

NEGATIVE LIFE EVENTS, RELIGIOSITY AND SPIRITUALITY, AND DEPRESSION  
AMONG AFRICAN AMERICANS

by

KAMERON J. FRANKLIN

(Under the Direction of Steven R.H. Beach)

ABSTRACT

Previous research suggests that negative life events are linked to the occurrence of depressive symptoms. For African Americans, engaging in religious and spiritual activities is often utilized as a coping mechanism when faced with various types of life stressors. This study sought to explore the main effects and interactive relations among negative life events, religiosity and spirituality, and depressive symptomatology among a sample of 963 African American men and women. Results revealed significant main effects for women in the study. For men, religious and spiritual variables moderated the relationship between negative life events and depressive symptoms. A trend emerged such that religious and spiritual participation were related to lower depressive symptoms for men and women. These findings suggest that religious and spiritual participation may buffer the level of depressive symptoms African Americans experience when facing negative life events.

INDEX WORDS: African Americans, Religiosity, Spirituality, Negative life events

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KAMERON J. FRANKLIN

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KAMERON J. FRANKLIN

Major Professor: Steven Beach  
Committee: Joan Jackson  
Lily McNair  
Velma McBride Murry

Electronic Version Approved:

Maureen Grasso  
Dean of the Graduate School  
The University of Georgia  
May 2008

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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS .....	iv
CHAPTERS	
1 INTRODUCTION .....	1
2 METHOD .....	14
3 RESULTS .....	20
4 DISCUSSION .....	26
REFERENCES .....	32
APPENDICES .....	59
A THE LIST OF THREATENING EXPERIENCES (LTE-Q) .....	59
B BECK DEPRESSION INVENTORY- SECOND EDITION.....	63
C DAILY SPIRITUAL EXPERIENCE SCALE.....	67
D RELIGIOSITY ITEMS FROM THE BSRF.....	68

## LIST OF TABLES

	Page
Table 1: Demographic Characteristics of the Sample.....	38
Table 2: Descriptive Statistics for Depressive Symptomatology, Negative Life Events, Religiosity, and Spirituality for Women.....	39
Table 3: Intercorrelations among Negative Life Events, Religiosity, Spirituality and Depressive Symptomatology among Women .....	40
Table 4: Hierarchical Linear Regression Analyses to Examine the Potential Main Effects and Interaction between Negative Life Events and Religious Participation in Predicting Depressive Symptomatology among Women.....	41
Table 5: Hierarchical Linear Regression Analyses to Examine the Potential Main Effects and Interaction between Negative Life Events and Religious Centrality in Predicting Depressive Symptomatology among Women.....	42
Table 6: Hierarchical Linear Regression Analyses to Examine the Potential Main Effects and Interaction between Negative Life Events and Spirituality in Predicting Depressive Symptomatology among Women .....	43
Table 7: Descriptive Statistics for Depressive Symptomatology, Negative Life Events, Religiosity, and Spirituality for Men .....	44
Table 8: Intercorrelations among Negative Life Events, Religiosity, Spirituality and Depressive Symptomatology among Men.....	45

Table 9: Hierarchical Linear Regression Analyses to Examine the Potential Main Effects and Interaction between Negative Life Events and Religious Participation in Predicting Depressive Symptomatology among Men.....	46
Table 10: Hierarchical Linear Regression Analyses to Examine the Potential Main Effects and Interaction between Negative Life Events and Religious Centrality in Predicting Depressive Symptomatology among Men.....	47
Table 11: Hierarchical Linear Regression Analyses to Examine the Potential Main Effects and Interaction between Negative Life Events and Spirituality in Predicting Depressive Symptomatology among Men.....	48



LIST OF FIGURES

	Page
Figure 1: Religious participation as a moderator of the relationship between negative life events and depressive symptomatology. ....	50
Figure 2: Religious centrality as a moderator of the relationship between negative life events and depressive symptomatology .....	51
Figure 3: Spirituality as a moderator of the relationship between negative life events and depressive symptomatology .....	52
Figure 4: Main Effects for Negative Life Events, Religious Participation, and Depressive Symptomatology for Women .....	53
Figure 5: Main Effects for Negative Life Events, Religious Centrality, and Depression among Women .....	54
Figure 6: Main Effects for Negative Life Events, Spirituality, and Depression among Women ..	55
Figure 7: Religious Participation Moderates Negative Life Events and Depression among Men	56
Figure 8: Religious Centrality Moderates Negative Life Events and Depression among Men.....	57
Figure 9: Spirituality Moderates Negative Life Events and Depression for Men .....	58

## CHAPTER 1

### INTRODUCTION

When faced with life's challenges, individuals seek support in a variety of ways. For many, support and coping resources come in the form of participating in religious activities and seeking spiritual counsel. Research has generally supported the important role of religiosity and spirituality in coping with adversity (Pargament, Ensing, Falgout, & Olsen, 1990). A large body of research examines religiosity and spirituality in the context of psychological and subjective well-being when coping with life stressors (Ano & Vasconcelles, 2005; Cummings, Neff, & Husaini, 2003; Fabricatore, Randal, Rubio, & Gilner, 2004; Pargament, Smith, Koenig, & Perez, 1998; Schnittker, 2001; Shaw, Joseph, & Linley, 2005; Smith, McCullough, & Poll, 2003; Yangarber-Hicks, 2004; Young, Cashwell, & Shcherbakova, 2000). Another body of research focuses upon the positive implications of religiosity and spirituality for health outcomes and coping with health problems (Brown, 2000; Harrison et al., 2005; Holt, Lewellyn, & Rathweg, 2005; Tix & Frazier, 1998; Weaver & Flannelly, 2004). There is also a significant amount of research that discusses religious involvement in terms of its implications for marital and family relationships (Mahoney, Pargament, Tarakeshwar, & Swank, 2001; Mahoney, Pargament, Jewell, Swank, Scott, Emery, & Rye, 1999; Sherkat & Ellison, 1999).

Among the literature on religiosity and spirituality in relation to coping, there are several studies that look specifically at the role of these constructs in the lives of African

Americans (Bacchus & Holley, 2004; Jang & Johnson, 2004; Lesniak, Rudman, Rector, & David Elkin, 2006; Levin & Taylor, 1998; Marion & Range, 2003; Mattis, 2002; Mattis, Fontenot, & Hatcher-Kay, 2003). However, research exploring the antecedents of religious and spiritual coping is limited (Ellison & Taylor, 1996; Ferraro & Kelley-Moore, 2001).

The dearth of research regarding the antecedents of religious and spiritual coping is unfortunate because social support and spirituality, two forms of engaged coping, have been shown to have positive effects on mental health (Fowler & Hill, 2004). Given that religious and spiritual factors have been shown to have such positive implications for African Americans (Mattis & Jagers, 2001), it would be helpful to examine the types of situations and events that are related to religious and spiritual coping for this group.

Exploring the contextual factors related to these forms of coping has many potential benefits. Findings could delineate the utility of religiosity and spirituality in religious people's lives during times of extreme distress and whether they are equally helpful in varying contexts. This research topic could also help to explicate the reduced rates of depression among African Americans despite increased rates of circumstances that lead to depression. Furthermore, if religious and spiritual coping mechanisms are found to be used during some negative situations but not others, the need to examine the characteristics and efficacy of non-religious or non-spiritual coping mechanisms utilized by this group would be highlighted. One difficulty in understanding the connection between religiosity, spirituality, and coping outcomes is that the events prompting increased religious and spiritual coping may also prompt negative affect. As a

consequence, the extent to which religious and spiritual coping is effective may be obscured.

One approach to exploring the antecedents and consequences of religious coping is to examine the relationship between negative life events and depression, and the ways that religiosity and spirituality may influence this relationship. Differentiating the influences of events on depression from the influences of events on religious and spiritual coping would allow both sets of effects to be seen more clearly.

The purpose of this study is to explore these relationships in the context of African Americans. Before describing the current study in more detail, it is necessary to review the existing literature relevant to negative life events, spirituality and religiosity, and depression.

#### *Negative Life Events and Depression*

Examining the links between religiosity, spirituality, and negative life events is especially important because negative life events are often catalysts for depressive symptoms (Hammen, 2005). This relationship is particularly strong in the context of events that are perceived as severe (Kessler, 1997), and events that are undesirable, uncontrollable, and unpredictable (Brayboy, Jackson, and Finney, 2002). For example circumstances such as experiencing a serious illness or the death of a family member are positively associated with depression because these events interrupt the normal course of life and have several negative implications (Schnittker, 2001).

According to Brown and Harris' (1978) model of depression, negative life events serve as vulnerability factors that reduce an individual's sense of mastery and optimism. In turn, hopelessness and an increased risk for depression result (Curtona, 2005).

Severely stressful negative life events in the absence of social support have been shown to be especially associated with the onset of depressive episodes (Wildes, Harkness, & Simons, 2002). It is important to note that, although the majority of depressed people identify a stressful event precipitating the onset of their depression, only a small number of people exposed to negative life events become depressed (Kessler, 1997). The effects of negative life events upon individuals are related to the coping resources that are available to them (Schnittker, 2001). There have been several variables proposed as possible mitigating factors against depressive symptoms following a major life stressor. Among these are coping style (Beasley, Thompson, & Davidson, 2003), access to social support, appraisal processes, and intellectual capabilities (Kessler, 1997). Because religious and spiritual involvement is often linked coping style and social support, it is possible that religious and spiritual involvement may buffer the impact of negative life events.

#### *Implications for Religiosity*

Religion is a salient and influential factor in many people's lives that may have implications for coping with negative life events. Religion can be defined as a system of beliefs associated with a god or gods, and religiosity can be described as an individual's degree of adherence to the beliefs and practices of a religion (Mattis & Jagers, 2001). Previous research has made the distinction between extrinsic religious orientations in which religion is used for non-religious purposes such as social support, and intrinsic orientations in which participating in religious experiences is a primary motive in life (Dezutter, Soenens, & Hutsebaut, 2005).

Religious involvement may contribute to positive mental health outcomes due to the higher levels of self-esteem and mastery that have been attributed to religious activity. Religious participation has also been linked to feelings of hopefulness, peace, optimism, and a means by which to release negative emotions (Ellison, et al., 2001). It has been asserted that religious participation provides a frame of reference for moral behavior, acts as a social network, and is a factor in spiritual support (Brody et al., 1994). Possible sources of these coping methods include religious rituals, support from the religious community, and a sense of support from God or higher powers (Mahoney et al., 2001). The benefits of religious activity have also been shown to have positive implications for family life (Brody et al., 1994). Not only does participation in religious activities facilitate prosocial attitudes toward positive family interactions, it also serves as a base for similar values that increase family integration. Among married couples, 95% report having a religious affiliation, and 72% of the general population consider religious faith as the most important influence in their lives (Mahoney et al., 2001).

