RELIGIOUS COPING STYLES, MEANING, AND EMOTIONAL OUTCOMES WITHIN THE STRESS PROCESS: AN EXAMINATION OF RESILIENCE IN OLDER ADULTS

by

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ABSTRACT

People living with an advanced, chronic illness and loved ones caring for this group often report experiencing both positive and negative emotional outcomes as a result of their situation. The Folkman (1997) Stress Process Model suggests that meaning-based coping is the mechanism that leads to positive emotions and ultimately decreases negative emotions among this group. The current study examined one aspect of the Folkman (1997) model. Specifically, meaning was tested as a mediator of the relation of religious coping styles to gain control and emotional outcomes. Tests of the bivariate associations of study variables were conducted as were tests regressing mastery on the religious coping styles. The effect of race on variables of interest was also assessed. In addition, in-person semi-structured qualitative interviews were conducted to provide an in-depth examination of key study variables and their relations. Participants included 35 non-demented care recipients with advanced, chronic illness and 35 family members providing care to this group. This sample included approximately equal numbers of Caucasians and African Americans. Analyses were conducted for care recipients and caregivers separately. Results indicated that meaning was not a mediator of religious coping styles and emotional outcomes. Bivariate associations suggested that the relation between the religious coping styles, meaning, and emotional outcomes varied by race. The religious coping styles were largely not predictive of mastery. Results of the qualitative and quantitative methods converged in several areas: the consequence of religion/spirituality is largely the creation of positive emotion, religious coping styles were not related to meaning, and the religious coping styles were not related to a sense of mastery. Interpretation of results was discussed in

consideration of the current research in the area as well as the limitations of the current study. Implications for future qualitative and quantitative research based on study findings were addressed.

LIST OF ABBREVIATIONS AND SYMBOLS

β Beta, standardized multiple regression coefficient

F Fisher's *F* ratio: A ration of two variances

M Mean: the sum of a set of measurements divided by the number of measurements in the set

N Total number in a sample

p Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value

R^2 Multiple correlation squared; measure of strength of relationship

r Pearson product-moment correlation

SD Standard deviation

t Computed value of *t* test

$<$ Less than

$=$ Equal to

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It is often said "it takes a village to raise a child." My recent experiences bring to mind a somewhat different quote, "it takes a village to complete a thesis." I am pleased to take this opportunity to thank the people who walked with me on this journey and helped me to complete this project. If the sound of a standing ovation could be adequately transmitted via a written word I would fill the page with its likeness in appreciation to my committee chair, Dr. Rebecca Allen. Her optimism, positive outlook, and mentoring spirit were never distant throughout this entire process. Drs. Dunn and Parmelee also deserve extensive thanks for their suggestions and words of wisdom. In addition, I would like to thank the LIFE Project staff, especially Leslie Miller, for their careful coordination of the study. The director of the Center for Mental Health and Aging, Dr. Parmelee, deserves another round of appreciation. The CMHA played a major role in the completion of this thesis by providing, among other things, two generous graduate student summer research fellowships, a place to discuss ideas with colleagues, and extensive social support.

The gracious gift of time that I received from each and every participant in this project is a poignant reminder of the inherent good in people. Even when dealing with an advanced, chronic illness or providing care to a loved-one in such a situation these participants gave freely of their time. For this I am grateful and inspired.

The contributions of my family to this work will not go unnoticed. To my parents I attribute my sense of compassion and understanding that led me to enter the field of

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CONTENTS

ABSTRACT ii

LIST OF ABBREVIATIONS AND SYMBOLS iv

ACKNOWLEDGEMENTS v

LIST OF TABLES x

LIST OF FIGURES xi

1. INTRODUCTION 1

a. Religious Coping 4

b. Race 6

c. Meaning 7

d. Mastery 8

e. Need for Study 10

f. Aims and Hypotheses 11

i. Aim 1 11

ii. Aim 2 13

iii. Aim 3 13

iv. Aim 4 14

v. Aim 5 15

2. METHODS 16

a. Recruitment 16

b. Participants 17

c. Procedure..18

d. Measures...19

i. Telephone Screening..19

ii. In-Person Interviews..20

iii. Demographics...20

iv. Religious Coping Styles to Gain Control...20

v. Mediator..21

vi. Emotional Outcomes..22

5. Data Analysis...24

a. Missing Data...24

b. Aim 1...24

c. Aim 2...25

d. Aim 3 26

e. Aim 4... 26

f. Aim 5..27

3. RESULTS..28

a. Sample Characteristics..28

b. Aim 1...30

i. Bivariate Associations..30

c. Aim 2...35

i. Mediation Analyses...35

d. Aim 3...39

i. Regression Analyses..39

e. Aim 4..40

i. Moderated Mediation Analyses..40

f. Aim 5..40

i. Qualitative Analyses..40

4. DISCUSSION..50

a. Aim1..50

i. Two Groups: Care Recipients and Caregivers..50

ii. Four Groups: Racial Breakdown of Care Recipients and Caregivers.......................52

b. Aim 2..56

c. Aim 3..57

d. Aim 4..58

e. Aim 5..58

f. Conclusion..58

g. Limitations..59

h. Implications for Future Research..60

REFERENCES 64

APPENDIX..71

LIST OF TABLES

Table 1: Classification of Religious Coping Styles by Activity Level/Agency and Involvement of God 8

Table 2: Hypothesized Correlations among Religious Coping Styles, Emotional Outcomes and Meaning 12

Table 3: Means for Care Recipient Variables of Interest as a Function of Race 28

Table 4: Means for Caregiver Variables of Interest as a Function of Race 29

Table 5: Bivariate Correlations of Study Variables among Care Recipients 31

Table 6: Bivariate Correlations of Study Variables among Caucasian Care Recipients 32

Table 7: Bivariate Correlations of Study Variables among African American Care Recipients 32

Table 8: Bivariate Correlations of Study Variables among Caregivers 33

Table 9: Bivariate Correlations of Study Variables among Caucasian Caregivers 34

Table 10: Bivariate Correlations of Study Variables among African American Caregivers 35

Table 11: Bootstrapped Estimates, Confidence Intervals, and Explained Variances for Tests of the Indirect Effects for Care Recipients 36

Table 12: Bootstrapped Estimates, Confidence Intervals, and Explained Variances for Tests of the Indirect Effects for Caregivers 37

Table 13: Power to Detect Effects in Mediation Analyses 39

LIST OF FIGURES

Figure 1: Folkman (1997) Revised Model of the Stress Process 3

Figure 2: Study Mediation Model: Meaning as a Mediator of Religious Coping Styles and Emotional Outcomes 13

Figure 3: Race as a Moderator of the Mediational Effects of Meaning on Religious Coping Styles and Emotional Outcomes 14

INTRODUCTION

America is getting older. The proportion of people over the age of 55 is growing. As people grow older they experience an increased risk of developing an advanced, chronic illness or a combination of chronic illnesses. As the medically ill population grows larger there will be a commensurate increase in the need for people to provide care for this group. A substantial proportion of people who provide care to individuals with an advanced, chronic illness in the community are family members (Arno, Levine, & Memmott, 1999; Family Caregiver Alliance, 2006).

Providing care to an elderly family member with a chronic illness is often associated with psychological distress (Aneshensel, Pearlin, Mullan, Zarit, & Whitlach, 1995; Family Caregiver Alliance, 2006). For example, family caregivers of individuals approaching the end of life are at risk for stress, depression, and health problems (McMillan, 2005; McMillan et al., 2006; Williamson et al., 2001). Evidence has also emerged that suggests that individuals with advanced, chronic illnesses who are in need of palliative care commonly experience a sense of being a burden to others and that this is related to symptoms of depression and anxiety (Wilson, Curran, & McPherson, 2005). Among care recipients, concern about burdening others is a central theme related to quality of life (Cohen & Leis, 2002).

In contrast to the negative outlook for both caregivers and their chronically-ill care recipients, research suggests that there are beneficial aspects that occur as a result of facing adversity. For example, Lawton et al. (1991, 1992) have found that an increase in

care provision led to an increase in both caregiver burden *and* satisfaction among African Americans and Caucasians. Similar to caregiver satisfaction, Cohen, Colantonio, and Vernich (2002) have delineated the construct of positive aspects of caregiving (PAC). PAC is defined as the satisfaction, pleasure, and rewards of caregiving (Cohen et al., 2002; Tarlow et al., 2004). In addition to PAC, caregivers have reported positive religious growth as a result of their caregiving experiences (Pargament et al., 1990; 1999).

Care recipients experience positive emotional outcomes during the course of physical illness as well, indicating the attainment of growth through coping with adversity. Stress-related growth, defined as positive changes in the aftermath of stressful life situations (Park, Cole, & Murch, 1996), has been reported by multiple samples of medically ill people as well as a group that had recently experienced a traumatic event (Pargament, Smith, Koenig, & Perez, 1998; Pargament, Koenig, Tarakeshwar, & Hahn, 2004; Park, 2006). The medically ill have also reported religious growth (Pargament et al., 1998; 2004).

Lazarus and Folkman's (1984) stress process model of coping and Folkman's (1997) revised model are useful frameworks that attempt to explain how a burdensome situation may lead to negative *and* positive emotional outcomes. The original model states that if the situation is appraised as burdensome, a coping strategy will be used to deal with the negative appraisal. The coping strategy leads to a favorable resolution or an unfavorable resolution. Favorable resolutions lead to positive emotions and unfavorable resolutions lead to distress. If an unfavorable resolution is met and the resultant experience of distress is felt, then the cycle will be repeated. A state of chronic stress arises if the process repeatedly ends with unfavorable resolutions.

Folkman's (1997) revised model (see Figure 1) proposes that when individuals face an unfavorable resolution or no resolution to a problem, as when a situation such as advanced chronic illness cannot be changed, they may engage in meaning-focused coping.

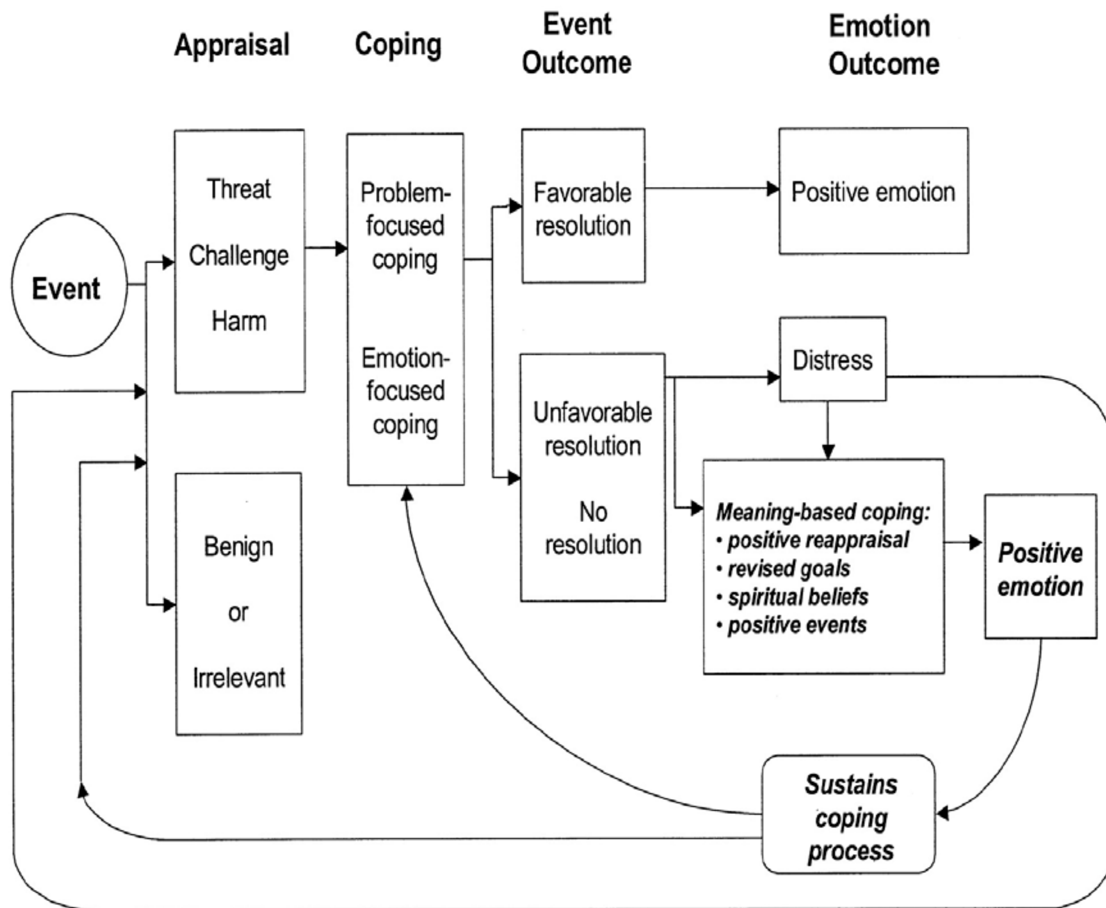

Figure 1. Folkman (1997) revised model of the stress process.

Folkman (2008) states that research supports the distinction of meaning-based coping from other forms of coping, and supports meaning-focused coping's primary association with the creation of positive emotions rather than the regulation of distress. The model suggests that the creation of meaning through meaning-focused coping is the mechanism by which people experience positive emotions in stressful situations. As a consequence, the coping process is sustained and, as a result of further coping, distress is ameliorated.

