	.10	.06	.16	.10	.07	.15	.10	.07
Income	-.10	.13	-.04	-.12	.13	-.05	-.10	.13	-.04	-.08	.13	-.03
Married	.66	.65	.04	.68	.65	.05	.64	.65	.04	.61	.65	.04
Illicit Drug Use	-.09	.59	-.01	-.03	.59	-.00	-.12	.59	-.01	.03	.60	.00
Licit Drug Use	.76	.05	.78***	.75	.05	.77***	.75	.05	.77***	.75	.05	.77***
Cognitive Religiosity				.37	.34	.05	.46	.34	.06	.57	.35	.08
Ethnic Identity							-.67	.48	-.07	-.92	.50	.09†
Cog Religiosity x EI										.52	.84	.08‡
R^2	.64			.64			.64			.65		
F for change in R^2	5.94***			.22			.97			.29‡		

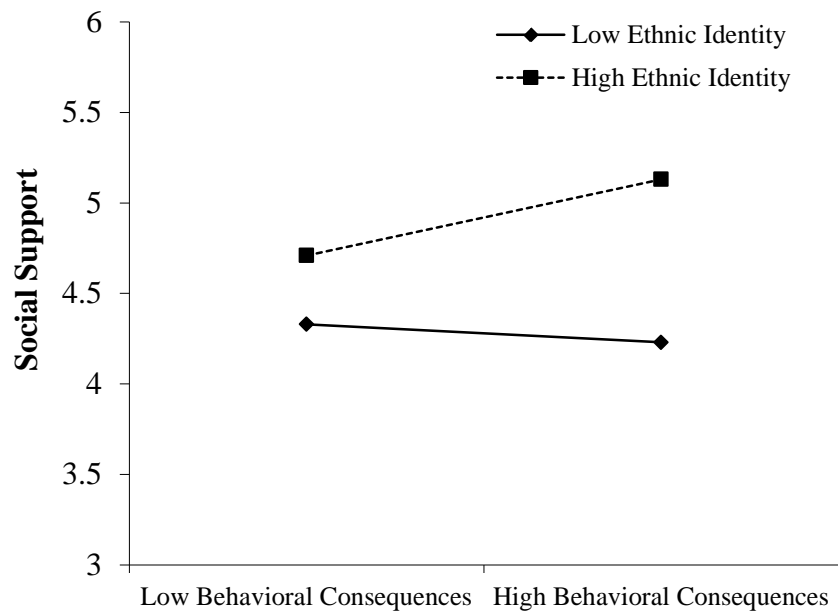† $p = .06$. ‡ $p = .07$. *** $p < .001$.

Figure 3.1. Social support as a function of religious behavioral consequences by low and high ethnic identity
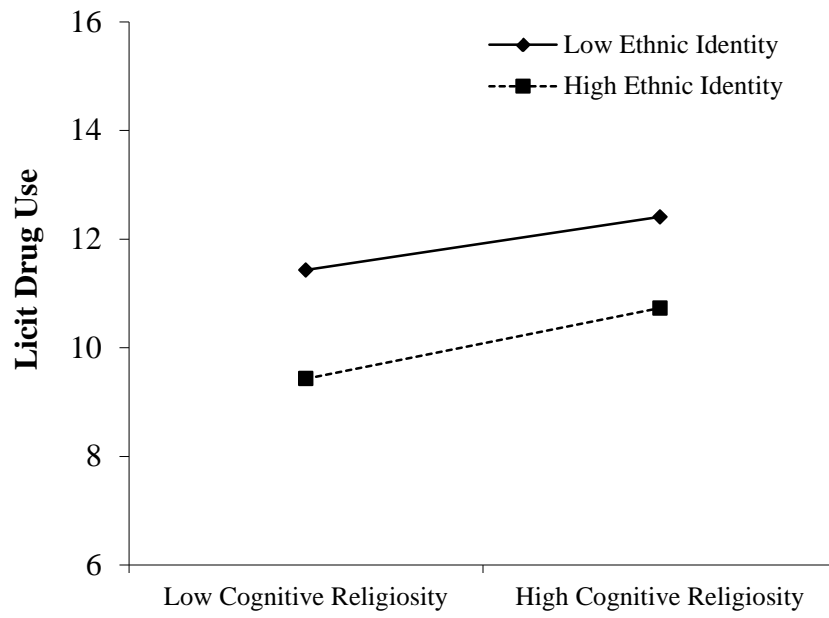
Figure 3.2. Licit drug use as a function of cognitive religiosity by low and high ethnic

identity

Chapter Two: Methodology

Participants

The participants include 206 African American female adults who were recruited primarily from the Lexington community as part of a larger epidemiology study. The data used in this study was collected from 2009-2010. Women that identified as a religion other than Christianity were not included in this study. Approximately 78% of those that characterize themselves as religious identify as Christian(Pew Research Center's Forum, 2009), so focusing on Christianity makes this study applicable to a large subgroup of African Americans. Also, other religious groups are too small in this sample to study separately and it would not be informative to lump all African Americans together as if religious differences are unimportant to African Americans' experience of psychological well-being.