The prevalence of these attitudes is significant in that religious beliefs and activities may provide benefits such as emotional support when coping with various adverse situations (Brody, Stoneman, Flor, & McCrary, 1994). Coping can be described as the cognitive and behavioral efforts that are implemented in order to affront stressful person-environment relationships and the emotions that result from these relationships (Fowler & Hill, 2004). Religious coping is multidimensional and often involves the belief in a just and loving God, and the pursuit of spiritual support (Ano & Vasconcelles, 2005). Examples of religious coping include seeking a sense of connectedness with a higher power and seeking support from clergy members (Pargament et al., 1998). Positive

outcomes such as mental health benefits and spiritual growth have been attributed to religious coping (Ano & Vasconcelles, 2005). Although religiosity is different from the construct of religious coping, it is likely that religious activity facilitates religious coping.

### *Religiosity and Spirituality among African Americans*

Among African Americans, religion is particularly salient. After reviewing previous research, Hunt and Hunt (2001) concluded that African Americans generally attend worship services, participate in religious activities, read religious texts, and pray more frequently than the general American population. In a large national sample, Chatters and colleagues (1999) found that 80% of African Americans feel that religion is important, and approximately 44% “almost always” (p. 136) seek spiritual comfort through religious outlets.

The strong ties between the African Americans and religious participation are rooted in a variety of historical and social factors. Although religiosity among African Americans is not limited to Christianity, research has recognized the central role of the Christian church among many African American communities (Mattis & Jagers, 2001). Traditionally, the church has been a support system that has facilitated social, emotional, political, and intellectual well-being for African Americans (Taylor, Mattis, & Chatters, 1999). Through religious involvement, African Americans often cope with hardship and express happiness and gratification. According to Brody and colleagues (1994), religious involvement serves as a buffer against attacks on self-esteem and encourages feelings of personal efficacy for African Americans. Additionally, religiosity has been found to be positively associated with communication in the marital interactions of African American families (Mahoney et al., 2001).

Research has also supported the idea that the church's ability to benefit African Americans is in part due to its role in providing formal and informal spiritual and social support through prayer, psychological support, and ministerial counseling and guidance (Wallace & Bergeman, 2002). These religious support systems have been particularly noted in the rural south (Brody et al., 1994). African Americans who reside in southern states have been cited as attending religious services more frequently than people of any other region in the U.S. (Chatters, Taylor, & Lincoln, 1999). Overall, older African Americans are more likely to attend religious services (Johnson, Matre, & Armbrecht, 1991) and African American women are more likely than men to participate in religious activities and services earlier in life (Mattis & Jagers, 2001). Despite the gender difference in religious participation, African American men and women report similar levels of the importance of religion in their lives (Mattis & Jagers, 2001).

In addition to religiosity, spirituality is also an important factor in the lives of many African Americans. Conner and Eller (2004) have described spirituality as "the propensity to make meaning through interpersonal and transpersonal relationships that empower the individual" (p. 625). Global attributes of spirituality include transcendence, discovering hope and purpose in life, and an interconnectedness with the self, others, or a supreme being (Newlin, Knafl, & Melkus, 2002). Spirituality encompasses a relationship with God or a higher power that extends beyond religious participation. This relationship can be manifested through an individual's engagement in private prayer and meditation, or seeking spiritual guidance in daily decision making (Upchurch & Mueller, 2005).

Among African Americans, spirituality tends to be a pervasive factor in daily life (Conner & Eller, 2004). In this population, spirituality has been associated with feelings



of peace, guidance, and efforts to manage adversity (Newlin, Knafl, & Melkus, 2002). It has been shown that African Americans are likely to rate their levels of spirituality higher than their White peers (Conner & Eller, 2004). Consistent with the role of religiosity, the prominence of spirituality among African Americans has been linked to the historical role of spirituality as a source of hope and meaning in the face of social, political and economic oppression (Newlin, Knafl, & Melkus, 2002). Exploring spirituality within this population is important because it has been reported that the extent to which spirituality is salient and the extent to which individuals perceive themselves as being in a relationship with a loving divine figure is linked to optimism for African Americans (Mattis et al., 2003). This is significant because higher levels of optimism may contribute to coping resources in the context of life stressors.

#### *Links between Religiosity, Spirituality, and Negative Life Events*

Religiosity and spirituality have been linked to coping in the face of negative life events and adaptation to life's changes (Wallace & Bergeman, 2002). Crises such as bereavement, accidents, and illnesses are especially likely to elicit religious and spiritual coping responses such as prayer and religious activity (Ellison, et al., 2001). Religiosity may encourage well-being by providing strategies for affronting adversity and serving as a resource for social support (Mattis & Jagers, 2001), in addition to buffering the effects of negative life events by enhancing feelings of self-worth and personal control (Wallace & Bergeman, 2002). For example, religious cognitions may enhance confidence in one's ability to cope with stressful events over the long term (Ellison, et al., 2001). It has also been found that forms of religious involvement such as religious salience and help seeking are useful in coping with stress that is particularly due to multiple negative life

events (Ellison, et al., 2001). This is consistent with the stress-buffering perspective of religiosity which proposes that religious involvement has stronger positive effects for those who face high levels of stress and weaker effects among those experiencing lower levels of stress.

Spirituality has also been linked to coping with negative life events. Spiritual factors may help people to reappraise negative events as opportunities for personal growth that may be attributable to divine purposes rather than functions of personal characteristics or flaws (Eliassen, Taylor, & Lloyd, 2005). Spiritual help-seeking may aid individuals in finding guidance and support (Schnittker, 2001). Prayer, a form of spiritual help-seeking, has been noted to aid in the regulation of negative emotions stemming from specific circumstances by distracting people from problems or by helping them to attribute meaning to unfavorable circumstances (Ellison & Taylor, 1996). Among African Americans, social support and spirituality are particularly relevant coping mechanisms and are often preferred ways of dealing with adversity compared to seeking formal support services (Fowler & Hill, 2004). For example, the act of praying and asking for intercessory prayer by others is widely used among African Americans when confronting personal difficulties (Ellison & Taylor, 1996).

#### *Religiosity, Spirituality, and Depression*

Previous research has provided evidence for an association between frequent participation in worship service and decreased levels of depression in national and international samples (Baetz, Griffin, Bowen, Koeing, & Marcoux, 2004). Additionally, positive religious reappraisals and collaborative religious coping has been linked to well-being in terms of spiritual growth, stress-related growth, and positive affect (Ano &

Vasconcelles, 2005). It has been asserted that religious beliefs may decrease the occurrence of depressive symptoms because certain beliefs may provide existential security and a sense of purpose. The role of religion in buffering depression is important because depression has been linked to negative health outcomes, decreased well-being, and decreased life expectancy (Baetz, et al., 2004). However, some studies have suggested a negative relationship between religiosity and well-being. For example, it has been proposed that religiosity may decrease individuals' sense of control and increase feelings of guilt (Schnittker, 2001), while also increasing distress, anxiety, and negative mood when dealing with a negative life event (Ano & Vasconcelles, 2005). These potential negative outcomes may result from feelings of being punished by God, and feeling frustrated or dissatisfied with one's religious community. Because religiosity and spirituality are particularly salient in the African American community, it is important to closely examine the contexts in which components of religiosity and spirituality may buffer or exacerbate depression among this population.

Like religious participation, spirituality is often utilized as a coping mechanism when dealing with depression. Spirituality has been described as a component of self-transcendence in the face of vulnerability (Upchurch & Mueller, 2005). Although the idea of self-transcendence is generally applied in the context of aging, many components of the theory seem relevant to individuals facing adversity regardless of age. According to Reed (2003), self-transcendence involves the transformation of vulnerability into well-being by helping individuals come to terms with the inevitable suffering that is part of the human condition, and to secure a sense of meaning and peace with oneself (as cited in Upchurch & Mueller, 2005). Spirituality relates to self-transcendence in that it involves

the expansion of personal boundaries to connect to a higher power or purpose greater than the self (Ellerman & Reed, 2001). In a study looking at the role of spirituality in depression care, African Americans rated aspects of spirituality such as prayer and having faith in God as especially important in coping with their depression (Cooper, Brown, Thi Vu, Ford, & Powe, 2001). The findings of this study supported the idea that spirituality is a particularly salient resource for African Americans dealing with depression. It is important that protective factors against depression be identified for African Americans in the rural south because this population is at particular risk for stressful circumstances due to challenges such as financial hardship, low educational attainment, and high infant mortality rates (Brody et al., 1994).

#### The Proposed Study

Because negative life events and stressors have been linked to depression, and participation in religious and spiritual activities is often a response to negative life events among African Americans, this study proposed that negative life events may serve as antecedents to increased religious and spiritual activity. It was proposed that the participation in increased religious and spiritual activities would be linked to decreased depressive symptoms in the context of negative life events. It was predicted that this relationship would manifest as a positive correlation between negative life events and depression, and positive correlations between negative life events and religiosity and spirituality respectively. In turn, higher scores on religiosity and spirituality were predicted to be linked to lower reports of depressive symptoms. Because this complex pattern could obscure the relationship between religiosity and spirituality, and depressive symptoms, the analyses of this study aimed to better identify the unique contributions of

each predictor by simultaneously examining negative life events, religiosity, spirituality, and depressive symptoms.

For the purposes of this study, religiosity and spirituality were defined as participation in religious activities and daily spiritual experiences respectively. Although there are various aspects of religiosity, attendance at religious services has been shown to be inversely related to distress (Ellison, Boardman, Williams, and Jackson, 2001). The use of this specific component of religiosity is supported by the assertion that previous ambiguous findings related to religiosity and mental health have been the consequences of conceptualizing religion as broad and uniform (Hackney & Sanders, 2003). Thus, church attendance will be examined as a particularly relevant component of religious commitment. Although participation in institutional religious activity has been shown to have a weaker relationship with positive psychological functioning than more personal forms of religious activity, this may not be the case for participation in African American churches which are often seen as encompassing a large degree of emotional intensity and personal involvement (Hackney & Sanders, 2003).