Religious Coping

Religious or spiritual coping is an important aspect of meaning-based coping within the Folkman (1997) model. A substantial proportion of people in stressful situations use religion to cope with their hardships (Pargament, 1997; Roff et al., 2004). Among the elderly and minorities, religion is cited more frequently than any other form of coping (Koenig, 1998). Religion has been highlighted as one of the primary means of coping for caregivers (Caregiving in the U.S., 2004). In a review of religion and coping Pargament (1997) indicated that religious coping is an important predictor of well-being and that the variance attributed to religious coping extends beyond the effects of nonreligious coping. In addition, they suggest that measures of religious coping are stronger predictors of psychological outcomes of stressful situations than global measures of religiosity (e.g., prayer, church attendance, etc.). Notably, a meta-analysis of the effect of religiosity on psychological health conducted by Hackney and Sanders (2003) reported that personal devotion (i.e., intrinsic religious orientation, relationship with God, etc.) displayed higher relations to emotional health than institutional religion (i.e., church attendance, participation in church activities, etc.). Importantly, the associations of religious coping with indicators of well-being have been shown even when controlling for socio-demographic variables and global religious measures (Pargament, Koenig, Perez, 2000). In addition, Pargament (1997) predicted that religious coping mediates the relation between general religious orientation and stressful event outcomes.

Patterns within the global construct of religious coping that allow for a more detailed examination of the effects of religious coping on mental health have been identified. Pargament and colleagues (2000) outlined specific means of coping that tap into the functions of religion. Of interest are the religious coping styles that operate as a means of gaining control.

Collaborative coping is seeking control over a stressful situation through a partnership with God in solving problems (Pargament et al., 2000). Responsibility for attaining control is held jointly; the person is not seen as a passive recipient of control (Pargament et al., 1988). *Self-directed religious coping* is seeking control directly through personal initiative rather than help from God (Pargament et al., 2000). This style of coping reflects a view of an abandoning God or of a general lack of interest or belief in God (Phillips, Pargament, Lynn, Crossley, 2004) and is associated with a sense of personal responsibility to solving problems.

Pargament's (1988) original conceptualization of religious coping styles to gain control contained three strategies: the two previously mentioned and a deferring strategy in which someone waits to receive control through the active efforts of God. This deferring style has since been fractured into passive deferral and active surrender (Pargament et al., 2000). *Passive deferral* represents coping by waiting for God to control the situation (e.g., "Didn't try much of anything, simply expected God to take control"). *Active surrender* is an active giving up of control to God (e.g., "Did my best and then turned the situation over to God"). People using this method do not passively wait for God to solve their problems but take actions to relinquish their will to God's rule (Wong-McDonald & Gorsuch, 2000). In active surrender and passive deferral coping, God is considered the mechanism by which control is attained as opposed to a collaborative self-God partnership or a self-driven attempt in which the acts of the self, either with God or without, are thought to be directly associated with the attainment of control.

Methods of religious coping to gain control have shown differential relations to positive and negative outcomes. Collaborative religious coping has been inversely related to depression (Pargament et al., 1999). It also has been positively related to stress-related growth (Pargament et al., 2004) and religious growth (Pargament et al., 2004; Phillips et al., 2004). Self-directed

religious coping has been positively associated with depression (Pargament et al., 1999; Phillips et al., 2004) and negatively associated with stress-related growth and religious growth (Pargament et al., 2004). Less research has been conducted on passive deferral and active surrender. These coping strategies, the former being an inactive means of attaining control through God, the latter being an active means of attaining control through God, have both been shown to be positively related to stress-related growth and religious growth (Pargament et al., 2004).

Notably, there is a paucity of research on the relation of religious coping styles and emotional outcomes among caregivers, with most research examining the medically ill or college-student samples. More research should be conducted with caregivers and their care recipients to examine how these variables are related in these populations. Additionally, PAC should be examined as a positive outcome variable for caregivers. One goal of the current study is to increase our understanding of the relation of these constructs among caregivers and care recipients with advanced, chronic illness.

Race

Research in the aforementioned areas has uncovered the presence of racial differences. For example, although negative emotional outcomes appear to be experienced universally within the caregiving situation, research has indicated that African Americans experience the effects differently than Caucasians (Hilgeman, Durkin, Sun, DeCoster, Allen, Gallagher-Thompson, Burgio, 2009; Lawton, Rajagopal, Brody, Kleban, 1992). Specifically, African Americans report less depression, objective and subjective stress, and intrapsychic strain than Caucasians. Regarding positive outcomes among caregivers, African Americans have been shown to report greater PAC than Caucasians (Roff et al., 2004). Regarding religion, African Americans have

been found to report higher religiosity (Ellison, 1995; Lewin, Taylor, & Chatters, 1995; Musick, Koenig, Hays, & Cohen, 1998; Taylor, Chatters, & Jackson, 2007) and greater use of religious coping (Chatters, Taylor, Jackson, & Lincoln, 2008; Dilworth-Anderson, Williams, & Gibson, 2002; Taylor et al, 2007) than Caucasians. Of note, African Americans have been shown to report using collaborative coping, self-directed coping, and religious deferral more frequently than Caucasians (Dunn & Horgas, 2004).

Meaning

In addition to coping, meaning-making plays an important role in the stress process (Folkman, 1997) and is an essential component to consider when examining the experience of positive and negative emotional outcomes in a burdensome situation. Park and Folkman (1997) provide a good framework of meaning-making within the stress process. In their conceptualization, meaning is created through a process of meaning-focused coping. In part, meaning-focused coping occurs when a person draws on their beliefs (including religious beliefs) to reappraise the situation.

The four types of religious coping styles to gain control would fit well within the conceptualization of meaning-focused coping. Collaborative coping, self-directed coping, passive deferral, and active surrender are all similar because they are attempts of attaining a sense of control. In other words, the end product is being able to appraise the situation as controlled, though not necessarily controlled directly by the self. A sense that a situation is controlled is important to well-being (Wrosch, Schulz, & Heckhausen, 2004) but may be particularly difficult to attain for individuals with advanced, chronic illnesses and their caregivers who face a continuously burdensome and seemingly uncontrollable situation. While

stressful events erode people's sense of control, a sense of control is critical when dealing with these events (Krause, 1986; 1994).

Mastery

The styles of religious coping differ in how they attempt to reach the goal of being able to appraise the situation as controlled (see Table 1).

Table 1
Classification of Religious Coping Styles by Activity Level/Agency and Involvement of God

Involvement of God	Agency	
	Active/Agentic	Inactive
With God	Collaborative Coping Active Surrender	Passive Deferral
Without God	Self-Directed	

Each can be categorized as agentic/active or non-agentic and as involving God or not involving God. Collaborative coping and active surrender are both active and involve God whereas passive deferral is inactive involving God and self-directed is active but not involving God. The ability of the four coping styles to create an appraisal of controllability may differ depending on their personal activity level and whether they involve God or not. Rothbaum et al. (1982) proposed that when people are unable to control their lives directly, they can regain their perception of control through a number of different types of attributions, such as attributing control to God. Individuals who seek a sense of control through a process involving God may be more likely to perceive that the situation is controllable because the controllability is being granted by a figure that is not bound by the worldly confines of their situation. Notably, Pargament et al. (1988) found that collaborative coping was positively related and self-directed

coping was inversely related to a sense of God control. In addition to utilizing a coping method involving a higher power, those individuals that take an active role in the process may be more likely to reappraise the situation as controllable due to their active engagement with the problem. When people take an agentic role in their coping, they gain perceptions of efficacy (Bandura, Adams, & Beyer, 1977). Thus, coping styles that involve God and an agentic self are more likely to create a sense of mastery and lead to a successful reappraisal and eventually positive emotional outcomes.

Notably, a sense of mastery has been found to lead to decreased depression (Gadalla, 2009). Among dementia caregivers, a sense of mastery attenuates the effects of stress on depression and health (Mausbach et al., 2007). Chronic illness and chronic stress circumstances disrupt a sense of power one has over a situation; however, religious coping may work to rectify this by forming positive reappraisals through meaning-based coping.

Religious coping styles represent different methods of meaning-focused coping that are meant to lead to the reappraisal of a seemingly uncontrollable situation as controllable. Park and Folkman (1997) assert that meaning is created, in part, by this process – using a system of beliefs [religious] to reappraise and make new attributions about the situation. What then, is meaning and how does this process create meaning? Krause (2007a) defines meaning as having a system of values, sense of purpose, goals, and the ability to reconcile past events. Lacking a sense of control affects all of these aspects. When placed in a stressful and perceivably uncontrollable situation, one may question one's sense of values, feel as if one has been torn away from long-standing beliefs about one's purpose in life and one's ability to fulfill this purpose, feel as if one's goals are unattainable, and have trouble settling past life events because lack of control has stripped from one a general sense of mastery and coherence. The reappraisal of a situation as

controllable/controlled through specific religious coping efforts may fix the effects that a sense of uncontrollability has on these facets of meaning and can therefore create meaning. Notably, I am aware of no research that has been conducted on the relation of religious coping styles to gain control and meaning.

The Folkman (1997) model suggests that the creation of meaning leads to positive outcomes that ultimately sustain coping and lessen the negative effects of the situation. Existing research on the relation of meaning and emotional outcomes supports their association. Meaning has been shown to be inversely related to depressive symptomology (Cotton, et al., 2006; Mascaro & Rosen, 2005) and positively related to stress-related growth (Park, 2006), life satisfaction, optimism, self-esteem, and well-being (Steger & Frazier, 2005). Of note, minorities have been shown to report more meaning than Caucasians (Cotton, et al., 2006).

To summarize, research on the stress process has supported the inclusion of meaning-focused coping as a pathway through which positive emotions are attained and coping is sustained in a stressful situation (see Folkman, 2008 for review). Pargament et al., (2000) have identified methods of religious coping to gain control that can act as meaning-focused coping. These methods of religious coping work to generate a sense of control that leads to the creation and experience of meaning. The experience of meaning then produces positive emotions, decreases the effect that the burdensome situation has on the creation of negative emotions, and sustains the continuation of the coping process.

Need for Study

The focus of the current study is to assess meaning as a mediator of the relation between religious coping styles and emotional outcomes. Steger and Frazier (2006) report that meaning is a significant mediator of the relation between religiousness and well-being. Blaine and

Hackney (1995) found that this mediated effect is different when comparing Caucasians and African Americans. Pargament (1997) suggests the study of specific religious coping styles in the place of general measures of religiousness. These relations, therefore, should be studied using measures of religious coping. More research needs to be conducted to examine how meaning is related to positive and negative emotional outcomes for both the chronically ill and their caregivers. Specifically, religious growth and PAC warrant further study. Additionally, the effects of race should be examined in regards to these variables. These major points will be addressed in this study.

This research makes use of on-going research, The LIFE Project (R21NR011112, R. Allen, PI). The LIFE project is a study examining the effects of a life review and creative activity intervention on a sample of community-dwelling people with advanced, chronic illness and their caregivers and presents a good sample with which to study these constructs. The proposed study served as an add-on that supplemented the data collected at baseline in the LIFE project. The participants in the LIFE project represent a group of older adults who are coping with advanced, chronic illness and are thus in a stressful situation. It is therefore expected that religious coping and meaning-focused coping will be prevalent among the chronically ill care recipients and their caregivers in this sample.

Aims and Hypotheses

Aim 1

The four religious coping styles will be examined to determine their associations with meaning, mastery, and emotional outcomes.

Hypothesis 1A (coping, mastery, and emotional outcome)

Religious coping styles differ in their level of involvement of God as well as the degree of agency of the individual using them (Table 1). Therefore, a different pattern of relations with outcomes is predicted (Table 2).

Table 2
Hypothesized Correlations among Religious Coping Styles, Emotional Outcomes and Meaning

Coping Style	Emotional Outcomes					
	Stress-Related Growth	Religious Growth	PAC	Depression	Mastery	Meaning
Collaborative	+	+	+	-	+	+
Active Surrender	+	+	+	-	+	+
Passive Deferral	-	-	-	+	-	-
Self-Directed	-	-	-	+	-	-

Note. + = positive relation; - = inverse relation

Collaborative coping and active surrender will be positively related to stress-related growth, religious growth, and mastery, and inversely related to depression. For caregivers, PAC will be positively related to these coping styles. Self-directed coping and passive deferral will be inversely related to stress-related growth, religious growth, and mastery and positively related to depression. For caregivers, PAC will be inversely related to these coping styles.

Hypothesis 1B (coping and meaning)

Collaborative coping and active surrender are coping styles that involve God and an agentic self. Consequently, these styles will be positively related to meaning. Self-directed coping and passive deferral will have an inverse relation to meaning due to their lack of *both* an agentic self and the involvement of God.

Aim 2

We will examine whether meaning mediates the relation between religious coping and emotional outcomes.

Hypothesis 2 (mediation)

Meaning will mediate the relation between each of the religious coping styles (collaborative, active surrender, passive deferral, and self-directed) and each of the emotional outcome variables (stress-related growth, religious growth, PAC, and depression; see Figure 2).