Measures

Demographic characteristics. Four demographic variables are included in the statistical analyses: age, education, income, and marital status. Age and education are measured in years. For example, a completed a high school diploma would be an education value of 12. Income was measured in 8 ascending categories measured in thousand dollars ranging from 0 ($0 to $4,999) to 8 ($75,000 or more). Finally, a dichotomous variable was created to indicate marital status. Participants were coded as a 1 if they reported being married and a 0 otherwise.

Cognitive religiosity. Cognitive religiosity was measured by the Religious Well-Being subscale (RWBS) of the Spiritual Well-Being Scale (SWBS; Paloutzian& Ellison, 1982; See Appendix A). The authors created the RWB subscale to measure the vertical

dimension of spiritual well-being which consists of having a focus on one's relationship with God or a higher power. This subscale is comprised of 12 items with response categories ranging from 1 (strongly disagree) to 6 (strongly agree). Sample items include: "A higher power loves me and cares about me," and "A higher power is concerned about my problems." Negatively worded statements were reverse scored. The items were summed and divided by 12 to create average item scores with higher scores indicating more positive beliefs about God.The RWB scale has demonstrated good internal consistency, inconsistent factor validity, and reasonable construct validity in various samples (Bufford, Paloutzian, & Ellison, 1991; Ellison, 1983; Ellison and Smith, 1991; Genia, 2001). The mean scale has good internal reliability in the current sample (alpha = 0.91).

Behavioral religiosity. Behavioral religiosity was measured by two items assessing public religious practices and one item assessing behavioral consequences (See Appendix B). To measure public practices the following two items were included: "How often did you attend worship at a church in the past six months?" (church frequency) and "Were you an official member of a church or a place of worship in the past six months?" (church membership). Respondents' answer to the church frequency item ranged from 0 (did not attend church) to 5 (weekly or more) and the church membership item response items are dichotomous (0 indicating not a member and 1 indicating a member). The behavioral consequences facet was measured by one item: "How strongly do the beliefs of your religious group influence your behavior?" Respondents' answer to this item ranged from 0 (not at all) to 3 (strongly).

Ethnic identity. Ethnic identity was measured by the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992; See Appendix C). This measure is comprised of 12 items with response categories ranging from 1 (strongly disagree) to 4 (strongly agree). Sample items include: "I have a strong sense of belonging to my own ethnic group," and "I participate in the cultural practices of my own group, such as special food, music, or customs." Responses to all items were summed and divided by 12 resulting in average item scores. Higher values indicate a greater sense of belonging and commitment to one's ethnic group. Predictive validity of the MEIM has been found to be higher in African Americans compared to European Americans in predicting different indicators of psychological adjustment (Yasui, Dorham, &Dishion, 2004). In this sample, the mean scale demonstrated good internal reliability (alpha = 0.88).

Self-esteem. Self-esteem was measured by the Rosenberg's Self-Esteem Scale (RSE; Rosenberg, 1965; See Appendix D). This 10-item scale assesses self-esteem by asking respondents how much they agree with statements such as "I am able to do things as well as most people," and "On the whole, I am satisfied with myself." Negatively worded statements will be reverse scored. Response categories ranged from 1 (strongly disagree) to 4 (strongly agree). Responses to all items were summed and divided by ten resulting in an average item score with higher values corresponding to more positive levels of self-esteem. The RSE has been shown to be a reliable and valid measure of self-esteem in African Americans generally (Hoelter, 1983; Hughes & Demo, 1989) and has demonstrated good internal consistency with African American females specifically (Hatcher & Hall, 2009). In this sample, the RSE scale was found to have an alpha reliability of 0.87.

Social support. Social support wasassessed by the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, &Farely, 1988; See Appendix E) which is a scale used to assess perceived social support. In an effort to be inclusive of the participants that are not currently married or partnered, an 8-item version of the scale,including the family and friend subscales, was used in this study. Respondents' answers to each item range from 1 (strongly disagree) to 7 (strongly agree). Sample items include "My family really tries to help me," and "I can count on my friends when things go wrong." MSPSS items were summed and divided by 8 resulting in average item scores with higher scores indicating greater perceived social support. The MSPSS has been found to demonstrate factor and discriminant validity in African Americans (Mitchell &Zimet, 2000). The reliability of the MSPSS has been demonstrated with African American female samples (Yoshioka, Gilbert, El-Bassel, &Baig-Amin, 2003). For the B-WISE community sample, both the family and friend subscales have an alpha reliability of .94.