It was hypothesized that negative life events would be positively correlated with religiosity, spirituality, and depressive symptoms. In turn, it was predicted that religiosity and spirituality would be negatively correlated with depressive symptoms. Moreover, it was hypothesized that religiosity and spirituality would serve as culturally-based protective factors against depressive symptoms. That is, the relationship between negative life events and depressive symptoms will weaken with the introduction of religiosity and spirituality variables.

Religiosity was proposed as a moderator between negative life events and depressive symptomatology (Figures 1 & 2). Specifically, it was predicted that those with a low level of religiosity would have greater depressive symptomatology when facing negative life events than those with a high level of religiosity. That is, under conditions of low religiosity, negative life events would greatly impact the occurrence of depressive symptomatology. By contrast, it was predicted that participants with high levels of religiosity would report less depressive symptoms when facing negative life events. The same predictions were made for spirituality, with spirituality moderating the relationship between negative life events and depressive symptomatology (Figure 3).

## CHAPTER 2

### METHOD

#### *Participants*

Participants included 478 women and 485 men from urban and rural areas in Georgia. The participants were recruited for a larger study called the Program for Strong African American Marriages (ProSAAM), which examined the impact of a skill-based marital interventions and a prayer based intervention on African American marriages. Recruitment avenues included faith-based and community organizations, radio and newspaper announcements, recruitment efforts within local businesses and community events, and participant referrals of friends and family members. In order to enroll in ProSAAM, participants had to be at least twenty-one years of age, African American or partnered with an African American mate, and either married or engaged to be married within one year of the recruitment date. For the purposes of this study, data was collected prior to any intervention to ensure that there were no influences due to experimental group assignment.

The women in this sample ranged in age from 20 years to 61 years ( $M= 38.23$ ,  $SD= 9.16$ ). 88.70% ( $n=424$ ) were married and the remaining 11.30 % ( $n= 54$ ) were engaged to be married. 56.07% ( $n= 268$ ) had obtained a college level education. Demographics for the women in this sample are provided in Table 1.

The men in this sample ranged in age from 21 years to 77 years ( $M= 39.44$ ,  $SD=9.74$ ). 88.25% were married ( $n= 428$ ) and 11.75% ( $n= 57$ ) were engaged to be

married. 39.18% of the men had obtained a college level education. Demographics for the men in this sample are provided in Table 1.

### *Procedure*

Each participant was compensated with \$25 dollars for completing the ProSAAM battery of measures. Data was obtained during in-home interviews facilitated by trained field interviewers with each interviewer and participant being gender matched. For cohabitating couples, interviews for the men and women took place simultaneously and in separate rooms with separate interviewers. Before collecting data, interviewers read and reviewed the project statement and consent procedures with each participant. Participants were informed that their involvement in the program was voluntary and they could withdraw their participation at any time. Once consent was obtained, the measures were given on laptop computers with all items being read to the participants by the interviewers. Participants were given the option to keep all responses anonymous by entering their own responses on a keypad that was separate from the laptop.

### *Measures*

Data from this study came from a large battery of measures that covered topics ranging from assessments of health to marital satisfaction. For this particular study, the variables of interest were: negative life events, spirituality, religiosity, and depression. Demographic measures were also collected.

Factor analysis was performed to create scales for religiosity and spirituality. All factors were analyzed using principal component analysis with Varimax (orthogonal) rotation. The steps for the analysis were based upon the recommendations outlined by Field (2005).



*Demographics.* A demographic questionnaire was given to obtain information about each participant such as ethnicity, level of education, and marital status.

*Depression.* Depressive symptoms were measured using the Beck Depression Inventory –Second Edition (BDI-II; Beck, Steer, & Brown, 1996). This is a 21-item questionnaire with items on a rating scale from 0 to 3 corresponding with various symptoms. The content validity of the BDI-II is well established and convergent validity for outpatients ranged from .84 to .93 when correlations between the BDI-II and Beck Depression Inventory-Amended First Edition (BDI-IA) were calculated. A test-retest reliability coefficient of .93 has been reported (Beck, Steer, & Brown, 1996). In the current sample, data for the men produced a Chronbach's alpha of .80 and data from the women produced an alpha of .87.

*Negative Life Events.* Negative life events were measured using the List of Threatening Experiences Questionnaire (LTE-Q; Brugha & Cragg, 1990). This is a 12-item questionnaire that rates the occurrence of various negative life events over a time period of the previous three months. An example item of this measure is “You had a major financial crisis.” This measure also assessed the impact of each event. Because the impact scores and the sum scores of negative life events were so highly correlated for this sample, the sum of negative life events was used in data analysis.

*Religiosity.* Religiosity was measured using a 14 item scale. Participants rated the frequency of religious activity on a scale from 1 to 5 (1 being “almost never” and 5 being “daily”). These items, collectively known as the BSRF, were assembled by Markman & Stanley (unpublished), and have been used in a number of other prevention trials. However, the items have yet to be subjected to a scaling analysis.

Factor analysis for the men in the sample yielded two factors explaining a total of 67.87 % of the variance of for the entire set of religiosity variables. Factor 1 was labeled religious participation due to high loadings by the following items: attending worship services; participating in social activities at a place of worship; attending a class or discussion group on religion. This first factor explained 35% of the variance and an alpha of .77 was obtained for this sample. The second factor derived was labeled religious centrality and an alpha of .74 was obtained. This factor was labeled as such due to high loadings on the following items: importance of religious beliefs in daily life; frequency of spiritual support seeking; belief that one's life is guided by God or a higher power. Factor analysis for the women in the sample produced similar results, with Factor 1 (religious participation) accounting for 33.94% of the variance and Factor 2 (religious centrality) accounting for 29.94 % of the variance. The alphas for these factors were .78 and .67 respectively.

*Spirituality.* Spirituality was measured using the Daily Spiritual Experience Scale (Underwood & Teresi, 2002). The Daily Spiritual Experience Scale (DSE) is a 14-item questionnaire that rates the frequency of spiritual experiences on a scale from 1 to 6 (1 being “many times a day” and 6 being “almost never”). The internal consistency for this measure is cited at .93 (Underwood & Teresi, 2002). An example item from this scale is “I ask for God’s help in the midst of daily activities.”

Factor analysis indicated two spirituality factors for men. The first factor was labeled as spirituality because it represented the full scale of the DSE with the exception of two items related to caring for others (e.g., I feel a selfless caring for others; I accept others even when they do things that are wrong) which comprised the second factor. The

first factor accounted for 48.281% of the variance and produced an alpha of .932. The second factor accounted for 15.827% of the variance. For the women in the sample, the spirituality items also produced identical factors. The first factor, spirituality, accounted for 41.4% of the variance and produced an alpha of .9213. The second factor accounted for 21.06% of the variance. For the purposes of this study, only Factor 1, spiritual connection, was included in the analyses as this factor represents items that specifically address the themes being examined in this study.

### *Plan of Analysis*

Zero-order correlations among the negative life events, depression, and religiosity and spirituality variables were calculated. To investigate whether the association between negative life events and depressive symptoms was partially suppressed by associations with religiosity and spirituality, regression analyses, as outlined by Aiken & West (1991), were conducted. Prior to conducting moderation analyses, all predictor variables were centered before creating interaction terms.

First, depressive symptoms were regressed on the negative life events variable to test the hypothesis that negative life events are associated with increased depressive symptoms. Second, the religiosity variables were regressed on depressive symptoms to test the hypothesis that depressive symptoms were negatively associated with religiosity. Third, the negative life events variable were regressed on religiosity to test the hypothesis that negative life events are associated with greater religiosity in an African American population. Finally, if the first three relationships held, then depressive symptoms were regressed simultaneously on religiosity and negative life events to examine whether religiosity countered the impact of negative life events on depression.

To examine moderation, a final analysis was conducted in which it was predicted that the observed relationship between negative life events and depressive symptoms would be influenced by the interaction between religiosity and negative life events, such that those endorsing higher levels of religiosity would report lower than expected levels of depressive symptoms based on their level of negative life events. This analysis tested the hypothesis that religiosity can serve as a protective factor among African Americans and may serve to reduce the impact of negative life events on depression. Parallel analyses were performed to examine the impact of spirituality, which was also hypothesized to provide protection against the depressogenic effect of negative life events. Analyses were performed separately for men and women to capture potential unique relationships between the variables within each gender.

## CHAPTER 3

### RESULTS

#### *Results for Women*

For women, the mean level of depressive symptomatology (BDI-II) was 6.63 (SD= 6.55, range 0-39), and the mean level of negative life events (LTE-Q) was 14.43 (SD= 1.12, range 13-21). These scores indicate that women endorsed sub-clinical levels of depressive symptomatology and moderate levels of negative life events. For example, someone endorsing BDI items I feel more restless or wound up than usual, I am less interested in other people or things than before, I don't consider myself as worthwhile or useful as I used to, I sleep somewhat less than usual, I am more irritable than usual, and I get more tired or fatigued more easily than usual, would obtain a score of 6 on the BDI-II. To obtain a score of 14 on the LTE-Q, a participant would have to endorse the occurrence within the previous three months of at least seven events such as getting fired from a job, having an item lost or stolen, experiencing legal difficulties, or the death or illness of a family member.

The average religious participation (BSRF Factor 1) score was 7.04 (SD= 2.44, range 3-15), and the average religious centrality (BSRF Factor 2) score was 12.26 (SD= 1.19, range 5-13). Higher scores on the BSRF indicate higher participation and centrality. The average spirituality (DSE) score for women was 22.33 (SD= 10.04, range 13-76), with lower scores indicating higher levels of spirituality. Before the DSE scores were included in analysis, they were reverse-coded to ensure consistency with the direction of

the other measures. These scores indicate that women's religious participation was moderate, and their levels of religious centrality and spirituality were high. Descriptive statistics for these items are listed in Table 2.

Zero-order correlations among negative life events, religious participation, religious centrality, spirituality, and depressive symptomatology were calculated. (Table 3). As expected, negative life events were positively correlated with depressive symptomatology ( $r=.305$ ,  $p<.01$ ). However, opposite the hypothesized direction, religious centrality ( $r=-.091$ ,  $p<.05$ ), and spirituality ( $r=-.031$ ,  $p<.05$ ) were negatively correlated with negative life events, indicating that negative life events were associated with lower religious centrality and lower levels of spirituality. Depression was negatively correlated with spirituality ( $r=-.346$ ,  $p<.01$ ), religious centrality ( $r=-.324$ ,  $p<.01$ ), and religious participation ( $r=-.152$ ,  $p<.01$ ) as hypothesized, indicating that across all three indices of religiosity and spirituality, higher scores were associated with fewer depressive symptoms on average.