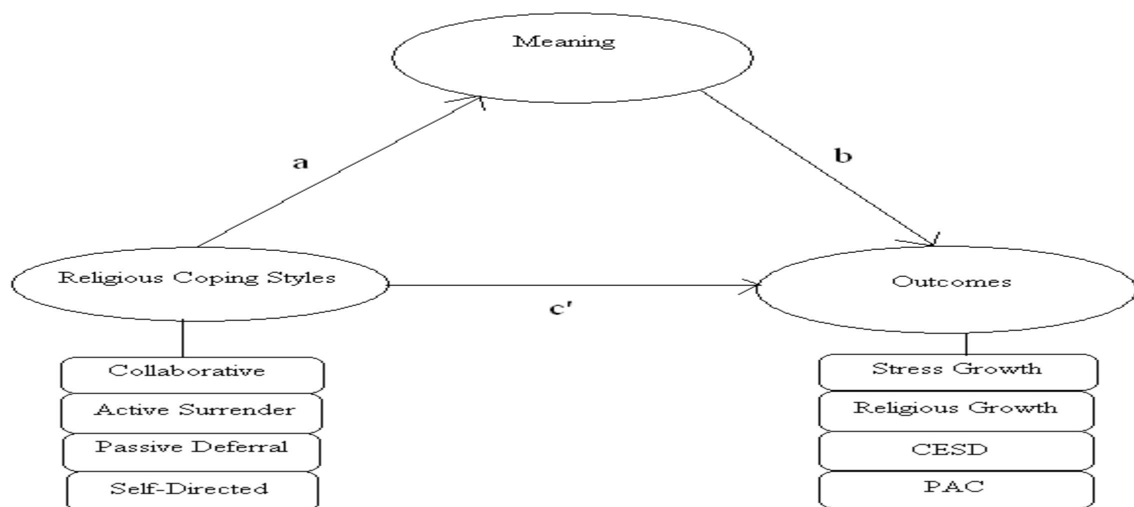

Figure 2. Study mediation model: Meaning as a mediator of religious coping styles and emotional outcomes. The relation between independent variable and the mediator is denoted as path "a". The relation between the mediator and the dependent variable is denoted as path "b". The direct effect of the independent variable on the dependent variable is denoted as path "c'". These notations are referred to in Tables 11 and 12.

Aim3

The religious coping styles will be examined as possible predictors of mastery.

Hypothesis 3

The four religious coping styles to gain control will be significant predictors of mastery.

Furthermore, collaborative coping and active surrender will be positive predictors such that

higher scores on these scales will predict higher mastery. Passive deferral and self-directed coping will be negative predictors such that higher scores on these scales will predict lower mastery. The pattern of the involvement of God and an agentic self drive this hypothesis.

Aim 4

Race will be examined as a moderator of the meditation of religious coping styles and emotional outcomes by meaning (see Figure 3).

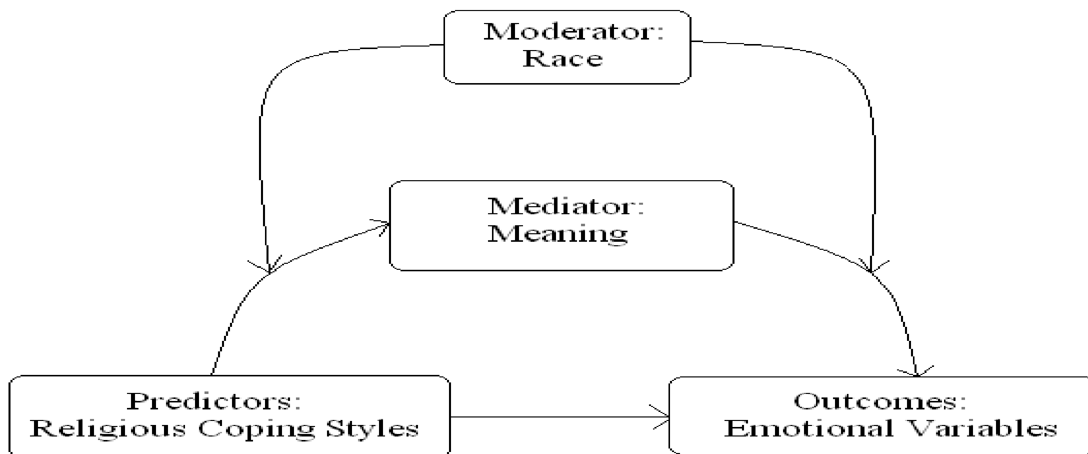

Figure 3. Race as a moderator of the mediational effects of meaning on religious coping styles and emotional outcomes.

Music and colleagues (1998) found that race moderated the relation between religious involvement and emotional health of older adults with cancer. In addition, Blaine & Cocker (1995) also found that religiousness is more predictive of emotional well-being among African Americans.

Hypothesis 4

The degree to which meaning mediates the relations between religious coping styles and emotional outcomes (Hypothesis 2) will depend on race, such that the mediation will be stronger for African Americans. This prediction is based on prior research; however, because religious

coping styles, meaning, emotional outcomes and race have not been explored within the same model, this prediction should be regarded as exploratory. When combined, hypotheses 2 and 4 are predictions of moderated mediation (Preacher, Rucker, & Hayes, 2007). Formally, moderated mediation occurs when the strength of an indirect effect depends on the level of some variable, or in other words, when mediated relations are contingent on the level of a moderator (i.e., racial group).

Aim 5

This secondary aim represents an attempt to obtain an in-depth understanding of the key constructs in this study through qualitative analysis of semi-structured interviews with participants. This aim is exploratory; thus, no a priori hypotheses will be made regarding the potential findings.

METHODS

Recruitment

The LIFE team developed relationships with clinical champions at two university medical centers, two activity centers for older adults, one home health agency, five assisted living facilities, four congregate apartment sites specializing in older adults and those with low income, one continuing care retirement community, and one rehabilitation unit in a local skilled nursing facility. Clinical champions included geriatricians, palliative care physicians, nurses, social workers, health care administrators, and activity directors. Two community recruiters were employed: an older African American adult actively engaged in one of the community activity centers and an undergraduate student majoring in pre-physical therapy with prior experience as a research assistant with the LIFE project.

Flyers were created and distributed to the sites at clinical champions were successfully identified. The principal investigator and project manager visited or called clinical champions at the recruitment sites on a weekly, twice per month, or once per month basis to obtain referrals. A graduate research assistant was placed in two clinics and one inpatient unit at one of the university medical centers in order to provide a consistent research presence to obtain referrals. Ads were placed in community and university print news media. Moreover, the second community recruiter appeared on a local television broadcast popular with older adults in order to recruit patients and caregivers.

Successful referrals to completed baseline assessments were most frequently received from physicians (53%), followed by the efforts of our community recruiters (23.5%) and referrals from community agencies (11.5%). Current referral rates from specific letters to patients mailed from the two geriatric medicine clinics at the larger university medical center resulted in an 11.5% recruitment rate. The first geriatrician sent letters of support of the LIFE study to 52 patients deemed eligible for the trial, from which six inquiries of interest were received. The second geriatrician sent letters to 26 patients deemed eligible, from which inquiries from three indiviuals were received.

To date, 202 dyads have been referred to the LIFE project and have received at least a telephone contact to gauge their interest in participation. Fifty dyads have been screened (25% of referrals) and 35 dyads met entry criteria and completed a baseline assessment (17% of referrals; 69% of screened dyads). The fifteen dyads who completed screening but did not meet entry criteria were excluded for the following reasons: the patient had moderate to severe cognitive impairment ($N = 9$); the caregiver did not meet entry criterion on the Modified Telephone Interview of Cognitive Status ($N = 1$); the patient could not identify a local caregiver ($N = 2$); the patient died or was placed in a skilled nursing facility ($N = 2$); and the patient was deaf and unable to communicate with research staff independently ($N = 1$). Other common reported reasons for not scheduling a baseline after screening included either the patient or the caregiver being "too busy" or discontinued interest.

Participants

Data on 35 care recipient/caregiver dyads were collected for the current study. The care recipients consisted of community-dwelling older adults with advanced, chronic illnesses and functional decline indicative of increased risk of mortality within two years. Care recipients and

their family caregivers were recruited from within a sixty mile radius of Tuscaloosa and Birmingham. Of the 35 dyads, 12 were recruited from Birmingham and 23 from Tuscaloosa.

Care recipients were eligible for participation if they: (1) were age 55 or older; (2) were living in the community; (3) had an advanced, chronic illness or combination of chronic illnesses; (4) received a score of three or greater on the Vulnerable Elders Survey-13 (VES-13; Saliba et al., 2001); (5) had no more than mild cognitive impairment as measured by a score of 20 or greater on the Modified Telephone Interview of Cognitive Status (TICS-m; Brandt, Spencer, & Folstein, 1998); (6) received an average of four hours per week of instrumental or basic daily care from a family caregiver; and read and spoke English.

Family caregivers were eligible if they: (1) were over the age of 19 years (the age of majority in Alabama) and were a family member or fictive kin of an eligible care recipient; (2) were currently providing an average of four hours per week of instrumental or basic daily care for the patient; (3) were cognitively intact as measured by a score of 28 or greater on the TICS-m (Brandt, Spencer, & Folstein, 1998); (4) lived close enough to participate in interviews at the care recipient's home; (5) read and spoke English; and (6) had phone contact availability.

Dyads were excluded if the care recipient or caregiver: (1) was currently involved in another clinical trial of a psychosocial intervention; (2) had schizophrenia or bipolar disorder; or (3) had a nursing home admission planned within three months. Dyads were also excluded if the care recipient was actively receiving hospice care.

Procedure

Recruitment of participants was managed by the LIFE project team, including G. M. Harris. Once a dyad had been screened and was deemed eligible for the study, an appointment was made for a home visit. Initially, care recipients and caregivers were given a description of

the study and asked for written informed consent. After providing consent the caregiver and care recipient were administered the measures individually in an interview format.

For participants already enrolled into the LIFE project when this thesis began, a short telephone recruitment script was followed to recruit subjects into the current study (*N* = 1 dyad). Potential participants were informed about the nature of this study and asked for informed consent. A home appointment was made and participants were administered the measures that were not administered to them previously as part of the baseline LIFE assessment.

To facilitate understanding during interviews, response cards for each assessment instrument were created containing all possible response options for a given item. Each participant was given a notebook so that the research interviewers could cue the participant to answer specific items of assessments with specific response options.

Measures

Telephone Screening

Vulnerable Elders Survey (VES-13; Saliba et al., 2001). The VES-13 is a 13-item measure using a function-based scoring system that considers age, self-rated health, limitation in physical function, and functional disabilities in the identification of older community-dwelling adults at risk of functional decline and death. Validation of the VES-13 has shown that the estimated combined risk of death and functional decline within 11 months rose from 23% among older adults with VES = 3 to 60% among older adults with VES = 10 (Min, Elliott, Wenger, & Saliba, 2006). Thus, the VES-13 is a promising tool for identifying community-dwelling older adults at risk of death or functional decline within 1-2 years.

Modified Telephone Interview of Cognitive Status (TICS-m; Brandt, Spencer, & Folstein, 1998). The TICS-m is a 21-item measure administered over the phone and is designed

to detect cognitive decline (Breitner et al., 1990). Although a standard cut-off point indicating cognitive impairment has not yet been established, scores of < 21 have been compared to scores of < 25 (de Jager, Budge, & Clarke, 2003) on the Mini Mental State Exam (Folstein, Folstein, & McHugh, 1975). In a recent study of post-stroke individuals, a cut-off score of 20 or lower provided sensitivity of 92% and specificity of 80% for detecting cognitive decline (Barber & Stott, 2004).

In-Person Interviews

Assessments began with brief, concurrent interviews for the care recipient and caregiver. Each participant was asked five open-ended questions meant to assess study constructs and their hypothesized relations in an in-depth manner. The caregivers were asked an additional caregiver specific question. See Appendix 11 for a list of questions. These qualitative interviews were audio recorded and later transcribed.

Demographics

Age and race were obtained from the care recipients and the caregivers. For care recipients, religious denomination was also collected.

Religious Coping Styles to Gain Control

Religious Methods of Coping to Gain Control Subscales (RCOPE; Pargament et al., 2000). The subscales of the RCOPE are meant to serve as theoretically based and functionally driven means of assessing religious coping. Four specific coping styles to gain control are assessed using five items each. Items assess the frequency that respondents use each form of coping (1 = *not at all*, 4 = *a great deal*). Scores for each grouping of five items range from 5 to 20, with higher scores representing greater frequency of use. Collaborative coping items assess methods that seek control through a partnership with God (e.g., “Worked together

with God as partners”). Active surrender items assess an active giving up of control to God in coping (e.g., “Did what I could and put the rest in God’s hands”). Passive deferral items examine passive waiting for God to control the situation (e.g., “Didn’t try much of anything; simply expected God to take control”). Self-directing items assess seeking control directly through an individual initiative rather than help from God (e.g., “Made decisions about what to do without God’s help”). Internal consistencies have been shown to be .83 and .92 for passive deferral and active surrender, respectively. Although the five-item versions of the collaborative and self-directed coping subscale have been used in previous studies, indicators of their internal consistency were not provided; however, information for subscales with larger items is available. An eight item-version of the collaborative coping was found to have an alpha of .89 (Pargament et al., 2000). A 12-item scale of self-directed coping was found to have an internal consistency of .94 (Pargament et al., 1988). Cronbach’s alpha for the current sample are as follows for care recipients and caregivers, respectively: collaborative (.92, .94); active surrender (.95, .96); passive deferral (.93, .95); and self-directed (.91, .96).

Mediator

Meaning in Life (Krause, 2007b). Multidimensional conceptualization of meaning in life was assessed across four domains: (1) values, (2) purpose, (3) goals, and (4) reflections on the past using the 8-item Meaning in Life Scale created by Krause (2007b). This scale was modified from the original 16-item version (Krause, 2004). The two forms are significantly correlated, $r = .979$ (Krause, 2007b). Respondents were asked to rate the extent to which they agree or disagree (1 = *disagree strongly*, 4 = *agree strongly*) with statements such as “I have a sense of direction and purpose in life” and “I feel good when I think about what I have accomplished in life.” Scores range from 8 to 32 with higher scores representing a stronger

sense of meaning. A reliability estimate for this scale is .85 (Krause, 2007a). Cronbach's alpha for the current sample is .77 and .83 for care recipients and caregivers, respectively.