Healthy behaviors. Healthy behaviors were measured by creating a count variable that includes twohealthy behaviors: healthy eating and exercise practices (See Appendix F). These variables were chosen because they have been found to be underlying dimensions of health protective behaviors (Krick&Sobal, 1990). The healthy behavior variable was scored to align with the previous outcome variables so that a higher score indicates that the respondent engages in more healthy behaviors. To assess healthy eating the following item was used: In the past six months, how often have you eaten a healthy diet according to the food pyramid in an average week? The answer options ranged from 0 (0 days) to 7 (everyday). To assess exercise habits the following

item was used: In the past six months, how often have you got at least 30 minutes of exercise or physical activity in an average week? The answer options ranged from 0 (0 days) to 7 (everyday). The responses to the two items were summed so the highest healthy behavior score could be 14 and the lowest could be 0.

   Licit drug use.Licit drug use was measured by combining two items measuring alcohol and tobacco use (See Appendix G). Illicit drug usewas not included in this variable because it was used as a control variable. To measure alcohol use, the following item was included: How often did you use alcohol in the past six months? The answer options ranged from 0 (never/not used) to 8 (about 4 or more times per day). These responses were recoded (0=8, 1=7, etc.) so that the score will be higher for those who used alcohol the least amount and lower for those who used alcohol the most. To measure tobacco use, the following item was included: How often did you use tobacco in the past six months? The answer options ranged from 0 (never/not used) to 8 (about 4 or more times per day). Like the alcohol variable, the tobacco answer responses wererecoded (0=8, 1=7, etc.) so that the score will be higher for those who used tobacco the least and lower for those who used tobacco the most. The responses to the two items (recoded alcohol use and cigarette use) were summed. The highest licit drug use score could be 16 and the lowest score could be 0 with a higher score indicating less use of licit drugs.

Procedures

   This study was conducted in compliance with the University of Kentucky's Institutional Review Board. Data from the community sample of the B-WISE (Black Women in a Study of Epidemics) project will be used for these analyses. The B-WISE

study measures protective and risk factors in the epidemiology of health problems as well as health services utilization among African American women across an eighteen month period. Additionally, an important aim of the broader B-WISE study is to highlight the subgroup of African American women who were drug users; thus, the study used a stratified sampling technique. Wave 1 and Wave 2 (baseline and 6 month follow-up) were used in this study because this wave period has the best follow up-rate in the dataset.

To be eligible for the B-WISE project all study participants had to meet the following criteria: (1) self identifying as an African American; (2) being at least 18 years or older; (3) willing to participate in the study. Participants in the community sample were recruited using newspaper ads and fliers with 1-800 numbers posted in various parts of the city with a large African American population based on U.S. zip code census data. Interested participants were screened for eligibility over the phone using the criteria listed above and an additional stipulation of not currently being involved in the criminal justice system. Interviews with the community samples were conducted in private venues such as conference rooms in public libraries or at the University of Kentucky.

Due to the sensitive nature of the material to be discussed in the interview, participants were assured that their responses would be kept confidential and protected by a Certificate of Confidentiality from the Department of Health and Human Services. Interviews were conducted face-to-face using Computer Assisted Personal Interview (CAPI) software by trained female African American interviewers. Information covered in the interviews included socio-demographic characteristics, physical and mental health status, spirituality and cultural factors, service utilization, patterns of illicit substance use,

and attitudes/behaviors regarding sexual relationships. Respondents who completed the two hour interviews were compensated $20 for their time.

Analytic Strategy

All statistical analyses were performed using SPSS 20. Several procedures were conducted to ensure that the data met the appropriate criteria for bivariate and regression analyses. First, data was cleaned and reviewed specifically to check for missing values, data errors, homogeneity, normality, and multicollinearity. Descriptive statistics were also conducted for the demographic characteristics of the study participants. Following the descriptive statistics, bivariate correlations between religiosity, ethnic identity, self-esteem, social support, healthy behaviors, and licit drug use represented. Also, paired sample t-tests were used to compare means of the dependent variables by the data points (baseline vs. 6-month interview).

The purpose of the regression analyses wasto determine whether religiosity dimensions, ethnic identity, and their interactions contribute to the prediction of four well-being indicators (self-esteem, social support, healthy behaviors, and licit drug use) over a 6-month period. A series of hierarchical regressions were conducted to determine the extent to which the religiosity dimensions and ethnic identity predict self-esteem, social support, and licit drug use. Poisson regression models were used to examine the predictive power of religiosity and ethnic identity on healthy behaviors. Separate regression models were conducted on each of the well-being indicators. The interaction terms included in the analyses will assess whether the religiosity dimensions have a unique relationship with the well-being indicators at different levels of ethnic identity. As recommended, scale scores were centered to reduce multicollinearity between the

main effect and interaction terms (Cohen & Cohen, 1983) and to ensure interpretation of effects to occur at a meaningful value (West, Aiken, &Krull, 1996).