#### *Religious Participation x Negative Life Events Interaction*

To assess the nature of the main effects and potential interactive relationship between negative life events, religious participation, and depressive symptomatology, a hierarchical linear regression was conducted (Table 4). There were three steps in this analysis. In the first step, depressive symptoms were regressed on negative life events. In the second step, depressive symptoms were regressed on religious participation. Finally, in the third step, the interaction between negative life events and religious participation was entered. Results of this analysis revealed significant main effects for religious participation and negative life events, but a non-significant interaction term. Women

with the highest levels of religious participation experienced the least amount of depressive symptoms, but this effect did not depend on level of negative life events. These effects were explicated and are presented graphically (Figure 4) following the guidelines by Aiken and West (1991).

The regression steps listed above were executed twice more for women in order to explore the potential main effects and interactive relationships for religious centrality and spirituality in relation to depressive symptomatology and negative life events.

#### *Religious Centrality x Negative Life Events Interaction*

Results of the analysis for religious centrality also revealed significant main effects and a non-significant interaction term. The data revealed a trend such that levels of depressive symptomatology among groups high, moderate, and low in religious centrality all increased as the occurrence of negative life events increased. However, women with the highest levels of religious centrality experienced the least amount of depressive symptoms regardless of level of negative life events (Figure 5).

#### *Spirituality x Negative Life Events Interaction*

The analysis exploring the main effects and potential interaction between negative life events, depressive symptomatology, and spirituality yielded significant, positive, main effects for negative life events and spirituality, but a non-significant interaction term (Figure 6). Congruent with the previous two analyses, the results of this analysis indicated that women high in religiosity experienced the least amount of depressive symptoms regardless of level of negative life events.

Overall, these findings were consistent with expectations for main effects and suggest that having greater levels of religiosity and spirituality exert a direct influence on depressive symptoms but do not interact with negative life events as hypothesized.

#### *Results for Men*

For men, the mean level of depressive symptomatology (BDI) was 4.91 (SD= 5.21, range 0-19), and the mean level of negative life events (LTE-Q) was 14.35 (SD= 1.46, range 13-24). These scores indicate that men endorsed low levels of depressive symptomatology and moderate levels of negative life events.

The average religious participation score was 6.90 (SD= 2.61, range 3-15), and the average religious centrality score was 11.84 (SD= 1.64, range 3-13). The average spirituality score for men was 26.65 (SD= 11.44, range 14-79), with lower scores indicating higher levels of spirituality. These scores indicated that men's religious participation was moderate, and their levels of religious centrality and spirituality were high. Descriptive statistics for these items are listed in Table 7. As previously noted, DSE scored were reverse coded before they were included in data analysis so that higher scores indicate greater spirituality.

Zero-order correlations among negative life events, religious participation, religious centrality, spirituality, and depressive symptomatology were calculated for men (Table 8). As expected, negative life events were positively correlated with depressive symptomatology ( $r=.357$ ,  $p<.01$ ). However, as for women, correlations between negative life events and religious centrality ( $r=-.143$ ,  $p<.01$ ), and spirituality ( $r=-.157$ ,  $p<.01$ ) were opposite the hypothesized direction. Depressive symptoms were negatively correlated with spirituality ( $r=-.404$ ,  $p<.01$ ) and religious centrality ( $r=-.183$ ,  $p<.01$ ) as predicted.



*Religious Participation x Negative Life Events Interaction*

Consistent with the analysis for women, a hierarchical linear regression was conducted to assess the nature of the main effects and potential interactive relationship between negative life events, religious participation, and depressive symptomatology (Table 9). Results of this analysis indicated significant main effects such that depressive symptoms increased as the number of negative life events increased for men regardless of religious participation level. This analysis also yielded a significant interaction term that accounted for an additional 1% of the variance in depressive symptomatology beyond the main effects of negative life events and religious participation ( $R^2_{\text{change}} = .14$ ;  $F_{\text{change}}(1,481) = 4.05, p < .05$ ). As can be seen in figure 7, this finding indicates that under conditions of low negative life events, the men in this sample experienced similar levels of depression, regardless of level of religious participation. However, as the number of negative life events increased, men with the lowest levels of religious participation experienced a steeper increase in level of depressive symptoms and those with the highest level of religious participation experienced the least increase in level of depressive symptoms. The interaction is represented graphically in Figure 7.

*Religious Centrality x Negative Life Events Interaction*

The analysis exploring the impact of religious centrality on negative life events and depressive symptoms indicated significant main effects. For men across all levels of religious centrality, depressive symptoms increased as the number of negative life events increased. A significant interaction term was also revealed which accounted for 15% of the variance in depressive symptomatology ( $R^2_{\text{change}} = .15$ ;  $F_{\text{change}}(1,481) = 5.42, p < .05$ ). Under conditions of low negative life events, men who endorsed the most religious

centrality experienced the lowest levels of depression. However, levels of depressive symptoms increased and converged for men across levels of religious centrality as negative life events increased. Although men with the highest levels of centrality experienced the least number of depressive symptoms for all levels of negative life events, the impact of religious centrality appeared to become less protective as negative life events increased (Figure 8).

#### *Spirituality x Negative Life Events Interaction*

As in the previous two analyses, significant main effects between spirituality, negative life events, and depressive symptoms emerged. As negative life events increased, depressive symptoms increased for men across all levels of spirituality. Results of regression analysis for spirituality also yielded a significant interaction term ( $R^2_{\text{change}} = .24$ ;  $F_{\text{change}}(1,481) = 16.07$ ,  $p < .01$ ). For men endorsing high levels of spirituality, depressive symptomatology was low and fairly stable independent of the amount of negative life events experienced. In contrast, men with low levels of spirituality experienced a large increase in depressive symptoms as negative life events increased compared to those with higher levels of spirituality (Figure 9). Thus, in contrast to the results for religious centrality, for men, spirituality appeared to be increasingly protective as life stress increased.

## CHAPTER 4

### DISCUSSION

This study examined the impact of religiosity and spirituality upon depressive symptomatology for African Americans experiencing negative life events. It adds to the research literature because it explores religious and spiritual variables as potential protective factors in the context of life stress. Previous research has investigated the impact of religious participation in the context of life stressors for African Americans (Ellison et al., 2001; Ellison and Taylor, 1996). However, little research has examined both religiosity and spirituality in relation to negative life events and depression among African Americans.

#### *Influences of Religiosity and Spirituality among Women*

Results of this study revealed non-significant interactive effects of religiosity and spirituality for women experiencing negative life events. Although spirituality and religiosity did not emerge as moderators between negative life events and depression, a trend was observed such that women experiencing the highest level of depression were those whose spirituality and religious participation were the lowest. This suggests that women with the lowest levels of religiosity and spirituality may be at greater risk for experiencing depressive symptomatology regardless of level of negative life events. During exploratory examinations of specific content areas of negative life events, (financial problems, unemployment, and the death or illness of a family member), it appeared that the death or illness of a loved one was particularly influential on the positive correlation between depressive symptoms and negative life events for women.

Accordingly, in future research it may of interest to examine bereavement as a specific stressor for African American women.

The inverse correlations between depressive symptomatology, religiosity, and spirituality in the context of negative life events among women can be interpreted within a coping framework. As noted in previous literature, spiritual practices such as prayer have been identified as salient coping mechanisms in response to depression for African Americans (Cooper et al., 2001). It is likely that women in this sample who endorsed high levels of spirituality had more coping resources readily available to them regardless of negative life events. As noted in previous literature, spiritual practices may have helped women to secure a sense of meaning, peace, and existential security (Upchurch & Mueller, 2005). Furthermore, women who endorsed high levels of religiosity may have also utilized religious coping resources. For these women, religious participation may have served as a vehicle through which they obtained social support and enhanced their spiritual salience through activities such as corporate prayer and worship, helping them decrease depressive symptoms. Although religiosity and spirituality exerted a significant main effect on depressive symptoms, and so could be considered “protective,” women still experienced increased levels of depressive symptomatology as negative life events increased. Indeed, there was no difference in the slope relating negative life events and depressive symptoms as a function of any of the religiosity measures for women.

Accordingly, the most parsimonious explanation of the effect of the religiosity variables in women is that they exerted a non-specific positive effect, much like the effect observed for social support. In fact, it may be that greater social contact and greater involvement is one of the mechanisms linking greater religiosity to lower levels of depressive symptoms.

Regardless of the increase in depressive symptoms among women high in religiosity and spirituality, it appears that religious and spiritual participation provided benefits for these women that were not available to women lower in spirituality and religiosity.

#### *Influences of Religiosity and Spirituality among Men*

For men, the role of spirituality and religiosity unfolded differently than for women. Unlike the pattern for women, religious participation, religious centrality, and spirituality all emerged as moderators of the effect of negative life events on depressive symptomatology. In examining religious participation, men had similar levels of depressive symptomatology during times of low negative life events regardless of their levels of religious participation. However, as negative life events increase, levels of depressive symptomatology diverged with men reporting the highest levels of participation experiencing the fewest depressive symptoms. This suggests that the benefits of religious participation may be most salient in the context of high levels of negative life events. The role of religious participation is supported in previous research which asserts that religious involvement is especially helpful in coping with multiple negative life events and has stronger positive effects for those who face high levels of stress (Ellison et al., 2001).

A slightly different pattern was observed for religious centrality. While men with the highest levels of religious centrality were generally lower in levels of depressive symptomatology than men with moderate and low levels of religious centrality regardless of negative life events, this advantage decreased as the number of negative life events increased. Therefore it appeared that religious centrality was less protective under conditions of high negative life events. Because this construct is likely capturing the

concept of religious coping, it is possible that men in this sample begin to doubt their ability to cope, or may not perceive the benefits of religious coping as negative life events increase to very high levels. If men who report high religious centrality perceive that their efforts to utilize religious coping are ineffective, levels of depressive symptoms for these men are likely to approach levels of symptoms for men who report using religious coping resources less often. Another, related possibility is that, as negative life events increase, even men who report high levels of centrality may be less likely to seek the social support that is often related to religious coping.