Emotional Outcomes

Center for Epidemiological Studies Depression Scale (CESD; Radloff, 1977). This scale contains 20 items that ask about the frequency of depressive symptomology within the last week. Examples of items include: "I was bothered by things that usually don't bother me," and "I felt that everything I did was an effort." Items are rated on a four-point scale that ranges from 0 = *rarely* to 3 = *most of the time*. Total scores range from 0 to 60 with a higher score indicating greater frequency and presence of depressive symptoms. When used to assess older adults, internal consistency for this scale has been high, ranging from .86 to .89 (Schein & Koenig, 1997). The CES-D has been shown to be a good screener for depression in community-dwelling older adults (Lewinsohn, Seeley, Roberts, & Allen, 1997). Cronbach's alpha for the current sample is .83 and .77 for care recipients and caregivers, respectively.

Positive Aspects of Caregiving (PAC; Tarlow et al., 2004). The PAC scale assesses the caregiver's positive or uplifting mental and affective states that result from the caregiving experience. The nine items are rated on a five-point scale that ranged from 0 = *disagree a lot* to 4 = *agree a lot*. Total scores range from 0 to 36. Higher scores represent more positive mental and affective states. Examples of items are: Providing help to [the care recipient] has "given more meaning to my life," "made me feel more useful," and "enabled me to appreciate life more." Convergent and divergent validity have been established for this scale by Tarlow and colleagues (2004) when using a sample of caregivers of people with dementia. This measure was only administered to caregivers. Cronbach's alpha has been shown to be .88 (Tarlow et al., 2004). Cronbach's alpha in the current sample is .82.

Stress-Related Growth Scale Short Form (SRGS-SF; Park, Cohen, & Murch, 1996). The SRGS-SF assesses positive changes as a result of experiencing a stressful situation. Each of 15 items assesses the extent that respondents experienced changes as a result of a stressful event (0 = *not at all*, 1 = *somewhat*, 2 = *a great deal*). Items include "I feel freer to make my own decisions" and "I learned how to reach out and help others." Internal consistency has been reported to range from .88 (Park & Blumberg, 2002) to .93 (Frazier, Steward, & Mortensen, 2004). Cronbach's alpha for the current sample is .92 and .94 for care recipients and caregivers, respectively.

Religious Growth (Pargament et al., 1999). Religious growth was assessed with three items that evaluate changes in closeness to God, closeness to the church, and spiritual growth that stems from the stressful situation. Items are scored on a 5-point scale (1 = *I strongly disagree with the* statement, 5 = *I strongly agree with the* statement). Scores range from 3 to 15 with higher scores representing more religious growth. Internal consistency has been reported as .87 (Pargament et al., 1999). Cronbach's alpha for the current sample is .84 and .87 for care recipients and caregivers, respectively.

Pearlin-Schooler Mastery Scale (Pearlin & Schooler, 1978). This scale assesses beliefs about the extent that people control what happens in their life. Each of seven items uses a 4-point scale (1 = *strongly agree*, 4 = *strongly disagree*). Scores range from 7 to 28 with lower scores representing a stronger sense of mastery. Items include "I can do just about anything I really set my mind to do" and "What happens to me in the future mostly depends on me." Cronbach's alpha for this scale has been reported at .67 for an African American sample and .78 for a Caucasian sample. Cronbach's alpha for the current sample is .73 and .80 for care recipients and caregivers, respectively.

Data Analysis

Missing Data

Before testing the proposed hypotheses, variables were examined using SPSS for accuracy of data entry, missing values, as well as descriptive methodologies to test the assumptions of multiple regression as described by DeCoster (2005). Due to interviewer error some of the participants in the study were not assessed on all of the study variables of interest. Among care recipients, one participant did not complete the active surrender, passive deferral, or self-directed coping subscales of the RCOPE. Among caregivers, six participants did not complete the Meaning in Life scale and three did not complete the Positive Aspects of Caregiving scale. Due to the size of the study sample no method of imputation was used to replace missing scale scores. In addition to missing quantitative data, five care recipient interviews (four African American and one Caucasian) and two caregiver interviews (one African American and Caucasian) did not culminate in a transcript for coding. This was due primarily to digital audio recorder malfunction (not recording properly) or user error (not operating recorder properly, accidentally deleting audio recording, etc).

Aim 1

Hypothesis 1A and 1B

These hypotheses were examined using a series of bivariate analyses. Collaborative religious coping, active surrender, passive deferral, and self-directed religious coping were each individually correlated with stress-related growth, religious growth, mastery, PAC (caregiver only), and depression (Hypothesis 1A) as well as meaning (Hypothesis 1B) to test for significant relations. Tests of the bivariate relations were conducted separately for care recipients and

caregivers. In addition, within each group (i.e., care recipient and caregiver) analyses were conducted for Caucasians and African Americans separately.

Aim 2

Hypothesis 2

This hypothesis was investigated by testing the total indirect effect (i.e., mediation) of religious coping styles on emotional outcomes through meaning. Analyses were separated by care recipient and caregiver. For care recipients, twelve separate mediation analyses were conducted using the four predictor variables (collaborative, active surrender, passive deferral, and self-directed coping) to predict the three outcome variables (CESD, religious growth, and stress related growth) while controlling for care recipient age, VES-13 score, and mastery. The same analyses were conducted for caregivers with the addition of four mediation analyses using the four predictor variables to predict PAC while controlling for age and mastery.

Bootstrapping procedures were used to obtain estimates and confidence intervals around the indirect effects to overcome potential problems caused by unmet assumptions in mediation analyses (Preacher & Hayes, 2008). A SPSS macro was used that accompanies the article by Preacher and Hayes (2008) on testing mediation models to conduct the main analyses.

Calculation of the total indirect effects involved four steps (see Preacher & Hayes, 2008): (1) From our original dataset of 35 cases (care recipient and caregiver), 5,000 bootstrap samples were randomly generated using random sampling with replacement; (2) the regression coefficients (*a* and *b*) and the indirect effect estimates (*a x b*) were calculated based on this bootstrap sample; (3) by repeating this process 5,000 times, 5,000 estimates of the indirect effect of interest were obtained; and (4) the mean of the 5,000 indirect effect estimates was calculated.

If a zero was not included in the 95% confidence interval of the estimate, we concluded that the indirect effect was statistically significant (Preacher & Hayes, 2008).

Aim 3

Hypothesis 3

This hypothesis was tested using regression analyses. The four religious coping styles to gain control were entered as independent variables with mastery as the dependent variable. For all participants, age and race were entered as covariates. Among care recipients, VES also was used as a covariate.

Aim 4

Hypothesis 4

For any significant mediations found for Hypothesis 2, I planned to explore whether the relation between the independent variable (a religious coping style) and the mediator (meaning) was moderated by race while simultaneously exploring whether the relation between the mediator and the dependent variable (an emotional outcome variable) was moderated by race. This combination of results would indicate the presence of moderated mediation of meaning on the relation between religious coping and emotional outcomes (Preacher et al., 2007). Preacher and colleagues (2007) provide an SPSS macro that estimates the strength of a mediated effect across different levels of a moderating variable. In the presence of significant mediation, this macro was to be used to explore how the ability of meaning to mediate the relations between religious coping and emotional outcomes depend on race.

Aim 5

Qualitative Data

Qualitative interview data were analyzed by a coding team consisting of myself and the thesis chair (Dr. Rebecca Allen). A total of 63 transcripts were available for analysis. This analysis was fractured into three separate phases; one phase for approximately each third of the data. Each of the first two phases were comprised of 20 transcripts chosen at random (without replacement): ten care recipients (five Caucasian, five African American) and ten caregivers (five Caucasian, five African American). The final phase consisted of 23 transcripts: ten care recipients (ten Caucasian) and 13 caregivers (eight Caucasian and five African American).

Within each phase the coders separately read each transcript fully and then read each question across transcripts. Microanalysis or a line-by-line analysis of the qualitative interview data was conducted. This process involved careful interpretation of single words and phrases in an effort to challenge the researcher's first impressions of participants' language. Throughout the coding process comparative methods were used to illuminate similarities and differences between data. Within questions, coders noted themes. Themes could be represented by a single word or group of words that were common across transcripts. Themes could also be an idea that, although not explicitly stated, arose through the careful coding of each transcript. After the completion of each phase, the coders convened and discussed their themes. This process was repeated with the second and third phases of transcripts. In addition, new themes were coded. Once all three phases were complete, the coders reviewed all 63 transcripts and discussed their findings, resolving any inconsistencies across coders.

RESULTS

Sample Characteristics

Sample characteristics and variables of interest can be found in Table 3 (care recipients) and Table 4 (caregivers).

Table 3
Means for Care Recipient Variables of Interest as a Function of Race

Sample Characteristics	Race of Participant		
	Caucasian (n =20)	African American (n = 15)	Across Race (N = 35)
	M (*SD*)	*M* (*SD*)	*M* (*SD*)
Demographics and Covariates			
Age	79.15 (10.28)	73.93 (14.67)	76.91 (12.43)
TICS-m	26.90 (5.38)*	23.47 (3.14)*	25.43 (4.82)
VES-13	7.45 (2.16)	7.33 (1.50)	7.40 (1.88)
Religious Coping Styles			
Collaborative	3.12 (.81)**	3.72 (.33)**	3.38 (.71)
Active Surrender	2.94 (1.00)*	3.61 (.70)*	3.24 (.93)
Passive Deferral	1.54 (.68)**	2.72 (1.04)**	2.06 (1.03)
Self-Directed	1.49 (.78)	1.21 (.53)	1.37 (.69)
Mediator			
Meaning	3.42 (.45)	3.62 (.40)	3.50 (.44)
Outcomes			
CESD	11.95 (7.25)	13.60 (9.95)	12.66 (8.42)
Religious Growth	4.14 (.75)	4.02 (1.56)	4.10 (1.16)
Stress Related Growth	1.26 (.42)	1.58 (.49)	1.40 (.48)
Mastery	2.43 (.50)	2.15 (.60)	2.31 (.55)

Note. TICS-m = Modified Telephone Interview for Cognitive Status; CES-D = Center for Epidemiological Depression-Scale (Radloff, 1977); VES-13 = Vulnerable Elders Survey (*Saliba et al., 2001)*; *Group differences by race are significant at p <.05, ** p < .01.

Table 4
Means for Caregiver Variables of Interest as a Function of Race

Sample Characteristics	Race of Participant		
	Caucasian (*n* =19)	African American (*n* = 16)	Across Race (*N* = 35)
	M (*SD*)	*M (SD)*	*M (SD)*
Demographics and Covariates			
Age	61.01 (11.76)	58.58 (9.61)	59.90 (10.74)
TICS-m (unadjusted)	35.53 (4.78)**	30.81 (3.23)**	33.37 (4.73)
Religious Coping Styles			
Collaborative	2.94 (1.15)*	3.58 (.37)*	3.23 (.93)
Active Surrender	3.13 (1.06)	3.64 (.41)	3.36 (.86)
Passive Deferral	1.28 (.62)	1.88 (1.10)	1.55 (.91)
Self-Directed	1.84 (1.03)	1.30 (.54)	1.59 (.87)
Mediator			
Meaning	3.45 (.39)	3.43 (.42)	3.44 (.39)
Outcomes			
CESD	9.74 (7.34)	9.00 (6.34)	9.40 (6.81)
Religious Growth	3.91 (1.28)*	4.63 (.57)*	4.24 (1.07)
Stress Related Growth	1.41 (.56)	1.70 (.33)	1.54 (.48)
PAC	4.52 (.56)	4.73 (.34)	4.62 (.47)
Mastery	2.99 (.44)	3.08 (.52)	3.03 (.47)

Note. TICS-m = Modified Telephone Interview for Cognitive Status; CES-D = Center for Epidemiological Depression-Scale; PAC = Positive Aspects of Caregiving; *Group differences by race are significant at p <.05, ** p < .01.

Independent-samples t-tests were conducted to test for racial differences in sample characteristics and study variables. For care recipients, there were significant differences in the following areas: TICS-m $t(31.38) = 2.37$, $p = .02$; collaborative coping $t(26.55) = -3.01$, $p = .006$; active surrender coping $t(32) = -2.18$, $p = .02$; and passive deferral coping $t(23.03) = -3.81$, $p = .001$. Caucasians had higher TICS-m scores and lower mean scores for these religious coping styles. In this cohort of older adults (mean age = 76.91*; SD* = 12.43) in this geographic area,

dissimilarity in quality of formal education may have contributed to differences in TICS-m scores. Religious denomination breakdown of Caucasian care recipients were as follows: nine Baptists, four Methodists, three Roman Catholics, and one each of Pentecostal, Church of God, Presbyterian, and Other [self-identified as Unitarian Universalist]. Among African Americans: eight Baptists, five Methodists, one Church of God, and one self-reported None.

Among caregivers, there were significant differences in the following areas: TICS-m $t(33) = 3.35$, $p = .002$; collaborative coping $t(22.34) = -2.25$, $p = .04$; and religious growth $t(25.74) = -2.18$, $p = .04$. Caucasians had higher TICS-m scores and lower collaborative coping and religious growth mean scores. Again, caregivers (mean age = 59.90; $SD = 10.74$) in this geographic area may have experienced dissimilarity in quality of formal education that may have contributed to differences in TICS-m scores.