Though it is essential to recognize the role of within group variation when researching ethnic minority populations, the effects of basic demographic variables are not the focus of this study. Thus, the analyses will control for age, education, income, and marital status, which is consistent with previous recommendations (Powell Shahabi, &Thoresen, 2003). Illicit drug use will also be used as a control variable to remove potential biases from the stratified sampling approach. Since this is a longitudinal study, these analyses will also control for the participant's well-being indicator score at baseline. Thus, for each regression, the five control variables and the well-being indicator at baseline will be entered first, the religiosity dimensions will be entered second, ethnic identity will be entered next, and the interaction term for the religiosity dimension and ethnic identity will be entered last.

Chapter Three: Results

Data Review

The data was reviewed for missing items and outliers. There were no outliers

detected but there were eight cases removed from the analyses resulting in a sample of

198 women for the statistical analyses. Four cases were removed due to missing Wave 2

data and the other four cases were removed due to the participants identifying as

something other than Christian. However, the excluded participants did not differ based

on any of the study's variables at baseline. The variance inflation factor statistic

indicated that a low level of multicollinearity was present between the religiosity and

ethnic identity variables (VIF = 1.59 for cognitive religiosity, VIF = 1.35 for church

membership, VIF = 1.51 for church attendance, VIF = 1.57 for religious behavioral

consequences, VIF = 1.08 for ethnic identity) but the items were centered before being

entered into the regression models. Based on a review of the residual plots, the data does

not seem to violate the assumptions of homoscedasticity or linearity. Upon review of Q-

Q plots and skewness and kurtosis values (no value greater than +3 or less than -3), the

continuous dependent variables seem not to violate the normality assumption.

Descriptive Information

The sample averages an age of 36.46 (SD = 14.16). At the time of the Wave 1

data collection, participants had attained an average level of 12.70 years of education (SD

= 2.25) translating to high school diplomas. The majority of the participants (72.7%)

reported an income of under $15, 000 which is well under the national average for

African American women (U.S. Census Bureau, 2011). Only 12.1% of the participants

reported that they were legally married and 63.6% of the participants reported never

being married. About 21% of the African American women reported having used illicit

drugs, excluding marijuana, in the past year. Since this sample includes a high number of

illicit drug users compared to the general population, a dummy variable for illicit drug

use will be included in all models.Approximately 93% of the participants were affiliated

with a Protestant denomination and cognitive religiosity was relatively high in this

sample (mean = 5.31). In regards to behavioral religiosity, approximately 69% of the

participants reported being a member of a church and about 55% of the participants

reported attending worship service at least two to three times per month. Additionally,

the majority of the participants (77.2%) reported that their religion either somewhat or

strongly influenced their behavior.

Table 1 shows the means, standard deviations, and correlations of the variables of

interest at Wave 1 of the data collection. The women reported moderately high levels of

the cultural and well-being variables in this study. Specifically, ethnic identity

(mean=3.22), self-esteem (mean=3.24), and social support (mean=5.38) were all above

the midpoint of the scale. Finally, on a scale of 0 to 17, the mean of healthy behaviors

was only 7.34 indicating that the women did not consistently eat healthy foods or

regularly engage in exercise. Also, on a scale of 0 to 16 with a higher score indicating

less use, thelicit drug use mean was 10.34.

Cognitive religiosity was significantly correlated with all of the study variables

except healthy behaviors. Specifically, cognitive religiosity was found to be positively

associated with church membership ($r = .38$, p < .001), religious behavioral

consequences, ($r = .57$, p < .001), ethnic identity ($r = .24$, p <.01), self-esteem ($r = .50$, p

< .001), social support ($r = .31$, p < .001), and licit drug use ($r = .20$, p < .01), and

negatively correlated with church attendance ($r = -.45$, p < .001). This indicates that those who have a positive relationship with God were less likely to attend church consistently. Church membership was positively correlated with religious behavioral consequences ($r = .31$, p < .001), self-esteem ($r = .22$, p < .01), and social support ($r = .15$, p, .05), and negatively correlated with church attendance ($r = -.46$, p, .001). This indicates that being a church member is related to a decrease in church attendance. Church attendance was positively correlated with religious behavioral consequences ($r = .43$, p < .001), self-esteem ($r = .23$, p < .01), social support ($r = .16$, p <>05), and licit drug use ($r = .28$, p < .001). Religious behavioral consequences were positively correlated with ethnic identity ($r = .21$, p < .01), self-esteem ($r = .28$, p < .001), and licit drug use ($r = .27$, p <.001). Ethnic identity was positively correlated with self-esteem ($r = .17$, p < .05). Finally, self-esteem had a positive association with social support ($r = .39$, p < .001) and licit drug use ($r = .19$, p < .05).

Table 2 includes the means and standard deviations of the outcome variables (self-esteem, social support, healthy behaviors, and licit drug use) at Wave 1 and 2 of the study. Paired samples t-tests were conducted to examine if the well-being indicators significantly differed from baseline to the 6-month follow-up. Self-esteem at Wave 2 was significantly higher than self-esteem at Wave 1, t (197) = -3.22, p = .002. The respondents indicated a higher level of perceived social support from family and friends at Wave 1 compared to Wave 2, t (197) = 11.26, p = .000. Finally, the participants reported less use of alcohol and tobacco at Wave 2 than Wave 1, t (197) = -2.69, p = .008.