A different pattern also emerged for spirituality compared to the other two religiosity variables. It appears that spirituality has a particularly large influence upon the relationship between negative life events and depressive symptomatology for men. Similar to results for religious participation, the impact of spirituality is most evident under conditions of high negative life events. When the magnitude of negative life events was high, men with high levels of spirituality experienced significantly less depressive symptoms than men with moderate and low levels of spirituality. Unlike religious participation and centrality, spirituality may be stable in the lives of men and undergo less fluctuation across environmental contexts. It is possible that for men in this sample, spirituality is a world-view or perspective that is stable rather than reactive to level of life stress.

### *Comparisons between Women and Men*

Interesting differences emerged between men and women in this sample. First, factor analysis revealed that spirituality and religious centrality are highly related constructs for women, but distinct constructs for men. Future research may investigate whether religious centrality is a state-like characteristic among men that is independent of spiritual experiences, such as prayer and the perception of being connected to a higher power, which may be more stable in men's lives. If religious coping is found to be a particularly influential component of centrality, it is possible that the value placed on religious coping may fluctuate across circumstances for men. For women, spirituality appears to be highly related to religious centrality and tends to fluctuate across contexts. This finding lends itself to future research examining gender differences across various aspects of religiosity and spirituality.

### *Limitations and Implications for Future Research*

The primary limitation of this study is that it only includes data collected at one time point. Due to the cross-sectional nature of this data, direction of causality cannot be inferred and it is not known whether observed relationships reflect the hypothesized causal effects. For example, we do not know whether those who endorsed higher levels of religiosity and spirituality reported fewer depressive symptoms because religious and spiritual coping resources enhanced their daily lives, or whether those who were prone to depressive symptoms developed more impoverished religious and spiritual coping resources. Although, previous research supports the idea that religious and spiritual coping are frequently utilized by African Americans experiencing life stressors (Mattis & Jagers, 2001; Wallace & Bergeman, 2002), longitudinal data would allow causality to be

inferred which would clarify the role of religiosity and spirituality as situational versus stable coping responses.

Despite this limitation, this study adds to the research literature in several ways. It brings attention to the important roles of spirituality and religiosity among African Americans and specifically highlights the strong relationships between religiosity, spirituality, and depressive symptomatology. Furthermore, it illustrates gender differences amongst African Americans in regard to religious and spiritual variables. Future research exploring the relationships between these negative life events, religiosity, spirituality, and depression over time, and the nuances of gender differences among these relationships would be a valuable contribution to the research literature. The results of this study also have implications for clinical practice. They imply that incorporating clients' religious and spiritual beliefs into treatment may be particularly helpful in facilitating coping with depressive symptoms and the consequences of negative life events. Additionally, these results suggest the potential benefits of liaisons between mental health care providers and religious and spiritual leaders for assisting African American communities.



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Table 1

*Demographic Characteristics of the Sample*

	Women n = 478	Men n = 485
	N(%)	N(%)
<b>Ethnicity</b>		
African American	454 (94.98)	465 (95.88)
Caucasian	6 (1.26)	4 (.82)
Hispanic	10 (2.09)	7 (1.44)
Other	8 (1.67)	9 (1.86)
<b>Marital Status</b>		
Unmarried	54 (11.30)	57 (11.75)
Married	424 (88.70)	428 (88.25)
<b>Religious Affiliation</b>		
Baptist	61 (12.76)	63 (12.99)
Catholic	32 (6.69)	32 (6.60)
Protestant	42 (8.79)	33 (6.80)
Islamic	70 (8.37)	95 (19.59)
Other	273 (57.11)	262 (54.02)
<b>Education</b>		
High School Education	210 (43.93)	295 (60.82)
College Degree or Above	268 (56.07)	190 (39.18)
<b>Age</b>		
	38.23 (SD= 9.16)	39.94 (SD= 9.74)

Table 2

*Descriptive Statistics for Depressive Symptomatology, Negative Life Events, Religiosity, and Spirituality for Women.*

	M	SD	MIN	MAX
Depressive Symptomatology <sup>a</sup>	6.63	6.55	0	39
Negative Life Events <sup>b</sup>	14.43	1.12	13	21
Financial	2.42	.642	2	4
Work	2.16	.423	2	4
Death/Illness	2.45	.645	2	4
Religiosity <sup>c</sup>				
Participation	7.04	2.44	3	15
Centrality	12.26	1.19	5	13
Spirituality <sup>d</sup>	22.33	10.04	13	76

*Note.* <sup>a</sup>Depressive Symptomatology score from the BDI-II (Beck, et. al., 1996). <sup>b</sup>Sum of Negative Life Events from the LTE-Q (Cloninger et al., 1994). <sup>c</sup>Religiosity Score from the BSRF (Stanley & Markman, Unpublished). <sup>d</sup>Spirituality score from the DSE (Underwood & Teresi, 2002).



Table 3

*Intercorrelations among Negative Life Events, Religiosity, Spirituality and Depressive Symptomatology among Women*

	Negative Life Events	Religious Participation	Religious Centrality	Spirituality	Depressive Symptomatology
Negative Life Events	--	--	--	--	--
Religious Participation	-.063	--	--	--	--
Religious Centrality	-.091*	.330**	--	--	--
Spirituality	-.031*	.314*	.897**	--	--
Depressive Symptomatology	.305**	-.152**	-.324**	-.346**	--

\* $p < .05$ , \*\* $p < .01$

Table 4

*Hierarchical Linear Regression Analyses to Examine the Potential Main Effects and Interaction between Negative Life Events and Religious Participation in Predicting Depressive Symptomatology among Women*

Predictors	Step 1	Step 2	Step 3
Negative Life Events	.31***	.30***	.30***
Religious Participation	---	-.13**	-.13**
Negative Life Events x Religious Participation	---	---	.01
$\Delta R^2$	.09***	.02**	.00

\*\* $p < .05$ , \*\*\* $p < .01$

Table 5

*Hierarchical Linear Regression Analyses to Examine the Potential Main Effects and Interaction between Negative Life Events and Religious Centrality in Predicting Depressive Symptomatology among Women*

Predictors	Step 1	Step 2	Step 3
Negative Life Events	.31***	.28***	.27***
Religious Centrality	---	-.30***	-.27***
Negative Life Events x Religious Centrality	---	---	-.08
$\Delta R^2$	.09***	.09***	.01

\*\* $p < .05$ , \*\*\* $p < .01$

Table 6

*Hierarchical Linear Regression Analyses to Examine the Potential Main Effects and Interaction between Negative Life Events and Spirituality in Predicting Depressive Symptomatology among Women*

Predictors	Step 1	Step 2	Step 3
Negative Life Events	.31***	.29***	.29***
Spirituality	---	-.34***	-.32***
Negative Life Events x Spirituality	---	---	-.07
$\Delta R^2$	.09***	.11***	.00

\*\* $p < .05$ , \*\*\* $p < .01$

Table 7

*Descriptive Statistics for Depressive Symptomatology, Negative Life Events, Religiosity, and Spirituality for Men*

	M	SD	MIN	MAX
Depressive Symptomatology <sup>a</sup>	4.91	5.21	0	19
Negative Life Events <sup>b</sup>	14.35	1.46	13	24
Financial	2.38	.61	2	4
Work	2.14	.42	2	4
Death/Illness	3.50	.74	3	6
Religiosity <sup>c</sup>				
Participation	6.90	2.61	3	15
Centrality	11.84	1.64	3	13
Spirituality <sup>d</sup>	26.65	11.44	14	79

*Note.* <sup>a</sup>Depressive Symptomatology score from the BDI-II (Beck, et. al., 1996). <sup>b</sup>Sum of Negative Life Events from the LTE-Q (Cloninger et al., 1994). <sup>c</sup>Religiosity Score from the BSRF (Stanley & Markman, Unpublished). <sup>d</sup>Spirituality score from the DSE (Underwood & Teresi, 2002).

Table 8

*Intercorrelations among Negative Life Events, Religiosity, Spirituality and Depressive Symptomatology among Men*

	Negative Life Events	Religious Participation	Religious Centrality	Spirituality	Depressive Symptomatology
Negative Life Events	--	--	--	--	--
Religious Participation	-.025	--	--	--	--
Religious Centrality	-.143***	.332***	--	--	--
Spirituality	-.157***	.289***	.543***	--	--
Depressive Symptomatology	.357***	-.077	-.183***	-.404***	--

\* $p < .05$ , \*\* $p < .01$

Table 9

*Hierarchical Linear Regression Analyses to Examine the Potential Main Effects and Interaction between Negative Life Events and Religious Participation in Predicting Depressive Symptomatology among Men*

Predictors	Step 1	Step 2	Step 3
Negative Life Events	.36***	.36***	.37***
Religious Participation	---	-.07	-.06
Negative Life Events x Religious Participation	---	---	-.09**
$\Delta R^2$	.13***	.00	.01**

\*\* $p < .05$ , \*\*\* $p < .01$

Table 10

*Hierarchical Linear Regression Analyses to Examine the Potential Main Effects and Interaction between Negative Life Events and Religious Centrality in Predicting Depressive Symptomatology among Men*

Predictors	Step 1	Step 2	Step 3
Negative Life Events	.36***	.34***	.36***
Religious Centrality	---	-.13***	-.15***
Negative Life Events x Religious Centrality	---	---	.10**
$\Delta R^2$	.13***	.02**	.01**

\*\* $p < .05$ , \*\*\* $p < .01$



Table 11

*Hierarchical Linear Regression Analyses to Examine the Potential Main Effects and Interaction between Negative Life Events and Spirituality in Predicting Depressive Symptomatology among Men*

Predictors	Step 1	Step 2	Step 3
Negative Life Events	.36***	.30***	.26***
Spirituality	---	-.36***	-.34***
Negative Life Events x Spirituality	---	---	-.16***
$\Delta R^2$	.13***	.12***	.02***

\*\* $p < .05$ , \*\*\* $p < .01$

### Figure Captions

Figure 1. Religious participation as a moderator of the relationship between negative life events and depressive symptomatology.

Figure 2. Religious centrality as a moderator of the relationship between negative life events and depressive symptomatology.

Figure 3. Spirituality as a moderator of the relationship between negative life events and depressive symptomatology.