Aim 1

Bivariate Associations

Correlation analyses were conducted for the whole sample within each group (i.e., care recipients and caregivers). In addition, analyses were conducted within race within each group. Due to missing data, the number of participants involved in each analysis varied. The range of participants for each group's set of analyses (e.g., Caucasian caregivers) is provided in their respective table notes (Tables 5-10).

Table 5 displays the bivariate associations among care recipients.

Table 5
Bivariate Correlations of Study Variables among Care Recipients

	Stress Growth	Religious Growth	CESD	Mastery	Meaning
Collaborative	.47*	.22	.12	-.21	.29^
Active surrender	.46**	.13	.27	-.46**	.35*
Passive deferral	.35^	-.03	.24	-.61**	.26
Self-directed	-.53**	-.31	.03	.33^	-.39*
Meaning	.13	-.09	-.25	-.06	

Note. CESD = Center for Epidemiological Studies Depression Scale, $*p < .05$, $** p < .01$, $\wedge = .05 < p < .1$. Due to missing data the number of participants in each analysis ranged from 34 to 45.

Each coping style was significantly (or marginally) related to stress-related growth. Collaborative, active surrender, and passive deferral were positively related while self-directed coping was inversely related. With the exception of collaborative coping, each coping style was related to mastery. Active surrender and passive deferral were inversely related and self-directed was positively related. With the exception of passive deferral, each coping style was related to meaning, positively for collaborative and active surrender, and inversely for self-directed. Meaning was not related to any of the outcome measures among care recipients.

Bivariate associations for Caucasian and African American care recipients can be found in Table 6 and Table 7, respectively.

Table 6
Bivariate Correlations of Study Variables among Caucasian Care Recipients

Variable	Stress Growth	Religious Growth	CESD	Mastery	Meaning
Collaborative	.60**	.70**	.19	-.22	.23
Active surrender	.74**	.63**	.19	-.43^	.39
Passive deferral	.31	.29	.12	-.42^	.01
Self-directed	-.79**	-.59**	.02	.51*	-.35
Meaning	.19	-.04	-.53*	.09	

Note. CESD = Center for Epidemiological Studies Depression Scale, **p* <.05, ** *p* < .01, ^ = .05 < *p* < .1. Due to missing data the number of participants in each analysis ranged from 19 to 20.

Table 7
Bivariate Correlations of Study Variables among African American Care Recipients

	Stress Growth	Religious Growth	CESD	Mastery	Meaning
Collaborative	-.07	-.12	-.13	.13	.25
Active surrender	-.12	-.22	.38	-.48^	.12
Passive deferral	.16	-.12	.29	-.74**	.33
Self-directed	-.09	-.20	.11	-.03	-.37
Meaning	-.10	-.12	-.02	-.12	

Note. CESD = Center for Epidemiological Studies Depression Scale, **p* <.05, ** *p* < .01, ^ = .05 < *p* < .1. N = 15.

For Caucasians, every coping style except passive deferral was related to stress-related growth and religious growth. Collaborative and active surrender were positively related while self-directed was inversely related. In addition, active surrender, passive deferral, and self-directed coping were related to mastery. Active surrender and passive deferral were inversely related while self-directed was positively related. Meaning was inversely related to CESD. Among African Americans, active surrender and passive deferral were inversely related to mastery.

Table 8 displays the bivariate associations among caregivers.

Table 8
Bivariate Correlations of Study Variables among Caregivers

	Stress Growth	Religious Growth	CESD	Mastery	PAC	Meaning
Collaborative	.64**	.73**	-.05	.04	.34^	.22
Active surrender	.64**	.68**	-.15	.16	.32^	.14
Passive deferral	.17	.24	.42*	-.26	.00	-.14
Self-directed	-.70**	-.75**	.30^	-.22	-.62**	-.27
Meaning	.23	.15	-.51**	.62**	.18	

Note. CESD = Center for Epidemiological Studies Depression Scale, PAC = Positive Aspects of Caregiving, $*p < .05$, $** p < .01$, ^ = $.05 < p < .1$. Due to missing data the number of participants in each analysis ranged from 29 to 35.

Every coping style except passive deferral was related to stress-related growth, religious growth, and PAC as predicted. Collaborative, active surrender, and passive deferral were positively related while self-directed coping was inversely related. Meaning was inversely related to CESD and positively related to mastery.

Bivariate associations for Caucasian and African American caregivers can be found in Table 9 and Table 10, respectively.

Table 9
Bivariate Correlations of Study Variables among Caucasian Caregivers

	Stress Growth	Religious Growth	CESD	Mastery	PAC	Meaning
Collaborative	.69**	.77**	-.01	.05	.38	.23
Active surrender	.61**	.68**	-.12	.00	.29	.07
Passive deferral	.05	.17	.70**	-.52*	.01	-.67**
Self-directed	-.68**	-.85**	.22	-.13	-.62**	-.31
Meaning	.19	.11	-.76**	.57*	-.02	

Note. CESD = Center for Epidemiological Studies Depression Scale, PAC = Positive Aspects of Caregiving, *p <.05, ** p < .01, ^ = .05 < p < .1. Due to missing data the number of participants in each analysis ranged from 16 to 19.

For Caucasians, every coping style except passive deferral was related to stress-related growth and religious growth. Collaborative and active surrender were positively related while self-directed coping was inversely related. In addition, passive deferral was positively related to CESD and inversely related to mastery and meaning. Self-directed coping was inversely related to PAC. Meaning held the same relations to outcomes found in the entire sample of caregivers.

Table 10
Bivariate Correlations of Study Variables among African American Caregivers

	Stress Growth	Religious Growth	CESD	Mastery	PAC	Meaning
Collaborative	.14	.18	-.17	-.12	-.12	.37
Active surrender	.58*	.37	-.25	.37	.26	.41
Passive deferral	.13	.20	.33	-.20	-.20	.21
Self-directed	-.64**	-.10	.51*	-.38	-.54*	-.30
Meaning	.34	.33	-.16	.68*	.58*	

Note. CESD = Center for Epidemiological Studies Depression Scale, PAC = Positive Aspects of Caregiving, $*p < .05$, $** p < .01$, ^ = $.05 < p < .1$. Due to missing data the number of participants in each analysis ranged from 13 to 16.

Among African American caregivers, active surrender was positively related to stress-related growth. Self-directed coping was inversely related to stress-related growth and PAC and positively related to CESD. Meaning was positively related to mastery and PAC.

Aim 2

Mediation Analyses

Among care recipients, 12 mediation analyses were conducted to test for the ability of meaning to mediate the relation between each religious coping style and each outcome variable. Results of these tests of indirect effects can be found in Table 11.

Table 11

Bootstrapped Estimates, Confidence Intervals, and Explained Variances for Tests of the Indirect Effects for Care recipients

IV	DV	Effect of IV on M (a)	Effect of M on DV (b)	Direct Effects (c')	Indirect Effect (a x b) Confidence Intervals Low	Up
Collaborative	CESD $R^2 = .14$	.21 (.11)*	-5.16 (3.39)	.95 (2.11)	-3.58	.60
	Religious Growth $R^2 = .14$	.22 (.11) *	-.46 (.47)	.43 (.30)	-.44	.07
	Stress Growth $R^2 = .34$**	.21 (.10) *	-.06 (.17)	.28 (.10) *	-.13	.05
Active surrender	CESD $R^2 = .16$	.23 (.09) *	-6.18 (3.51)	1.96 (1.88)	-3.91	-.08
	Religious Growth $R^2 = .10$	.23 (.09) *	-.41 (.49)	.25 (.26)	-.47	.09
	Stress Growth $R^2 = .24$*	.23 (.09) *	-.04 (.19)	.17 (.10)	-.10	.09
Passive deferral	CESD $R^2 = .13$	.20 (.10) *	-4.76 (3.47)	.19 (1.91)	-2.93	.14
	Religious Growth $R^2 = .07$	.20 (.10) *	-.17 (.49)	-.07 (.27)	-.29	.16
	Stress Growth $R^2 = .17$	.20 (.10) *	.06 (.19)	.06 (.10)	-.08	.10
Self-directed	CESD $R^2 = .14$	-.29 (.11) *	-3.54 (3.56)	1.68. (2.37)	-1.62	4.44
	Religious Growth $R^2 = .25$*	-.29 (.11) *	-.72 (.45)	-.77 (.30) *	-.06	.68
	Stress Growth $R^2 = .36$**	-.29 (.11) *	-.13 (.17)	-.34 (.11) **	-.07	.23

Note. Note. CESD = Center for Epidemiological Studies Depression Scale, PAC = Positive Aspects of Caregiving. Values in parentheses indicate standard error. R^2 = Adjusted R^2. ** $p<.01$. * $p<.05$.

An indirect effect was considered significant if the confidence interval did not include a zero. Of the 12 tests of indirect effects, all included a zero in the confidence interval.

For caregivers, 16 mediation analyses were conducted. Results can be found in Table 12.

Table 12

Bootstrapped Estimates, Confidence Intervals, and Explained Variances for Tests of the Indirect Effects for Caregivers

IV	DV	Effect of IV on M (a)	Effect of M on DV (b)	Direct Effects (c')	Indirect Effect (a x b) Confidence Intervals Low	Up
Collaborative	CESD $R^2 = .17$	.08 (.07)	-8.0 (4.11)	.62 (1.41)	-3.55	.26
	Religious Growth $R^2 = .48$**	.08 (.07)	-.36 (.49)	.87 (.17)**	-.18	.05
	Stress Growth $R^2 = .33$**	.08 (.07)	.10 (.24)	.31 (.08)**	-.04	.11
	PAC $R^2 = .07$	08 (.07)	-.12 (.30)	.18 (.10)	-.11	.06
Active Surrender	CESD $R^2 = .17$	.04 (.07)	-7.50 (4.02)	-.24 (1.49)	-3.69	.44
	Religious Growth $R^2 = .38$**	.04 (.07)	.04 (.52)	.82 (.19)**	-.08	.13
	Stress Growth $R^2 = .35$**	.04 (.07)	.23 (.23)	.33 (.08)**	-.02	.15
	PAC $R^2 = .07$	.04 (.07)	-.04 (.29)	.19 (.11)	-.05	.05
Passive Deferral	CESD $R^2 = .38$**	.01 (.07)	-7.88 (3.44)*	3.37 (1.16)**	-1.28	1.44
	Religious Growth $R^2 = -.01$	.01 (.07)	.23 (.66)	.31 (.22)	-.08	.21
	Stress Growth $R^2 = -.06$	.01 (.07)	.31 (.29)	.06 (.10)	-.06	.07
	PAC $R^2 = -.05$	.01 (.07)	.01 (.30)	.02 (.10)	-.05	.06
Self-Directed	CESD $R^2 = .22$*	-.07 (.07)	-6.60 (3.95)	1.81 (1.45)	-.19	4.11
	Religious Growth $R^2 = .43$**	-.07 (.07)	-.20 (.51)	-.87 (.19)**	-.05	.26
	Stress Growth $R^2 = .57$**	-.07 (.07)	.10 (.19)	-.41 (.07)**	-.11	.02
	PAC $R^2 = .32$**	-.07 (.07)	-.17 (.25)	-.33 (.09)**	-.02	.14

Note. CESD = Center for Epidemiological Studies Depression Scale, PAC = Positive Aspects of Caregiving Values in parentheses indicate standard error.R^2 = Adjusted R^2. **p<.01. *p<.05.

Of the 16 tests of indirect effects, all included a zero in the confidence interval. For care recipients and caregivers alike, meaning was not a significant mediator of the relation between each religious coping style and emotional outcome.

The results presented here should be interpreted with caution. Power analyses for tests of mediation should be based on the overall effect one is trying mediate. Essentially, the power for the mediated effect should be the same as the power for the full effect; therefore, I tested the power of my analyses to detect the full effect of interest, above and beyond the effects of the covariates. To attain this goal, for each analysis I regressed the emotional outcome on the religious coping style and added the appropriate covariates. The power statistic provided for the religious coping style was representative of the ability of the test to detect the full effect, and consequently – following the logic above – represented the ability of the test to detect the mediated effect. Power values are presented in Table 13.

Table 13
Power to Detect Effects in Mediation Analyses

Independent Variable	Dependent Variable	Care Recipients	Caregivers
Collaborative	CESD	.74	.55
	Religious Growth	.34	.96
	Stress Growth	.58	.97
	PAC		1.00
Active Surrender	CESD	.13	.22
	Religious Growth	.24	.96
	Stress Growth	.53	.97
	PAC		.72
Passive Deferral	CESD	.43	.85
	Religious Growth	.94	.16
	Stress Growth	.27	.12
	PAC		.30
Self-Directed	CESD	.72	.74
	Religious Growth	.41	.99
	Stress Growth	.43	.99
	PAC		1.00

Note. CESD = Center for Epidemiological Studies Depression Scale, PAC = Positive Aspects of Caregiving.

Notably, among caregivers half of the 16 analyses had a power above .95. Conversely, among care recipients, none of the analyses reached this threshold.

Aim 3

Regression Analyses

The ability of the religious coping styles to predict mastery was tested with multiple regression analyses. Mastery was regressed onto the four religious coping styles with age, race, and VES (care recipients only) as covariates. Notably, although there are significant correlations among the independent variables in this model (the coping styles) the tolerances for both analyses were all in the acceptable range (i.e., above .10).

For care recipients, the model was significant ($F[7, 26] = 3.332$, $p = .011$; $R^2 = .47$; Adjusted $R^2 = .33$). In this model, only passive deferral ($\beta = -.59$, $p = .011$) was a significant predictor of mastery. Care recipients reporting higher use of passive deferral coping were also likely to report a lower sense of mastery. The same model was run for caregivers. The model was not significant ($F[6, 28] = .834$, $p = .554$; $R^2 = .15$; Adjusted $R^2 = -.03$). Among caregivers, the religious coping styles to gain control were not significant predictors of mastery.