Hypotheses Testing

To examine if behavioral religiosity and ethnic identity were predictors of well-being, regression models were conducted with self-esteem, social support, licit drug use, and healthy behaviors as the dependent variables. Given the exploratory nature of this study, independent variables and interactions that were marginally significant were explored but the models that did not yield significant results for the variables of interest will not be presented.

After controlling for basic demographic variables and the well-being score at baseline, both social support and healthy behaviors seem to be influenced by behavioral religiosity. Table 3 shows that the interaction of religious behavioral consequences and ethnic identity was marginally significant in predicting social support, $\beta = .13$, $p = .06$. A figure of changes in the predicted probability of social support as a function of religious behavioral consequences by low and high ethnic identity is presented in Figure 1.Based on the figure, those with high ethnic identity not only endorse higher levels of social support but also seem to have more social support benefits from their religious beliefs influencing their behavior than those with a lower ethnic identity. Additionally, Table 4 includes the poisson regression model for behavioral religiosity predicting healthy behaviors. After controlling for the demographic variables, church attendance was found to be predictive of healthy behaviors (mean ratio = 1.04, $p < .05$) indicating that the more frequently women attend church, the more likely they are to exercise and have a healthy diet. Behavioral religiosity was not predictive of self-esteem or licit drug use.

Cognitive religiosity and ethnic identity were also explored to examine if they predict well-being. Interestingly, this facet of religiosity was predictive of well-being

indicators that were not predicted by behavioral religiosity. Specifically, Table 5 shows the regression models for cognitive religiosity predicting self-esteem. After controlling for demographic variables, cognitive religiosity was found to be predictive of higher self-esteem, $\beta = .15$, $p < .05$. Also, Table 6 shows the models examining cognitive religiosity's influence on licit drug use. The final model with all of the control and independent variables indicates that ethnic identity, $\beta = -.09$, $p = .06$, and the interaction of cognitive religiosity and ethnic identity, $\beta = .08$, $p = .07$, were both marginally significant. A figure of changes in the predicted probability of licit drug use as a function of cognitive religiosity by low and high ethnic identity is presented in Figure 2. Though the use of licit substances decrease for both groups as the level of cognitive religiosity increase, it appears that cognitive religiosity has a slightly stronger linear relationship with licit drug use for women with a high ethnic identity. Cognitive religiosity was not predictive of social support or healthy behaviors.

Chapter Four: Discussion

Religiosity is considered to be an important component of the cultural orientation and worldview of African Americans (Taylor, Chatters, & Levin, 2004). African American women, in particular, have been found to be unique in their level of religious devotion and activity compared to other demographic groups (Pew Forum on Religion and Public Life, 2009) and research indicates that religiosity is important for African American women's well-being (Holt et al., 2005; Schieman et al., 2005; St. George & McNamara, 1984). Even though African American women report higher religious observance and dedication (Chatters et al., 1999; Taylor et al., 1996), there has been minimal research investigating the positive effects of religiosity over time in this group. Additionally, no one has examined the influence of different dimensions of religiosity or the potential impact of cultural orientation in predicting well-being in African American women. The current study sought to fill this gap in the literature.

This study investigated the role of religiosity and ethnic identity in predicting well-being over time in African American women. Specifically, in an effort to clarify what aspects of religiosity predict various well-being indicators, this study investigated the influence of both cognitive and behavioral religiosity on self-esteem, social support, healthy behaviors, andlicit drug use. Results indicate that behavioral and cognitive components of religiosity predict different indicators of well-being. Specifically, behavioral religiosity was found to be predictive of healthy behaviors while cognitive religiosity was found to be predictive of self-esteem. Results also indicate that examining ethnic identity as a moderator may offer a richer context in understanding the differential effects of religiosity in well-being for African American women.

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Role of Religiosity in Predicting Well-Being

It was hypothesized that public religious practices would positively predict social support and healthy behaviors and this hypothesis was partially supported. Out of the two public religious practices items, church attendance was found to predict healthier eating and more consistent exercise. This finding is consistent with previous research that suggests that public religious practice promotes healthy behaviors in African American women (Dodor, 2012; Holt et al., 2005) but it builds upon these studies by using a longitudinal design. Although church-specific social support was unmeasured in this study, this finding could be related to frequent church attendance promoting a larger social support network which has been associated with more positive healthy behaviors (Hurdle, 2001). Also, those who attend church more frequently may hear more messages about wellness and health thus promoting the incorporation of health practices in daily life. Even though church attendance was positively correlated with social support, it did not predict the perception of social support over a six month period. Some African American women may choose to attend religious services without socializing, making meaningful contacts, or taking advantage of resources or social activities. Thus, even though the church environment may offer the opportunity for more social support, it does not seem to guarantee the perception or receipt of more social support.