Figure 1

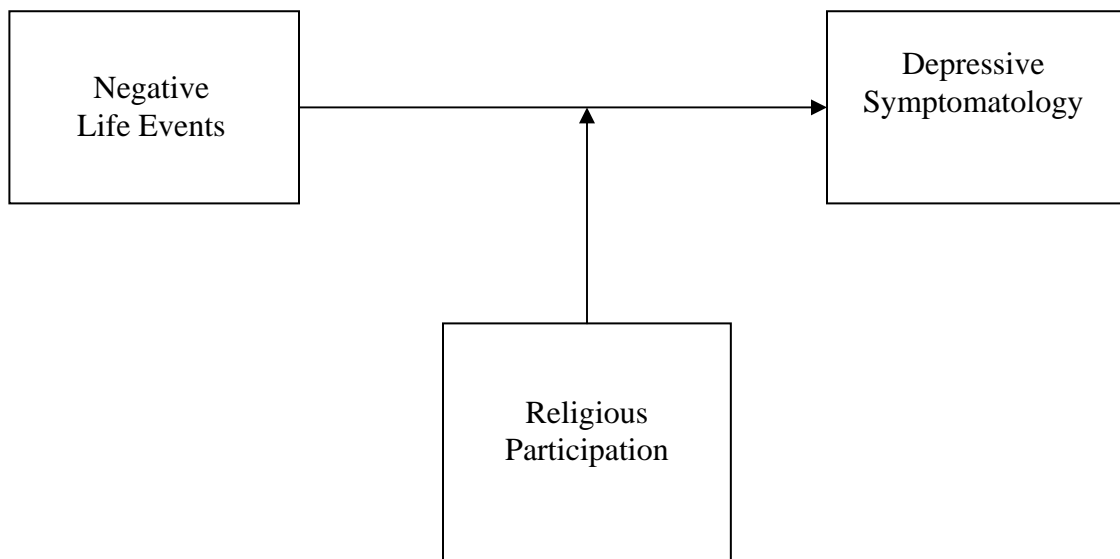


Figure 2

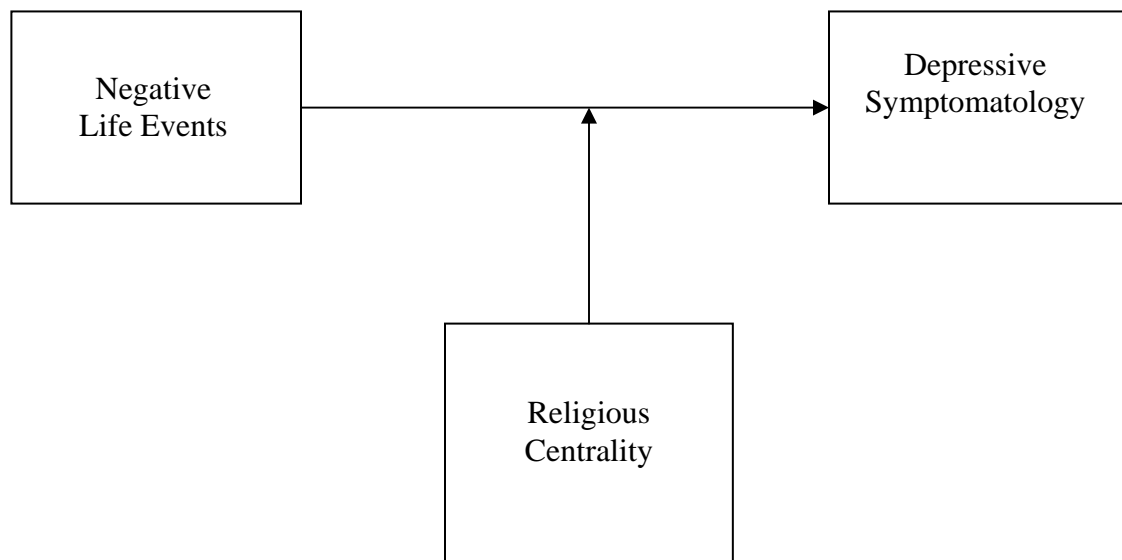


Figure 3

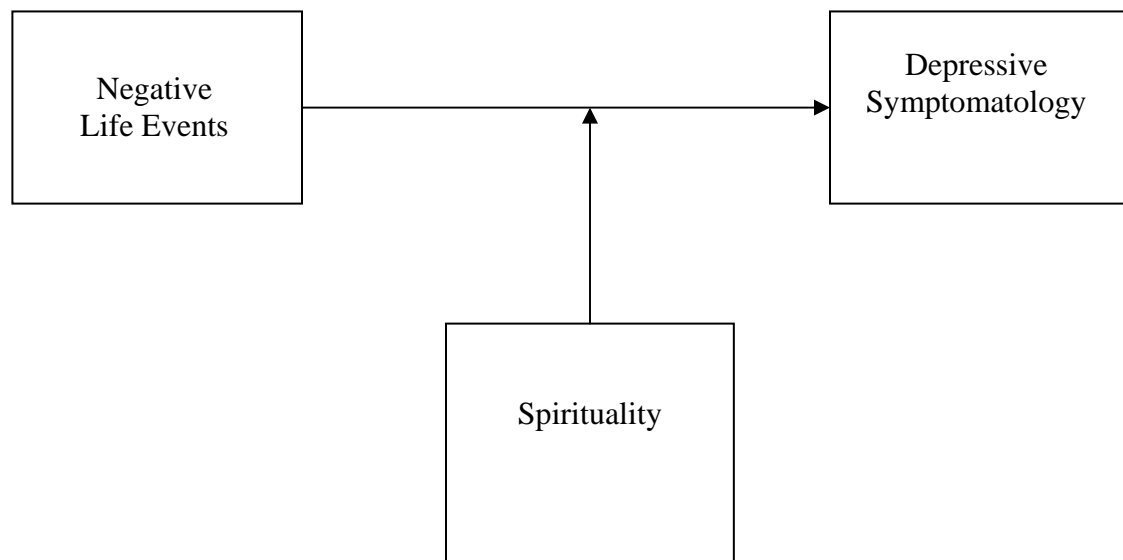
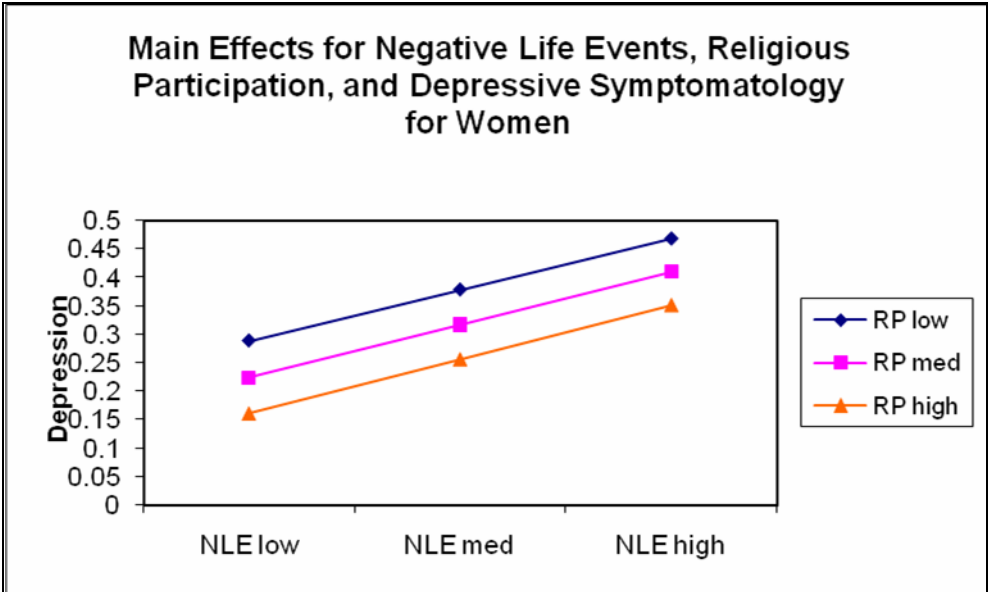
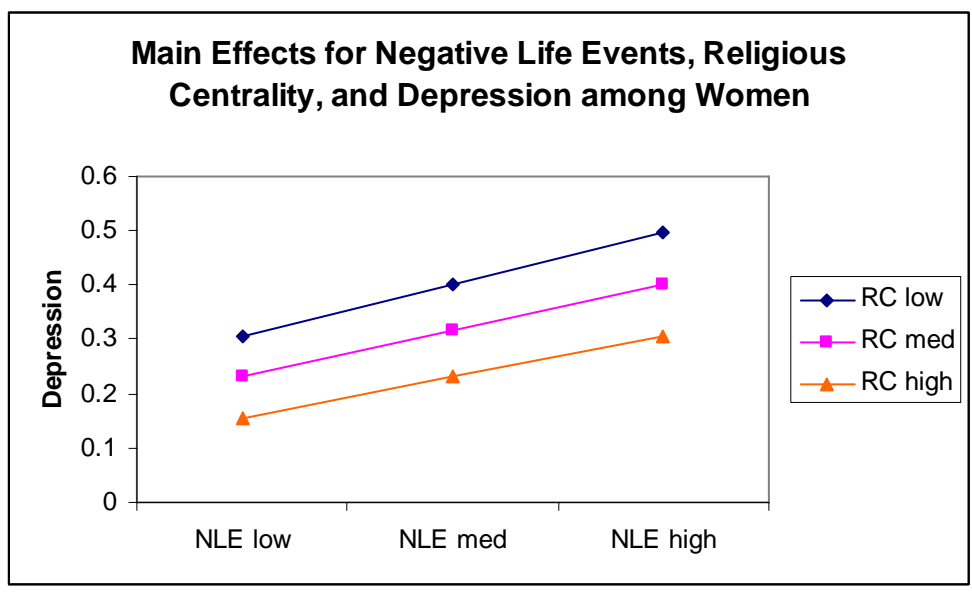


Figure 4



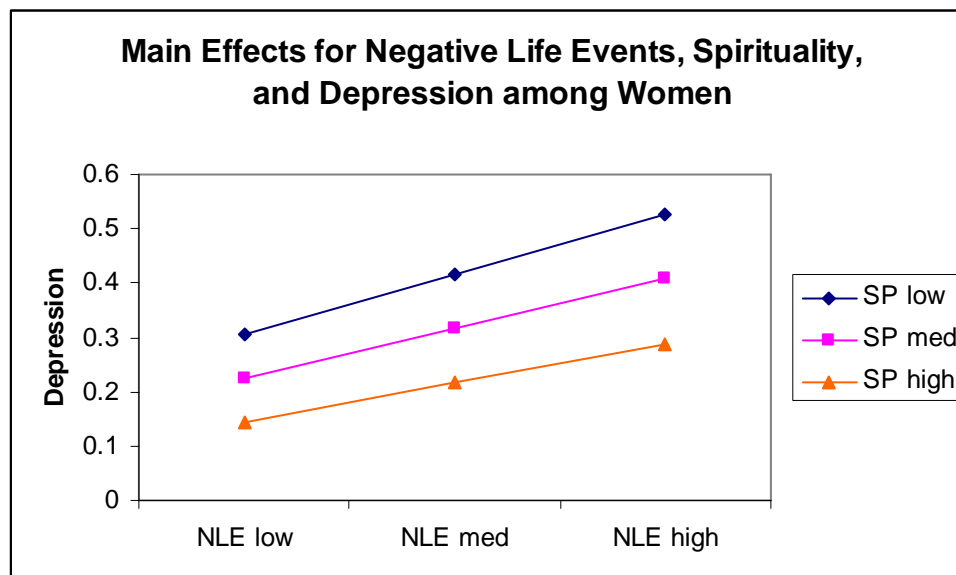
*Note.* NLE low = Negative Life Events score at 1 standard deviation below the mean of Negative Life Events, NLE med = Negative Life Events at the mean for Negative Life Events, NLE high = Negative Life Events at 1 standard deviation above the mean of Negative Life Events. RP low = Religious Participation 1 standard deviation below the mean of religious participation, RP med = Religious Participation at the mean for Religious Participation, RP high = Religious Participation at 1 standard deviation above the mean of Religious Participation.