Results of these analyses must be interpreted with caution. It is recommended that regression analyses maintain at least a 10:1 participant-to-variable ratio (Halsinki & Feldt, 1970; Miller & Kunce, 1973). Analyses among care recipients used a ratio of 4.9:1 while caregivers used a 5.8:1 ratio. Notably, when analyses excluded covariates, results were the same (care recipient and caregiver ratio, respectively, 8.5:1, 8.75:1).

Aim 4

Moderated Mediation Analyses

Moderated mediation analyses were planned for significant indirect effects tests. The indirect effects tests failed to reach significance; therefore, these planned tests were unnecessary.

Aim 5

Qualitative Analyses

A summary of themes found across all interviews will be presented first. Additional results of the coding of qualitative interviews will be broken down by question as well as by care recipient and caregiver. When present, differences between Caucasians and African Americans as well as care recipients and caregivers will be presented.

Three themes emerged that transcended the boundaries of an individual question. The following themes arose as participants (both care recipients and caregivers, Caucasians and

African Americans) spoke about their religious and spiritual views and behaviors with the interviewers. First, spirituality/ religion/ relationship with God is extremely important. Words used to describe this concept were: utmost importance (a Caucasian care recipient) and absolutely essential (a Caucasian care recipient). An African American caregiver age 77 stated, "*One hundred percent I depend on my religion*." An African American caregiver age 64 noted, "*I really don't feel I could make it without my relationship with God.*" A Caucasian caregiver age 56 reported, "*Uh, religious-wise, it's great. I mean, if it wasn't for that, I don't think I'd be able to do it—truly*." Across participants, the experience of religion and spirituality and relationship with God is interpreted as a primary aspect of living and coping with life. When facing a stressful situation, either having an advanced, chronic illness or caring for a loved one with a chronic illness, religion, spirituality, and a relationship with God are noted as fundamental. This is in line with previous findings (Koenig, 1998; Pargament, 1997; Roff et al., 2004).

The second overarching theme relates to God being described as a provider. The thing that participants described most as being provided by God was strength, followed by perspective and hope. A Caucasian caregiver age 50 stated, "*It [religion/spirituality] provides a basis for comfort, for strength, for encouragement*." An African American caregiver age 56 reported, "*I believe that there is a God and I believe that there is a person who watches over me and guides me and gives me the strength and the knowledge and the willpower to do the things that I know that I need to do*." An African American care recipient age 56 noted, "*He's my king. He's my strength. He is my everything*." Across participants, God and religious/spiritual beliefs are seen as the provider of tools and resources to deal with their situation. This fits with Folkman's

(1997) meaning-based coping. In light of unfavorable situations, people rely on their religious/spiritual beliefs to form positive emotional outcomes.

The third pervasive theme stems from the participants' description of their relationship with God. Specifically, they characterized the relationship as a true, personal, intimate relationship, which includes various 'interpersonal' interactions. Participants noted that they "talk with God," that they "walk with God," that God is "with" them, and that God is "close." One participant noted that God is "*like a father*" while another reported that "*we have a lot of arguments*." Participants often described their relationship with God in terms one might use to describe a relationship with another person.

Question 1: How does your religious and spiritual life help you cope?

Care recipients. There are two ways this question could be understood. First, in what manner does this help you cope (i.e., what is the mechanism)? Second, what is the outcome of the coping? For care recipients, the answer to the first interpretation (mechanism) was largely: God provides. Although God was not asked about explicitly in the question, God was almost always discussed in the answer. There were varied responses regarding the manner in which God provides. Some care recipients noted that the relation was bidirectional. A Caucasian care recipient age 79 noted: "*Well, we know that we have a God that we can call on and He will answer. One scripture that comes to mind is 'Call upon me in the day of trouble' – and I've had some trouble (laugh); everybody has – 'and I will answer thee.'*" Others noted that the relationship is more unidirectional. These individuals talked about God providing something without discussing praying for or asking for help. An African American care recipient noted, "*He'll carry me a long way, and through Him and His strength, you know, I believe . . . I'm a strong believer that the Lord, you know, will pull me outta this illness, you know, I have.*" The

directionality of the relationship between God and person is closely tied into the independent variables in the study. These previous two examples seem to describe a passive deferral coping style; however, many participants described a collaborative or active surrender style via their use of prayer to cope.

Among care recipients, answers to the latter interpretation of the question (outcome of the coping) were largely strength, help, positive perspective, hope, and faith. A Caucasian care recipient age 85 said, "*Because of my faith in God, there's always . . . I don't know what I want to say. I know there's always hope.*" A Caucasian care recipient age 65 answered, "*It keeps my attitude in a positive frame; it helps me see long-term instead of just short-term.*" An African American noted, "*Trouble won't last always. There's gonna be good days, bad days. The good days won't last forever, and neither will the bad days.*" Notably, for care recipients there were no detectable differences between races for this question.

Caregivers. Among caregivers, the responses to both interpretations of this question were similar to the care recipients' with a few exceptions. In response to the first interpretation (mechanism), caregivers often spoke of how "it" – to be understood as their religious and spiritual life – helps them cope. This is in contrast to the care recipients who almost uniformly talked about how *God* helps them cope. Like the care recipients, the mechanism of coping was that "it" or sometimes God provides. The things that caregivers reported as being provided were similar to things reported by care recipients (e.g., strength, perspective, hope, etc.). Notably, hope for the future was reported more often in this group. A Caucasian caregiver age 60 reported, "*It gives me hope, and it also gives me the strength to carry on, especially with elder care. And I don't worry so much about my tomorrow or her tomorrow.*" An African American caregiver age 45 stated, "*The good days won't last forever,*

and neither will the bad days. It's just a matter of seasons: Just as seasons change, you can look for issues in your life to change also."

Among caregivers, one difference in responses was noted across races. African Americans tended to discuss the theology or scriptures of The Bible as a means through which their religious/spiritual life helps them cope. One caregiver, age 55 noted, "*Well, a lot of times, I can pick my Bible up and read some scripture out of it and . . . I feel a lot better behind it.*" Another reported, "*I learn, I guess, through prayer and reading the Bible that, you know, trouble won't last always.*"

Importantly, the themes that arose from participant narratives suggested that the outcomes of religious and spiritual coping were mainly positive. This is what would be predicted by Folkman (1997); meaning-based coping is directly and more strongly linked to the increase in positive outcomes than the decrease of negative outcomes. This finding can be associated with the results of the bivariate relations between the religious coping styles and the emotional outcomes. Correlations, predominately among Caucasian caregivers and care recipients, suggested that the religious coping styles tended to be related to the positive emotional outcomes (e.g., stress-related growth and religious growth). Among African Americans this pattern did not arise. As noted in response to this interview question, African Americans tended to discus theological aspects of their religion as mechanisms that helped them cope (e.g., reading Biblical scripture). It may be that the mechanism that links religion to meaning and emotional outcomes among African Americans is an emphasis on and personal identification with theological aspects of religion as opposed to the religious coping styles assessed in this study. This point will be elaborated later.

In addition, participants did not report that meaning was provided as a result of their religion and spirituality. This is similar to the results of the bivariate analyses in which the religious coping styles where largely uncorrelated to meaning. Also absent from these responses was any mention that personal control or mastery was provided as a result of one's religion and spirituality. This finding was also supported with the quantitative analyses of Aim 3 in which the religious coping styles to gain control were largely not predictive of mastery. These findings will be discussed later.

Question 2: How would you describe your relationship with God or a lack of relationship with God?

Themes found within participants' answers to this question were largely provided in describing the second major theme (i.e., God is the provider) and third major theme (i.e., a true, personal, relationship with several 'interpersonal' characteristics and interactions). Notably, across care recipients, caregivers and racial groups, some participants reported that they feel as if their relationship with God could be better; however, this issue arose more often for Caucasian caregivers. A caregiver age 57 stated, "*Well, I don't call myself the most holiest. You know, we all are short of it. I just try to do better.*" Another age 62 reported, "*I know our relationship could always be better. I try to make it a top priority, but sometimes it doesn't always work that way (laugh).*"

Question 3: How are you involved in the church?

Among *care recipients*, the full spectrum of responses was provided. Participants noting not being involved, not attending because they weren't interested, not attending due to illness, involvement from the house (e.g., listening to services on the radio, watching services on the television ["*being a bedside Baptist*"]), regular attendance, and serving many roles in the church

(being a deacon, serving on committees, etc.). There were no notable racial differences among care recipients.

Among *caregivers*, Caucasians provided the full spectrum of responses as noted above. However, more Caucasians noted that they were not involved in the church due to disinterest than African Americans. In addition, a greater number of African Americans reported being actively involved and having roles in the church when compared with Caucasians.

A difference between care recipients and caregivers found within this question was that care recipients sometimes noted that they were limited in their ability to attend and/or be active in the church due to illness. However, caregivers also noted that being a caregiver hindered their ability to be involved in the church. In a way, the care recipients' illness affected both people in this manner. Notably, Caucasian care recipients were more likely to report being limited by their loved one's illness.

Question 4: How does your church help you cope?

Among care recipients and caregivers, two major themes were found in response to this question: social support and experiencing the religion. Social support was reported most often. Two sub-themes were uncovered within the higher-order theme of social support: non-religious and religious. Non-religious social support, noted most often, was represented in many ways: visits from members, talking with people about similar difficulties, fellowshipping with like-minded people, etc. An African American care recipient age 86 stated, "*They help me by caring and showing concern for my welfare and my well-being*." A Caucasian care recipient age 65 noted, "*I mean, it's a support group. You know, when you go to church, you know, and you have friends there, you look forward to seeing 'em; it's kind of like a support group.*" An African

American caregiver age 45 answered, "*I guess gathering, gathering together with like-minded people, it helps after you go through whatever you go through during the week."*

Religious social support was a second sub-theme and was represented as knowing others are praying for you. A Caucasian caregiver age 79 stated, "*Well, [she], who's also a God-fearing woman, is very prayerful, and I think she also – she's been through a lot of things*." An African American care recipient age 86 reported, "*Well, they pray with me, you know, and . . . singing and praying and preaching, the preacher preaching, telling us how to live so God can use us*."

In addition to social support, participants reported experiencing the religion as a manner in which the church helps them cope. An African American caregiver age 62 said, "*Well, spiritually, they give me the encouragement to go on, and when I hear the Word, it helps me, it gives me strength*". A Caucasian care recipient age 92 noted, "*Because that's the way I know that God is my help, and it helps me to understand his Word more and from reading the Bible, the knowledge, and reading it in a group and listening to the good sermons.*"

Question 5: What does "meaning" mean to you?

When asked to provide their definition of meaning, many participants balked; one even noted that "*this is a stupid question*." Although meaningful themes arose, it was clear that meaning was a difficult construct to define. Purpose was the theme most often discussed among care recipients. A Caucasian care recipient age 65 reported, "'*Meaning' means do I think I'm here for . . . do I have purpose, do I still have a purpose, and am I still working on something that's important, is my life important? All of that speaks to meaning.*" An African American care recipient age 86 responded, "*My biggest plan for the future is not only to construct and publish a Bible, but I wanna put together a scrapbook. So I think those things add to my*

spiritual growth". By discussing plans she had for the future this care recipient delineated her continuing purpose in life. This quote may also be interpreted to represent a *goal or aim* of this care recipient.

Many caregivers expanded on their understanding of meaning in response to question six. Caregiver responses to question five will be combined with question six.

Question 6 [caregivers only]: Does caregiving provide you with meaning? If so, how?

Notably, caregivers largely reported that caregiving provided them with meaning. In response to why it provided them with this, many clarified their understanding of what meaning means. The purpose theme also was seen among caregivers. A Caucasian caregiver age 56 responded, "*It means, um, something that is not just shallow or purposeless, but it has a depth and quality in your life.*" An African American stated, *"I would like my life to mean something. You know, when I leave here, on this Earth, I would like to know that I will be missed…that I did everything God wanted me to do."* This caregiver reports her desire to achieve her purpose to attain meaning.

In addition to purpose, caregivers reported that meaning was tied into responsibility, duty, and generativity. Generativity is the concern and commitment for furthering the welfare of other generations (Cox, Wilt, Olson, & McAdams, 2010). An African American age 56 noted that, "*[It] provides me with responsibility and a duty to take care or to assist or to guide an individual who has come to rely on my giving them the means that they need to accomplish maybe even just a simple task.*" An African American age 54 said, "*Oh yes. Being able to take care of others. That's my calling. That's been my . . . that's my calling. That's the calling God gave me. 'Cause I've always been . . . I been somewhere taking care of somebody.*"

A theme of caregiving and meaning being related to a sense of worth and feeling needed arose. This was also tied into generativity. A Caucasian caregiver said "*I just like to be there for the people that really need me.*" An African American age 63 reported, "*Growing up in a household like I grew up in taught me a very valuable lesson: Love self but care for others. And once you start doing that, you feel better.*" A Caucasian caregiver noted:

> *I see his struggle and I see his growth in learning to cope with it. As a result of our faith, I see that we both are conscious of each other's needs and we are both putting forth an effort to make it easier on each other and to be understanding when each other is going through a weak period or kind of a low day.*

Participants' description of meaning, although not exact, did display similarities to the definition of Krause et al. (2008). Purpose, one of the four factors of the measure, was a theme that arose directly and indirectly in responses; however, as it did with the care recipient who wanted to make a Bible, a sense of purpose was hard to distinguish from goals and aims. A sense of family and filial responsibility was noted frequently by the caregivers. This may represent an important segment of their *system of values*, another of the four factors of Krause Meaning in Life. The *ability to reconcile past events* factor was the least supported area of the Krause Meaning in Life based on qualitative responses.