Church membership was not a significant predictor of healthy behaviors or social support. Interestingly, church membership was inversely correlated with church attendance in this study which suggests that being a member of a religious institution does not necessarily promote more consistent or frequent church attendance. Since this study did not include other measures of public religious practices, it is hard to know what

this finding means but the lack of a significant relationship between church membership and well-being could be related to the vast variation in those who identify as church members. Some church members may have a longstanding membership in a family or neighborhood church even though they are minimally involved in church activities. Alternatively, some church members are heavily involved in multiple areas of the church including Sunday school, Sunday worship service, Bible studies, and various leadership or clergy positions. Other members may only attend Sunday service two to three times a month. Considering the different levels of church involvement that various church members could have, future research should be more specific in asking about an individual's participation in church programs or services.

The hypothesis that religious behavioral consequences would predict healthy behaviors and licit drug use was not supported in this study. Though the literature suggests that religiosity's positive influence on well-being is due to the promotion of healthy behaviors and the reduction of risky behaviors (Koenig et al., 2001), the participants' endorsement that religious beliefs influenced their behavior did not predict healthy behaviors or the use of alcohol and tobacco. First, these results must be interpreted cautiously. Considering the stratified sampling technique to oversample drug users, this sample may have a low level of healthy behaviors compared to the general population of African American women. Specifically, drug use has been found to be negatively correlated with healthy eating (Lloyd-Richardson, Lucero, DiBello, Jacobson, & Wing, 2008) and licit drug use often precipitates and is highly correlated with illicit drug use (Merline, O'Malley, Schulenberg, Bachman, & Johnston, 2004; Siqueira & Brook, 2003). More research is needed to investigate religious behavioral consequences

with a more representative sample.

Considering that this sample is comprised of primarily low-income African American women, there may be additional factors that influence the incorporation of healthy behaviors and licit drug use. For example, eating healthy generally is more expensive, making it difficult for low-income African American women to afford healthy food options (Hargreaves, Schlundt, &Buchowski, 2002). Furthermore, even though many of the women in the sample reported being single, these women reported an average of 1.87 children. Single motherhood often comes with a demanding schedule and has been found to be a significant correlate of physical inactivity (Bellows-Riecken& Rhodes, 2008). Likewise, the stressors that come along with being a low-income African American woman in the south may lead to an increase in licit drug use. Chronic stressors such as sexism, racism, and discrimination have been found to be associated with increased rates of tobacco use and alcohol abuse (Beatty, 2003; Kwate, Valdimarsdottir, Guevarra, &Bovbjerg, 2003; Martin, Tuch, & Roman, 2003). In conclusion, research investigating religious behavioral consequences' role in predicting healthy behaviors and licit drug use should include contextual variables in an effort to improve our understanding of this potential link.

Similar to previous studies (Krause, 2005; Schieman et al., 2005), cognitive religiosity was found to predict greater self-esteem in this sample of African American women which supports the hypothesis. Specifically, thoughts of having a meaningful relationship with a loving God seem to promote greater feelings of self-worth. This finding may be related to greater feelings of personal control that come with having a reliable and consistent relationship with an omniscient being. Considering that the other

three well-being indicators are either behavioral or interpersonal in nature, this finding could suggest that having a positive relationship with God could promote a greater sense of intrapersonal well-being. In the future, other intrapersonal constructs such as mastery, personal growth, purpose in life, optimism, and positive affect should be investigated to better understand the intrapersonal benefits of cognitive religiosity.

Role of Ethnic Identity in Predicting Well-Being

Unlike previous studies, this study was designed to recognize within group variation in the religion and well-being link. Ethnic identity, or one's sense of belonging to an ethnic group (Phinney&Ong, 2007), and its potential moderating influence on the link between religion and well-being were also investigated in this study. Previous research suggests that African American cultural orientation may be important in understanding who gains the most benefits from religious participation (Jang et al., 2006) so this study expands on that literature. Since there is no existing research that examines this moderating influence of ethnic identity, specific hypotheses were not presented but the results did indicate that ethnic identity may be relevant in understanding the complexity of the religiosity-well-being link for African American women.

In regards to social support, those with high ethnic identity seem to derive more social support benefits from their religious beliefs influencing their behavior than those with a lower ethnic identity. Though the significance of this relationship was marginal, this result does present an interesting finding worthy of further inquiry. It is possible that those who feel a sense of belonging to their own ethnic group may take more value in translating religious teachings of altruism and being kind to others to daily behavior. In return, with more effort to engage in positive interpersonal behaviors, individuals may

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receive more positive social feedback and perceptions of social support.