Figure 5



*Note.* NLE low = Negative Life Events score at 1 standard deviation below the mean of Negative Life Events, NLE med = Negative Life Events at the mean for Negative Life Events, NLE high = Negative Life Events at 1 standard deviation above the mean of Negative Life Events. RC low = Religious Centrality 1 standard deviation below the mean of religious Centrality, RC med = Religious Centrality at the mean for Religious Centrality, RC high = Religious Centrality at 1 standard deviation above the mean of Religious Centrality.

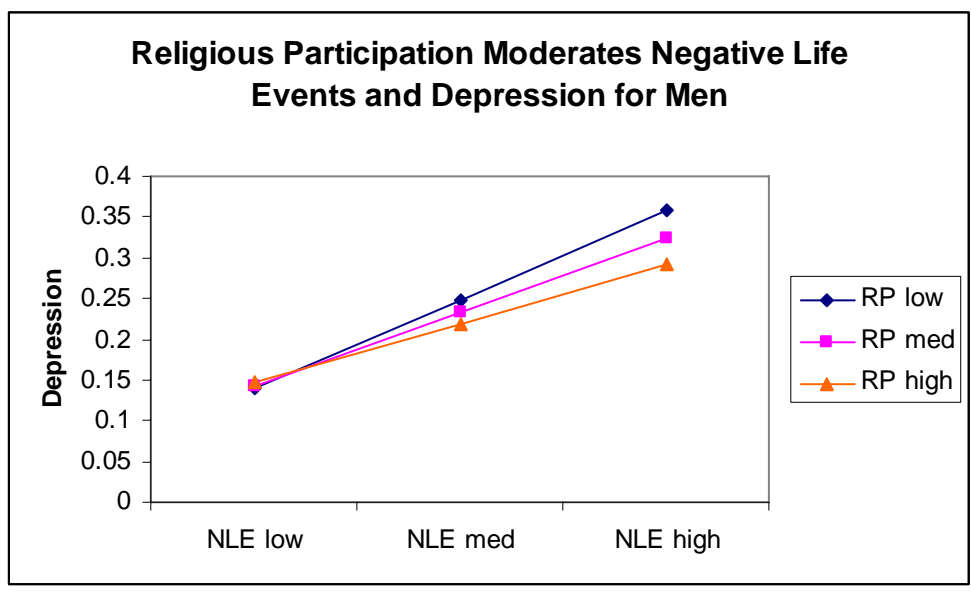
Figure 6



*Note.* NLE low = Negative Life Events score at 1 standard deviation below the mean of Negative Life Events, NLE med = Negative Life Events at the mean for Negative Life Events, NLE high = Negative Life Events at 1 standard deviation above the mean of Negative Life Events. SP low = Spirituality 1 standard deviation below the mean of Spirituality, SP med = Spirituality at the mean for Spirituality, SP high = Spirituality at 1 standard deviation above the mean of Spirituality.

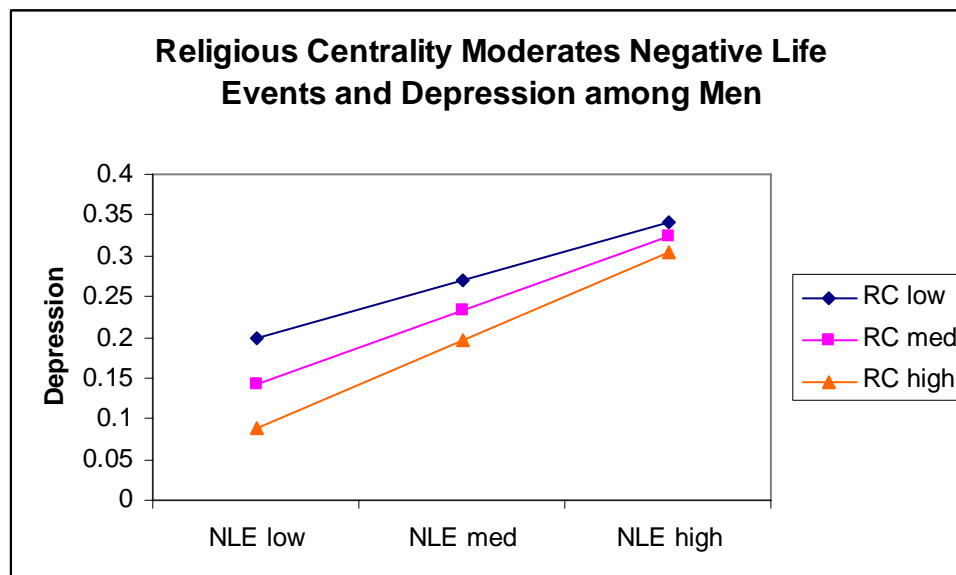


Figure 7



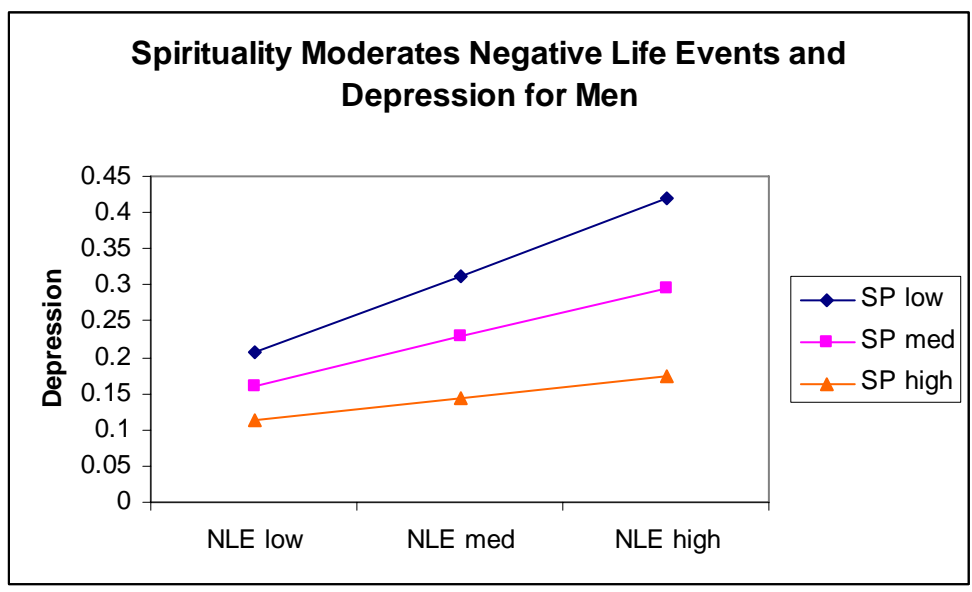
*Note.* NLE low = Negative Life Events score at 1 standard deviation below the mean of Negative Life Events, NLE med = Negative Life Events at the mean for Negative Life Events, NLE high = Negative Life Events at 1 standard deviation above the mean of Negative Life Events. RP low = Religious Participation 1 standard deviation below the mean of religious participation, RP med = Religious Participation at the mean for Religious Participation, RP high = Religious Participation at 1 standard deviation above the mean of Religious Participation.

Figure 8



*Note.* NLE low = Negative Life Events score at 1 standard deviation below the mean of Negative Life Events, NLE med = Negative Life Events at the mean for Negative Life Events, NLE high = Negative Life Events at 1 standard deviation above the mean of Negative Life Events. RC low = Religious Centrality 1 standard deviation below the mean of religious Centrality, RC med = Religious Centrality at the mean for Religious Centrality, RC high = Religious Centrality at 1 standard deviation above the mean of Religious Centrality.

Figure 9



*Note.* NLE low = Negative Life Events score at 1 standard deviation below the mean of Negative Life Events, NLE med = Negative Life Events at the mean for Negative Life Events, NLE high = Negative Life Events at 1 standard deviation above the mean of Negative Life Events. SP low = Spirituality 1 standard deviation below the mean of Spirituality, SP med = Spirituality at the mean for Spirituality, SP high = Spirituality at 1 standard deviation above the mean of Spirituality.

### Appendix A: The List of Threatening Experiences (LTE-Q)\*

Instructions: Think about approximately the past three months of your life and indicate whether any of these threatening experiences have happened to you. If it did happen to you, indicate the impact on you.

You have suffered a serious illness, injury, or an assault.

- 1 = Did not happen
- 2 = Happened within the past three months

What was the impact on you?

- 1 = Little or no negative impact
- 2 = Some negative impact
- 3 = Substantial negative impact
- 4 = Substantial and sustained negative impact
- 5 = Overwhelming negative impact

A serious illness, injury or assault happened to a close relative.

- 1 = Did not happen
- 2 = Happened within the past three months

What was the impact on you?

- 1 = Little or no negative impact
- 2 = Some negative impact
- 3 = Substantial negative impact
- 4 = Substantial and sustained negative impact
- 5 = Overwhelming negative impact

Your parent, child, or mate died.

- 1 = Did not happen
- 2 = Happened within the past three months

What was the impact on you?

- 1 = Little or no negative impact
- 2 = Some negative impact
- 3 = Substantial negative impact
- 4 = Substantial and sustained negative impact
- 5 = Overwhelming negative impact

Was it related to homicide or suicide?