DISCUSSION

The results of the current study expand our understanding of religious coping styles and emotional outcomes among chronically ill care recipients and their caregivers. The inclusion of caregivers as participants and race/ethnicity as a variable of interest are novel endeavors. Findings in relation to aims and their specific hypotheses will be discussed in the following paragraphs.

Aim 1

Two Groups: Care Recipients and Caregivers

The first aim of the study was to examine the relation of religious coping styles, mastery, meaning, and emotional outcomes. The religious coping styles are conceptually differentiated by their level of agency and involvement of God. Collaborative coping and active surrender, both using an agentic self and involving God, were hypothesized to be positively associated with mastery and the positive emotional outcomes (i.e., stress-related growth, religious growth, and PAC) and inversely related to CESD. Passive deferral and self-directed coping, lacking both an agentic self and the involvement of God, were hypothesized to have an opposite pattern of relations.

Interpretation of the bivariate associations within the care recipient or caregiver group should proceed with caution given the remarkably different correlation matrices found for the four groups in this study (i.e., Caucasian care recipients and caregivers and African American care recipients and caregivers).

Among care recipients, the hypotheses regarding bivariate associations were moderately supported. The religious coping styles were largely associated with stress-related growth and meaning; however, the predicted relations with religious growth and CESD were unsupported. What caused these differences? For care recipients, the use of the religious coping styles that involved God (no matter their difference in the use of an agentic self) were positively associated with meaning and one of the positive emotional outcomes. It may be that these coping strategies were not related to CESD due to the Folkman (1997) model's prediction that meaning-based coping strategies are more directly linked to the increase of positive rather than the decrease of negative emotions. Examining the effect of the religious coping styles on negative emotional outcomes may be more salient in a longitudinal study.

The bivariate relations with mastery were largely opposite of what was predicted. These opposite effects may be due to the cross-sectional nature of these data. Care recipients that feel as if they lack personal control over a situation may be more likely to use a religious coping style in which God plays an active part (i.e., active surrender) in an attempt to gain control by other means. Care recipients that have a sense of mastery may be more likely to try to deal with their problems on their own (i.e., self-directed coping). It is possible that the predicted relations of the religious coping styles to gain control with mastery may be found in a longitudinal study. For example, working with God to gain control at Time 1 may increase a sense of control at Time 2. Although it is important to examine and discuss these bivariate relations, these findings regarding mastery should be interpreted in light of the results of the regression analyses conducted as part of Aim 3 (discussed later).

Among caregivers, the hypothesized relations were moderately supported. Apart from passive deferral, the religious coping styles were largely associated with stress-related growth,

religious growth, and PAC as predicted. Again, this pattern of results follows the predictions of the Folkman (1997) model. Three of the four coping styles were significantly related to all of the positive outcomes, yet unrelated to CESD. Notably, there were no significant or marginal relations for coping styles and meaning or mastery. This result will be discussed later.

There were salient differences in key relations among care recipients and caregivers. Primarily, among caregivers the religious coping styles displayed no associations to mastery and meaning. It may be that care recipients and caregivers are dealing with a different set of coping strategies. Chronically ill care recipients, due to their advanced illness, may be working with a smaller set of coping strategies when compared to caregivers. For example, care recipients noted more frequently in their interviews that their church attendance – and social support – had been limited by their physical situation. In addition, care recipients likely have limited ability or lack the ability to make a change in their illness trajectory. Consequently, the religious coping styles may become more salient in creating mastery and meaning for care recipients.

Four groups: Racial Breakdown of Care Recipients and Caregivers

Previous literature demonstrates that key variables in this study operate differently among racial/ethnic groups; therefore, examining the bivariate associations proposed in Aim 1 separately among Caucasians and African Americans was an important endeavor. Within both care recipients and caregivers the correlations matrix produced for each racial group was markedly different (Tables 7-10).

Among Caucasian *care recipients*, every coping style except passive deferral was related to stress-related growth and religious growth. Again, active surrender, passive deferral, and self-directed coping were related to mastery. Meaning was related to CESD. Among African Americans, active surrender and passive deferral were inversely related to mastery.

Among Caucasian *caregivers,* every coping style except passive deferral was related to stress-related growth and religious growth. In addition, passive deferral was related to CESD, mastery, and meaning as predicted. Self-directed coping was inversely related to PAC. Meaning held the same relations to outcomes found in the entire sample of caregivers. For African Americans caregivers, active surrender was related to stress-related growth. Self-directed coping was related to stress-related growth, CESD, and PAC as predicted. Meaning was related to PAC.

Three remarkable patterns arise out of these results. First, there is a general absence of significant relations among African American care recipients and caregivers. Second, the bivariate associations among study variables are more similar within race than they are among care recipient or caregiver group. For example, the correlation matrices of African American care recipients and caregivers are more alike than those of African American care recipients and Caucasian care recipients. Third, meaning did not display a single significant association with the religious coping styles for African Americans and displayed very few associations among Caucasians.

One possibility for the first pattern is that the scale assessing the religious coping styles does not display measurement equivalence/invariance – it does not assess these constructs equally well among Caucasians and African Americans. When a scale does not have measurement equivalence, interpretation of scores and differences in scores across groups becomes questionable. In this instance, it may be that the difference in the religious coping styles to gain control represent a true difference; African American care recipients use collaborative, active surrender, and passive deferral coping more so than Caucasians. However, it may also be the case that the difference is related to dissimilarity between the relation of these latent variables and their observed scores (Raju, Laffitte, Byrne, 2002). Notably, Pargament and

colleagues' (1988) original validation of the RCOPE religious methods of gaining control three-factor scale (i.e., collaborative, passive, and self-directed) was conducted with a sample that was 100% Caucasian. Later work on the four subscale version was slightly better in inclusion of non-Caucasian individuals: 92% Caucasian [college sample], 62% Caucasian [hospital sample: no further information was provided on the racial breakdown of minority participants] (Pargament et al., 1998) and 93% Caucasian (Pargament et al., 2000). Notably, these studies demonstrated poor racial diversity.

The second possibility for the first pattern (lack of associations among African Americans), assuming measurement equivalence/invariance, is a true lack of bivariate associations between religious coping styles to gain control, meaning, mastery, and emotional outcomes. Why might this pattern hypothesized by the Folkman (1997) stress process model and moderately supported among Caucasians not be found among African Americans?

The qualitative data suggested that African Americans reported that reading Biblical scriptures and hearing and receiving "The Word" was a mechanism by which their religion helped them cope. Although African Americans self-reported more use of collaborative, active surrender, and passive deferral coping, it may be that the mechanism that links religion to meaning and emotional outcomes among African Americans is theological aspects of religion as opposed to the "personal control-specific" aspect of the coping styles assessed in this study. Notably, previous research indicated that the relation among religious involvement and emotional outcomes was mediated by religious social identification among African Americans but not Caucasians (Blaine & Crocker, 1995). Among African Americans it may be that affiliating one's self with the doctrines and theological aspects of the church (e.g., partly

observed by reading scripture and self-reporting an emphasis on “The Word”) is of greater importance than the religious coping styles assessed in this study.

The second pattern – bivariate associations among study variables are more similar within race than they are among care recipient or caregiver groups – denotes that race is an important factor to take into account when examining religious coping and emotional health; a notion that is greatly supported in the literature (Chatters et al., 2008; Dilworth-Anderson et al., 2002; Dunn & Horgas, 2004; Ellison, 1995; Hilgeman et al., 2009; Lewin et al., 1995; Lawton et al., 1992; Musick, et al., 1998; Roff et al., 2004; Taylor et al., 2007). Measurement equivalence/invariance problems may be at least partially responsible for this pattern as well.

The third pattern – the utter lack of association between religious coping styles and meaning – may be party elucidated in light of the results of the regression analyses conducted as part of Aim 3 (examining religious coping styles as predictors of mastery). It was hypothesized that the religious coping styles to gain control would lead to meaning through the creation of a sense of personal control. The summarized hypothesis (1B) states: if the religious coping styles create a sense of control or mastery, then they will lead to meaning. Krause (2007a) defined meaning as having a system of values, sense of purpose, goals, and the ability to reconcile events that have happened in the past. When placed in a stressful and perceivably uncontrollable situation – dealing with advanced chronic illness or caring for a loved one with advanced chronic illness – one may lose a sense of control. Based on the Folkman model (1997) it was hypothesized that lacking a sense of control affects all of these aspects of meaning. One may question one’s sense of values, feel as if one has been torn away from long-standing beliefs about one’s purpose in life and one’s ability to fulfill this purpose, feel as if one’s goals are unattainable, and have trouble settling past life events because lack of control has stripped from

one a general sense of mastery and coherence. The reappraisal of a situation as controllable/controlled through specific religious coping efforts was hypothesized to fix the effects that a sense of uncontrollability has on these facets of meaning and therefore enhance meaning-based coping. The results of regression analyses of Aim 3 suggested that the religious coping styles were largely not predictive of a sense of personal mastery. In addition, the link between religious coping and the attainment of personal control/mastery was not uncovered as a theme in the qualitative data. This lack of a sense of mastery stemming from religious coping may hinder a participant's ability to deal with an uncontrollable situation and ultimately hinder their ability to create meaning.

Aim 2

Results found in the second aim should be interpreted with caution. Indicators of the power of these analyses to detect mediation were low, especially among care recipients.

The second aim of the study involved assessing meaning as a mediator of the effects of religious coping styles and emotional outcomes. It was hypothesized that the use of religious coping styles represented meaning-based coping and differentially led to the creation of meaning. As proposed in the Folkman (1997) model, the attainment of meaning through the use of meaning-based coping leads directly to positive outcomes and indirectly to the abatement of negative outcomes of a stressful situation. This aim was examined using a series of indirect-effects tests. Results indicated that meaning was not a significant mediator in any instance. This lack of significant mediations is not surprising given the results found among the bivariate associations, specifically considering the lack of significant relations between the religious coping styles and meaning. Because meaning was largely not related to the religious coping

styles, it would not be logical that meaning would represent the mechanism (or path) by which these coping styles were related to the positive emotional outcomes and CESD.

Aim 3

The third aim of the study involved the assessment of the ability of the religious coping styles to gain control to predict mastery. Among caregivers, none of the religious coping styles were predictors of mastery. For care recipients, passive deferral was a significant predictor such that endorsing a greater use of passive deferral predicted lower mastery. The following interpretation of these results must be qualified; a sub-optimal participant-to-variable ratio may have caused these null results. If, however, these results are taken to represent a true effect, then the explanation for the results may be found in the internal and personal nature of mastery.

Religious coping styles to gain control were largely not predictive of a sense of personal control. This is in opposition to what Pargament and colleagues (1988) found. It may be that mastery represents an internal locus of control while the type of control that the religious coping styles used in this study represent is God control – a construct in which people see God as an active, causal agent in their lives (Jackson and Coursey, 1988). Notably, these two types of control have been shown to share a small inverse relation (Jackson and Coursey, 1988). Regarding relations to God control, religious coping styles that involve God will be more highly related. In addition, religious coping styles that do not use an agentic self will be highly related to God control (see Table 1). Consequently, passive deferral would have the strongest positive relation to God control and the strongest negative relation to mastery (given God control's inverse relation to mastery). This may be why this relation was found among care recipients. Notably, the findings of Pargament (1988) support this notion; deferral coping had the largest

positive relation with God control while self-directed coping had a large inverse relation to God control.

Aim 4

Race was to be examined as a moderator of the meditation of religious coping styles and emotional outcomes by meaning. The indirect effects tests failed to reach significance; therefore, the hypothesis of this aim was unnecessary to examine.

Aim 5

The results of this exploratory analysis have been discussed extensively elsewhere; however, important areas where qualitative and quantitative results converged will be noted in the next section.

Conclusion

Converging evidence is of utmost importance in science. Therefore, the areas of this mixed-methods study in which the results of qualitative and quantitative methodology converge are notable. First, the themes that arose from participant narratives and the results of the bivariate analyses suggested that the outcomes of religious and spiritual coping were mainly positive. Second, in both correlation analyses and participant interviews the relation between religious coping and meaning was not apparent. In addition, the relation between religious coping and mastery was largely not found using both methods of examination.

In addition to mixed-methods results, the study suggests that race influences both religious coping and the relation of religious coping with emotional outcome. Although power and measurement problems may have accounted for this finding in the current study, a wealth of previous research supports the impact of race in these areas.

Limitations

As in any research, this study has its limitations. Despite extensive use of and varied approaches to recruitment, the sample size in the current study represented slightly over 50% of the proposed number. As a consequence, the ability to correctly reject null hypotheses is hindered.

Secondly, the stark difference between the correlation matrices of African American and Caucasian participants suggests the possibility of measurement equivalence/invariance problems within the Religious Methods of Coping to Gain Control Subscales measure. Notably, this scale was created with a sample that was predominantly comprised of Caucasians. When a scale does not have measurement equivalence, interpretation of scores and differences in scores across groups becomes questionable. This possible measurement variance limits the interpretation of all of the results in which this scale was used. Unfortunately, limitations in sample size prohibited a test of measurement equivalence of this scale in this study.