In previous literature, a strong ethnic identity has been found to reduce alcohol consumption (Caldwell et al., 2004) and tobacco use (Brook et al., 2010). Additionally, ethnic identity has been suggested to be a protective factor, moderating the relationship between risk factors and drug use by buffering against risk factors or bolstering protective factors (Brook &Pahl, 2005). Interestingly, in this study the results indicated that those with high ethnic identity used more licit drugs than those with a lower ethnic identity. This study is not consistent with previous research, and could suggest that the stratified sampling approach to oversample for drug users may influence the performance of ethnic identity in this sample. In a previous study using this sample, ethnic identity was found to be protective in the relationship between stress and illicit drug use (Stevens-Watkins et al., 2012) so it is possible that ethnic identity may serve as a buffer for risk factors for illicit drug use but not as a protective factor for alcohol and tobacco use. Though tobacco and alcohol use decreased for both groups as the level of cognitive religiosity increased, those with high ethnic identity seemed to garner slightly more benefits from having a positive view of God. This marginally significant finding is difficult to interpret but it does support the idea that those with more positive feelings about their ethnic group membership may benefit more from religiosity.

Limitations

The findings of this study regarding the differential impact of religiosity dimensions on well-being and the moderating influence of ethnic identity on the religion and well-being link for African American women are indeed compelling. However, they must be considered in light of the study's limitations. First, this sample was not a

nationally representative sample of African American women. Specifically, the sample was primarily single, southern, and had lower incomes compared to the general population of African American women. Additionally, an emphasis of the broader study was to oversample for drug users so this sample included more illicit drug users than the general population. To improve on this limitation, this study should be replicated examining the same variables with a large, female African American community sample with more variation in drug use, marital status, region, socioeconomic status, and educational status. Second, though the study's methodology included face-to-face interviews with interviewers that were matched on the basis of ethnicity and gender, the variables used in this study relied exclusively on the participants' self-report. Even though confidentiality and anonymity were essential to the study, it is possible that participants knowingly or unknowingly misreported their beliefs, behaviors, and thoughts.

Third, the measurement of religiosity in this study has some limitations. Regarding cognitive religiosity, the validity of the scale used to measure cognitive religiosity (Religious Well-Being Scale of the Spiritual Well-Being Scale; Paloutzian& Ellison, 1982) has been questioned in African American samples. Some authors have suggested that a five-factor model of the SWBS may be more appropriate for African Americans (Miller, Fleming, & Brown-Anderson, 1998) while others have concluded that that none of the existing SWBS models provide an adequate fit for African Americans (Utsey, Lee, Bolden, & Lanier, 2005). To date, there has not been a published investigation of the factor validity of scores on the SWBS in a community sample of African American women. Additionally, there is no published religious measure that

assesses an individual's relationship with God that was specifically created for African Americans so it is unknown if cognitive religiosity could have been better captured with another measure.

In addition, each behavioral item (church membership, church attendance, and religious behavioral consequences) was measured with only one item. Though this measurement approach is consistent with the approach typically used in extant literature, the small number of items used to measure these constructs may increase the likelihood that important aspects of the construct are being overlooked (Shreve-Neiger& Edelstein, 2004). For example, information such as the length of church membership or the level of involvement in church ministries may add to the understanding of which individuals benefit the most from public religious practices. Likewise, the religious behavioral consequences may have been enhanced by asking about how religion influences specific domains of daily life such as friendships, romantic relationships, health practices, and substance use. Also, this study only focused on two dimensions of religiosity but other dimensions such as the social (Krause, 2008), emotional (Emmons, 2005), and cultural dimensions (Krause, 2004) have been suggested as important components of religiosity. These measurement limitations could be improved upon in future research by focusing on developing additional culturally relevant measures of religiosity for African Americans or using African American specific measures of religiosity such as the Multidimensional Measure of Religious Involvement for African Americans (MMRI-AA: Chatters, Levin, & Taylor, 1992; Levin et al., 1995).

Conclusion

Despite these limitations, the current study makes several important contributions.

First, it extends prior research by investigating the effect of religiosity over time in African American women. Previous literature has clearly established a significant relationship between religiosity and well-being indicators in African American women but the finding that religiosity also predicts well-being over time adds more credence to the idea that religiosity may indeed promote psychological health. Second, the finding that cognitive religiosity and behavioral religiosity predict different well-being outcomes strongly suggests that religiosity should be studied dimensionally to more accurately depict the link between religion and positive outcomes.

Finally, this study adds significantly to the small body of literature examining cultural orientation moderators of the link between multiple dimensions of religiosity and multiple indicators of well-being in African American women. Examining ethnic identity as a moderator of this link resulted in interesting findings that advocate the need for further research into the relevance of cultural orientation in the religiosity and well-being link. This finding suggest that researchers should move past between-groups designs that compare African Americans to other ethnic groups because such designs may result in ethnic glossing, the simplification of ethnocultural groups where unique cultural and ethnic differences among group members are overlooked (Trimble & Dickson, 2005). In the future, research designs should investigate more points of within group variation such as racial identity, acculturation, and gender ideology. Getting a better understanding of how within group differences may moderate the relationship between religion and well-being allows for greater understanding about specific characteristics that may strengthen or weaken the link within African American females. While the current study has unveiled some degree of the within group complexity, much is left to be discovered.