- 1 = No
- 2 = Yes

A close family friend or another relative (aunt, cousin, grandparent) died.

- 1 = Did not happen
- 2 = Happened within the past three months

What was the impact on you?

- 1 = Little or no negative impact
- 2 = Some negative impact
- 3 = Substantial negative impact
- 4 = Substantial and sustained negative impact
- 5 = Overwhelming negative impact

Was it related to homicide or suicide?

- 1 = No
- 2 = Yes

You had a separation due to marital difficulties.

- 1 = Did not happen
- 2 = Happened within the past three months

What was the impact on you?

- 1 = Little or no negative impact
- 2 = Some negative impact
- 3 = Substantial negative impact
- 4 = Substantial and sustained negative impact
- 5 = Overwhelming negative impact

You had a serious problem with a close friend, neighbor, or relative.

- 1 = Did not happen
- 2 = Happened within the past three months

What was the impact on you?

- 1 = Little or no negative impact
- 2 = Some negative impact
- 3 = Substantial negative impact
- 4 = Substantial and sustained negative impact
- 5 = Overwhelming negative impact

You become unemployed or you were seeking work unsuccessfully for more than one month.

- 1 = Did not happen
- 2 = Happened within the past three months

What was the impact on you?

- 1 = Little or no negative impact
- 2 = Some negative impact
- 3 = Substantial negative impact

- 4 = Substantial and sustained negative impact
- 5 = Overwhelming negative impact

You were fired from your job.

- 1 = Did not happen
- 2 = Happened within the past three months

What was the impact on you?

- 1 = Little or no negative impact
- 2 = Some negative impact
- 3 = Substantial negative impact
- 4 = Substantial and sustained negative impact
- 5 = Overwhelming negative impact

You had a major financial crisis.

- 1 = Did not happen
- 2 = Happened within the past three months

What was the impact on you?

- 1 = Little or no negative impact
- 2 = Some negative impact
- 3 = Substantial negative impact
- 4 = Substantial and sustained negative impact
- 5 = Overwhelming negative impact

You had problems with the police and a court appearance.

- 1 = Did not happen
- 2 = Happened within the past three months

What was the impact on you?

- 1 = Little or no negative impact
- 2 = Some negative impact
- 3 = Substantial negative impact
- 4 = Substantial and sustained negative impact
- 5 = Overwhelming negative impact

Something you valued was lost or stolen.

- 1 = Did not happen
- 2 = Happened within the past three months

What was the impact on you?

- 1 = Little or no negative impact
- 2 = Some negative impact
- 3 = Substantial negative impact
- 4 = Substantial and sustained negative impact
- 5 = Overwhelming negative impact

You (or your mate) became unexpectedly pregnant.

1 = Did not happen

2 = Happened within the past three months

What was the impact on you?

1 = Little or no negative impact

2 = Some negative impact

3 = Substantial negative impact

4 = Substantial and sustained negative impact

5 = Overwhelming negative impact

You were unable to afford essential items such as food.

1 = Did not happen

2 = Happened within the past three months

What was the impact on you?

1 = Little or no negative impact

2 = Some negative impact

3 = Substantial negative impact

4 = Substantial and sustained negative impact

5 = Overwhelming negative impact

## Appendix B: Beck Depression Inventory- Second Edition

Please read each group of statements carefully, then pick out the *one statement* in each group which best describes the way you have been feeling *during the past 2 weeks including today!* Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, simply circle the statement which has the largest number.

## 1. Sadness

- 0 I do not feel sad.
- 1 I feel sad much of the time.
- 2 I am sad all of the time.
- 3 I am so sad or unhappy that I can't stand it.

## 2. Pessimism

- 0 I am not discouraged about my future.
- 1 I feel more discouraged about my future than I used to be.
- 2 I do not expect things to work out for me.
- 3 I feel my future is hopeless and will only get worse.

## 3. Past Failure

- 0 I do not feel like a failure.
- 1 I have failed more than I should have.
- 2 As I look back, I see a lot of failures.
- 3 I feel I am a total failure as a person.

## 4. Loss of Pleasure

- 0 I get as much pleasure as I ever did from the things I enjoy.
- 1 I don't enjoy things as much as I used to.
- 2 I get very little pleasure from the things I used to enjoy.
- 3 I can't get any pleasure from the things I used to enjoy.

## 5. Guilty Feelings

- 0 I don't feel particularly guilty.
- 1 I feel guilty over many things I have done or should have done.
- 2 I feel quite guilty most of the time.
- 3 I feel guilty all of the time.

## 6. Punishment Feelings

- 0 I don't feel I am being punished.
- 1 I feel I may be punished.
- 2 I expect to be punished.
- 3 I feel I am being punished.



## 7. Self Dislike

- 0 I feel the same about myself as ever.
- 1 I have lost confidence in myself.
- 2 I am disappointed in myself.
- 3 I dislike myself.

## 8. Self Criticalness

- 0 I don't criticize or blame myself more than usual.
- 1 I am more critical of myself than I used to be.
- 2 I criticize myself for all of my faults.
- 3 I blame myself for everything bad that happens.

## 9. Suicidal Thoughts or Wishes

- 0 I don't have any thoughts of killing myself.
- 1 I have thoughts of killing myself, but I would not carry them out.
- 2 I would like to kill myself.
- 3 I would kill myself if I had the chance.

## 10. Crying

- 0 I don't cry any more than I used to.
- 1 I cry more now than I used to.
- 2 I cry over every little thing.
- 3 I feel like crying but I can't.

## 11. Agitation

- 0 I am no more restless or wound up than usual.
- 1 I feel more restless or wound up than usual.
- 2 I am so restless or agitated that it's hard to stay still.
- 3 I am so restless or agitated I have to keep moving or doing something.

## 12. Loss of Interest

- 0 I have not lost interest in other people or activities.
- 1 I am less interested in other people or things than before.
- 2 I have lost most of my interest in other people or things.
- 3 It's hard to get interested in anything.

## 13. Indecisiveness

- 0 I make decisions about as well as ever.
- 1 I find it more difficult to make decisions than usual.
- 2 I have much greater difficulty in making decisions than I used to.
- 3 I have trouble making any decisions.

## 14. Worthlessness

- 0 I do feel I am worthless.
- 1 I don't consider myself as worthwhile or useful as I used to.
- 2 I feel more worthless as compared to other people.
- 3 I feel utterly worthless.

## 15. Loss of Energy

- 0 I have as much energy as ever.
- 1 I have less energy than I used to have.
- 2 I don't have enough energy to do very much.
- 3 I don't have enough energy to do anything.

16. Change in Sleeping Pattern \*\*\* *Do not circle more than one statement.* \*\*\*

- 0 I have not experienced any change in my sleeping pattern.
- 1a I sleep somewhat more than usual.
- 1b I sleep somewhat less than usual.
- 2a I sleep a lot more than usual.
- 2b I sleep a lot less than usual.
- 3a I sleep most of the day.
- 3b I wake up 1-2 hours early and can't get back to sleep.

## 17. Irritability

- 0 I am no more irritable than usual.
- 1 I am more irritable than usual.
- 2 I am much more irritable than usual.
- 3 I am irritable all the time.

18. Change in Appetite \*\*\* *Do not circle more than one statement.* \*\*\*

- 0 I have not experienced any change in my appetite.
- 1a My appetite is somewhat less than usual.
- 1b My appetite is somewhat greater than usual.
- 2a My appetite is much less than before.
- 2b My appetite is much greater than usual.
- 3a I have no appetite at all.
- 3b I crave food all the time.

## 19. Concentration Difficulty

- 0 I can concentrate as well as ever.
- 1 I can't concentrate as well as usual.
- 2 It's hard to keep my mind on anything for very long.
- 3 I find I can't concentrate on anything.

## 20. Tired or Fatigue

- 0 I am no more tired or fatigued than usual.
- 1 I get more tired or fatigued more easily than usual.
- 2 I am too tired or fatigued to do a lot of the things I used to do.
- 3 I am too tired or fatigued to do most of the things I used to do.

## 21. Loss of Interest in Sex

- 0 I have not noticed any recent change in my interest in sex.
- 1 I am less interested in sex than I used to be.
- 2 I am much less interested in sex now.
- 3 I have lost interest in sex completely.

## Appendix C: Daily Spiritual Experience Scale\*

- 1 = Many times a day
- 2 = Every day
- 3 = Most days
- 4 = Some days
- 5 = Once in a while
- 6 = Never or almost never

- 1. I feel God's presence
- 2. I experience a connection to all life.
- 3. During worship, or at other times when connecting with God, I feel joy which lifts me out of my daily concerns.
- 4. I find strength in my religion or spirituality.
- 5. I find comfort in my religion or spirituality.
- 6. I feel deep inner peace or harmony.
- 7. I ask for God's help in the midst of daily activities.
- 8. I feel guided by God in the midst of daily activities.
- 9. I feel God's love for me, directly.
- 10. I feel God's love for me through others.
- 11. I am spiritually touched by the beauty of creation.
- 12. I feel thankful for my blessings.
- 13. I feel a selfless caring for others.
- 14. I accept others even when they do things I think are wrong.
- 15. I desire to be closer to God or in union with Him.

\*All items were reverse scored

## Appendix D: Religiosity Items from the BSRF

### Religious Participation

How often in the past month did you attend church services?

- 1 Never
- 2 Once or twice
- 3 Three to four times
- 4 More than once a week
- 5 Daily

How often in the past month did you attend social events with other members of your church?

- 1 Never
- 2 Once or twice
- 3 Three to four times
- 4 More than once a week
- 5 Daily

How often in the past month did you attend a class or discussion group on religion?

- 1 Never
- 2 Once or twice
- 3 Three to four times
- 4 More than once a week
- 5 Daily

### Religious Centrality

In general, how important are religious or spiritual beliefs in your day-to-day life?

Are they:

- 1 = Not at all important
- 2 = Not too important
- 3 = Fairly important
- 4 = Very important

How much do you believe that God or someone with a higher power watches over you and guides your life?

- 1 Definitely do not believe this
- 2 Somewhat unsure of this
- 3 Somewhat believe this
- 4 Strongly believe this

When you have problems or difficulties in your family, work, or personal life, how often do you seek spiritual comfort and support? Is it:

- 1 = Almost never
- 2 = Rarely

3 = Sometimes

4 = Often

5 = Almost always