Appendix A: Religious Well-Being Scale

1 = Strongly Disagree   2 = Disagree   3 = Slightly Disagree
4 = Slightly Agree   5 = Agree   6 = Strongly Agree

1. I don't find much satisfaction in private prayer.*
2. I believe there is a higher power.
3. A higher power loves and cares about me.
4. A higher power is impersonal and not interested in my daily situations.*
5. I have a personally meaningful relationship with a higher power.
6. I don't get much personal support from a higher power.*
7. A higher power is concerned about my problems.
8. I feel truly connected to something or someone other than myself.
9. I don't have a personally satisfying relationship with a higher power.*
10. My relationship with a higher power helps me not to feel lonely.
11. I am most fulfilled when I'm in close fellowship with a higher power.
12. My relationship to a higher power contributes to my sense of well-being.

* Indicates items that will be reverse scored

Appendix B: Behavioral Religiosity

Public Religious Practice:

1. How often did you attend worship at a church or synagogue in the past year/six months?
    1- Weekly or More
    2- 2-3 Times per month
    3- Once a Month
    4- Several times a Year
    5- 1 or 2 times a Year
    6- Did not attend

2. Have you been a member of church or place of worship in the past year/six months?
    0- No
    1- Yes
    7- Don't Know
    8- Refuse to Answer

Behavioral Consequences:

1. How strongly do the beliefs of your religious group influence your behavior?
    0- Not at all
    1- A little
    2- Somewhat
    3- Strongly

Appendix C: Multigroup Ethnic Identity Measure

1= Strongly Disagree 2= Disagree 3= Agree 4= Strongly Agree

1. I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.
2. I am active in organizations or social groups that include mostly members of my own ethnic group.
3. I have a clear sense of my ethnic background and what it means for me.
4. I think a lot about how my life will be affected by my ethnic group membership.
5. I am happy that I am member of the group I belong to.
6. I have a strong sense of belonging to my own ethnic group.
7. I understand pretty well what my ethnic group membership means to me.
8. In order to learn more about my ethnic background, I have often talked to other people about my ethnic group.
9. I have a lot of pride in my ethnic group.
10. I participate in cultural practices of my own group, such as special food, music, or customs.
11. I feel a strong attachment towards my own ethnic group.
12. I feel good about my cultural or ethnic background.

Appendix D: Rosenberg Self-Esteem Scale

1= Strongly Disagree 2= Disagree 3= Agree 4= Strongly Agree

1. On the whole, I am satisfied with myself.
2. At times I think I am no good at all.*
3. I feel that I have a number of good qualities.
4. I am able to do things as well as other people
5. I feel I do not have much to be proud of.*
6. I certainly feel useless at times.*
7. I feel that I'm a person of worth, at least on an equal plane with others.
8. I wish I could have more respect for myself.*
9. All in all, I am inclined to feel that I am a failure.*
10. I take a positive attitude toward myself.

* Indicates items that will be reverse scored

Appendix E: Multidimensionsal Scale of Perceived Social Support

1 = Strongly Disagree   2 = Disagree   3 = Slightly Disagree 4 = Neutral
5 = Slightly Agree   6 = Agree   7 = Strongly Agree

1. My family really tries to help me.
2. I get the emotional help and support I need from my family.
3. I can talk about my problems with my family.
4. My family is willing to help me make decisions.
5. My friends really try to help me.
6. I can count on my friends when things go wrong.
7. I have friends with whom I can share my joy and sorrows.
8. I can talk about my problems with my friends.

Appendix F: Healthy Behaviors

1. In the past year/6 months, how often have you eaten a healthy diet according to the

food pyramid in an average week?

0 - 0 days
1 - 1 day
2 - 2 days
3 - 3 days
4 - 4 days
5 - 5 days
6 - 6 days
7 - Everyday

2. In the past year/6 months, how often have you got at least 30 minutes of exercise or

physical activity in an average week?

0 - 0 days
1 - 1 day
2 - 2 days
3 - 3 days
4 - 4 days
5 - 5 days
6 - 6 days
7 - Everyday

Appendix G: Licit Drug Use

1. How often did you use alcoholin the past year/6 months?

0 – Never/Not used
1 – Only 1-3 times
2 – About 1 time per month
3 – About 2-3 times per month
4 – About 1 time per week
5 – About 2-6 times per week
6 – About 1 time per day
7 – About 2-3 times per day
8- About 4 or more times per day

2. How often did you use tobacco in the past year/6 months?

0 – Never/Not used
1 – Only 1-3 times
2 – About 1 time per month
3 – About 2-3 times per month
4 – About 1 time per week
5 – About 2-6 times per week
6 – About 1 time per day
7 – About 2-3 times per day
8- About 4 or more times per day

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