In addition to the above limitations, participants were only represented by two racial groups: Caucasians and African Americans. These higher-order classifications do not allow for the examination of sub-group differences within each race. Notably, within-race differences have been found for key study variables in previous research (Chatters et al., 2008). For example, Haitian-Americans were found to be more likely to use religious coping during stressful times when compared with Jamaican-Americans. Having recruited all participants from two southeastern cities further hinders generalizability of these results. Previous research indicates that religious involvement and the effect of religious involvement on emotional health differs for individuals living in this region of the country when compared to those living in other regions (Ellison, 1995). Notably, African Americans living in the South tend to report that they

seek support and guidance from God more so than African Americans in other regions of the country (Chatters et al., 2008). In addition to racial and regional differences, denominational differences affect religious coping as well. In this study approximately half of the participants who provided information on religious denomination (care recipients) reported being Baptists. This will limit generalizability of the findings. Also, participants were not randomly selected, but volunteered or were recruited through community-based participatory research procedures. Again, this may limit the generalizability of the findings.

Lastly, the hypotheses made for this study were largely guided by the Folkman Stress Process Model (1997). Implicit within this model is the passage of time. Therefore, the cross-sectional nature of this study limits the interpretation of its results. Notably, it may be that some of the results are due to all data being collected at a single point in time.

Implications for Future Research

Future research in this area that involves the use of the religious coping styles to gain control must include an analysis of measurement equivalence/invariance. Bivariate analyses resulted in stark differences between Caucasians and African Americans. This finding, coupled with the mainly Caucasian sample used to create the scale, supports the need for further scale examination. Racial differences found on this scale and found in relation to other measures in future studies may be caused by potential measurement problems.

The hypotheses presented in this study were guided by the Folkman (1997) model. This model predicts the temporal order in which various appraisals and coping styles affect the outcome and further appraisal and coping within the stress process. Although guided by this model, the current study's cross-sectional nature was not able to capture the true longitudinal

relations provided by the theory underlying the model. Future studies should be based on a longitudinal design.

If the current study were replicated using such a framework, data collection should occur at least three times. This would allow for the examination of the effect of meaning-based coping on meaning and for the effect of meaning on emotional outcomes. In addition, it may be useful to assess these aspects, or at least the emotional outcomes, at a fourth time point. One of the results that emerged from both research methodologies suggested that the religious coping styles were related to a greater extent with positive emotional outcomes. This is what would be predicted by the Folkman (1997) model. The model also predicts that the attainment of positive emotions following meaning-based coping leads to sustained coping efforts and eventually a decrease in negative emotional outcomes. The assessment of these outcomes at the fourth time point would allow for an examination of this hypothesis.

A longitudinal design would also allow for the assessment of directionality. Currently, research findings are unclear concerning the temporal order of religious coping and emotional outcomes as well as meaning and emotional outcomes. Furthermore, a longitudinal design would allow for improved analyses of the relation of the religious coping styles to control: both mastery and God-control. It was surprising that the religious coping styles to gain control assessed in this study were largely not predictive of a sense of personal control. It may be that this effect occurs over the passage of time and therefore a longitudinal design is recommended. In addition, it may also be that these coping styles are related to a different style of control, God control. Notably, Krause (2010) found that God-mediated control was related to meaning. Although the religious coping styles in this study were not related to meaning, it may be that they

are predictive of God-mediated control over time and that the attainment of God-mediated control would eventually lead to meaning as it did in the research of Krause (2010).

The discrete assessment of variables over time would represent an improvement over the current study. The use of experience sampling is an additional method of assessing change in variables over time (Larson & Csikszentmihalyi, 1983). Although still requiring *discrete* assessments, this method closely approximates the changes that occur throughout a day. Short-interval change in variables examined in this research has not been studied; however, meaningful results may be found. For example, it may be that one has a somewhat stable sense of meaning (or mastery, or God-mediated control) and that their experience of this construct is either elevated or lessened for a brief period of time as a result of the religious coping style one uses in a given situation. In addition, it may be that the magnitude of change or length of time period in which the construct deviates from baseline due to the use of the religious coping style displays dissimilarities between racial groups.

Another important area for future research is the discovery of the mechanism underlying racial differences in the relation of religiousness/ spirituality and emotional outcomes. The results of the current study only provided a small glimpse into the possible explanation. Specifically, African Americans were more likely to report in their narrative interviews that theological aspects of their religion were mechanisms that helped them cope. It may be that the mechanism that links religion to meaning and emotional outcomes among African Americans is an emphasis and personal identification with theological aspects of religion. This relationship needs to be examined further to test for reliability of this finding and to increase our understanding of how the specific characteristics of a sense of identification with and reliance on theological aspects of one's religion are related to their emotional outcomes.

The use of intensive qualitative research on the description and experience of meaning in life represents another important area of future study. Participants frequently reported difficulty answering the question regarding meaning and sometimes became frustrated and did not attempt an answer. This may have been a result of the wording of the question. A qualitative study in which the sole purpose was to assess participants' definition of meaning in life would allow for a greater understanding of this construct. For example, during semi-structured open-ended interviews participants could be asked directly about each of the four subscales of the Meaning in Life measure: purpose, values, goals and aims, and ability to reconcile past events.

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Appendix 1

Telephone Interview for Cognitive Status – Modified (TICS-M)

I would like to ask you some questions to check your memory and concentration. Some of the questions may be easy and some will be harder. Take your time if you need to. We can skip over questions if you don't understand them.

1. **Please tell me your full name.** (Prompt: **Your name as it appears on your birth certificate.**)

You may ask the client to provide his first or last name if he does not provide both automatically.

	Circle:	Correct	Incorrect	DK	Refused
First:	______________________	1	0	7	8
Middle:	______________________	1	0	7	8
Last:	______________________	1	0	7	8

Circle:		Correct	Incorrect	DK	Refused
2. **What is your age?**	Age _____	1	0	7	8

3. **Without looking at a calendar or watch, what is today's date?**

Month:	______________________	1	0	7	8
Day:	______________________	1	0	7	8
Year:	______________________	1	0	7	8

4. **What day of the week is it?**

______________________	1	0	7	8

5. **What season is it?**

______________________	1	0	7	8

6. **Without looking at your phone, can you**

tell me your phone number?	1	0	7	8

Maximum of two attempts on Item # 7:

7. **Now I would like you to count backwards from 20 to 1.**	2	0	7	8

Indicate Errors:

20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

Administer a 2nd time if 1st attempt was incorrect:

OK. Let's try this one more time.	1	0	7	8

Indicate Errors:

20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

8. **Now I'm going to read you a list of 10 words. Please listen carefully. When I am done, tell me as many words as you can, in any order. [Please do not write anything down.] I will read the list only once. If you don't understand a word, that's all right. Just try to repeat what you heard. If you're ready, I'll begin.**

(You can repeat the instructions but not the word list. Read the words at the rate of one word every two seconds.)

The words are:

Cabin…….Pipe……..Elephant……..Chest……..Silk……..
Theatre……..Watch……..Whip……..Pillow……..Giant

Now please repeat the words that you remember.

(Record all words up to 20 words even if not on the list. Only the words from the list are scored as correct. Repeated words are recorded but not scored.)

1________________ 6________________ 11_______________ 16_______________

2________________ 7________________ 12_______________ 17_______________

3________________ 8________________ 13_______________ 18_______________

4________________ 9________________ 14_______________ 19_______________

5________________ 10_______________ 15_______________ 20_______________

TOTAL OF CORRECT RESPONSES (Max. of 10 pts.): ______

Was the client speaking nonsense words? Circle: Yes No

		Correct	Incorrect
9. **Please subtract 7 from 100 and then subtract 7 from that number until I tell you to stop.**	1_______	1	0
Record exact responses. Do not inform client of errors. Stop client after five responses. If client refuses to complete the task ask them: "What is 100-7?" Record the response. Then say: "Subtract seven from that number." Record each response. If the client refuses to continue after first response, score remaining items as incorrect.	2_______	1	0
	3_______	1	0
	4_______	1	0
	5_______	1	0

	Correct	Incorrect	DK	Refused
10. **What do people usually use to cut paper?** (Accept only "scissors" or "shears" as correct.)	1	0	7	8
11. **How many things are in a dozen?** (Accept only "12" as correct.)	1	0	7	8
12. **What do you call the kind of prickly plant that lives in the desert?** (Accept only "Cactus" or a kind of cactus, e.g. "Prickly Pear" as correct.)	1	0	7	8
13. **What animal does wool come from?** (Accept only "sheep" or "lamb" as correct.)	1	0	7	8
14. **Please say this exactly as I say it: "No ifs, ands, or buts."**	1	0	7	8
15. **Say this: "Methodist Episcopal."** (Listen carefully. Each word must be said clearly and distinctly. For example, "Methodis Epistopal" would be scored as incorrect.)	1	0	7	8
16. **Who is the President of the United States right now?**				
First: ________________	1	0	7	8
Last: ________________	1	0	7	8
17. **Who is the current Vice-President?**				
First: ________________	1	0	7	8

Last: ________________ 1 0 7 8

For Item # 18: Do not repeat the instructions. You may say, **“Just try to do what you think I said.”**)

18. **With your finger, please tap 5 times on the part of the phone that you speak into.** [or **With your finger, please tap 5 times on the top of the table.**] 1 0 7 8

19. **Now I’m going to say a word and I want you to say its opposite. For example, I might say “hot” and you would say “cold.” What is the opposite of “east”?** (Accept only “west” as correct.) 1 0 7 8

20. **What is the opposite of “generous”?** 1 0 7 8

Score any of the following as correct:

NIGGARDLY	SELFISH	MISERLY	NOT GENEROUS	SPARSE
SCROOGE	GREEDY	MEAN	UNGENEROUS	CHINTZY
TIGHTWAD	STINGY	MEAGER	PENURIOUS	FRUGAL
HOARDING	TIGHT	SKIMPY	PARSIMONIOUS	SCOTCH
RESTRICTIVE	SKINFLINT	CHEAP		

Record any other word: ________________

21. **A few minutes ago, I read you a list of ten words and asked you to repeat them back to me. Please tell me all of those words you can still remember.**

1________________	6________________	11______________	16______________
2________________	7________________	12______________	17______________
3________________	8________________	13______________	18______________
4________________	9________________	14______________	19______________
5________________	10_______________	15______________	20______________

TOTAL OF CORRECT RESPONSES (Max. of 10 pts.): ______

Was the client speaking nonsense words? Circle: Yes No

TICS-M TOTAL SCORE: ______
(*Total Possible = 50)*

Appendix 2

Vulnerable Elders Survey
1. Age ___(1 points for age 75-84, 3 points for age 85 or above)

2. In general, compared to other people your age, would you say that your health is:
__ poor (1 point)
__ fair (1 point)
__ good
__ very good, or
__ excellent

3. How much difficulty, on average, do you have with the following physical activities:
SCORE: 1 point for each * response in question 3a through 3f. Maximum of 2 points.

a. stooping, crouching, or kneeling?
__ no difficulty
__ a little difficulty
__ some difficulty
__ a lot of difficulty *
__ unable to do *

b. lifting, or carrying objects as heavy as 10 pounds?
__ no difficulty
__ a little difficulty
__ some difficulty
__ a lot of difficulty *
__ unable to do *

c. reaching or extending arms above shoulder level?
__ no difficulty
__ a little difficulty
__ some difficulty
__ a lot of difficulty *
__ unable to do *

d. writing, or handling and grasping small objects?
__ no difficulty
__ a little difficulty
__ some difficulty
__ a lot of difficulty *
__ unable to do *

e. walking a quarter of a mile?
__ no difficulty
__ a little difficulty

__ some difficulty
__ a lot of difficulty *
__ unable to do *

f. heavy housework such as scrubbing floors or washing windows?
__ no difficulty
__ a little difficulty
__ some difficulty
__ a lot of difficulty *
__ unable to do *

4. Because of your health or a physical condition, do you have any difficulty:
SCORE: 4 points for one or more * responses in questions 4a through 4e.

a. shopping for personal items (like toilet items or medicines)?
__ yes ➔ do you get help with shopping? __ yes * __ no
__ no
__ don't do ➔ is that because of your health? __ yes * __ no

b. managing money (like keeping track of expenses or paying bills)?
__ yes ➔ do you get help with shopping? __ yes * __ no
__ no
__ don't do ➔ is that because of your health? __ yes * __ no

c. walking across the room? USE OF CANE OR WALKER IS OK.
__ yes ➔ do you get help with shopping? __ yes * __ no
__ no
__ don't do ➔ is that because of your health? __ yes * __ no

d. doing light housework (like washing dishes, straightening up, or light cleaning)?
__ yes ➔ do you get help with shopping? __ yes * __ no
__ no
__ don't do ➔ is that because of your health? __ yes * __ no

e. bathing or showering?
__ yes ➔ do you get help with shopping? __ yes * __ no
__ no
__ don't do ➔ is that because of your health? __ yes * __ no

Appendix 3

Sociodemographics

1. **Participant's date of birth: __/__/___**
2. **Participant's age: __**
3. **Primary racial or ethnic group:**
   0 = White, Caucasian
   1 = Black, African American
   2 = Native American, Eskimo, Aleut
   3 = Asian or Pacific Islander
   4 = Hispanic, Latino
   5 = No primary group
   6 = Other If "other", please specify: __________
5. [To care recipients] **Admitting diagnosis: __________________**
6. [To care recipients] **Primary diagnosis: ________________**
7. [To care recipients] **What is your current religious preference?**
   __ Baptist
   __ Episcopal
   __ Methodist
   __ Lutheran
   __ Presbyterian
   __ Other Protestant
   __ Roman Catholic
   __ Orthodox Christian
   __ Orthodox Jewish
   __ Conservative Jewish
   __ None
   __ Reform Jewish
   __ Islamic
   __ Buddhist
   __ Confucian
   __ Pentecostal
   __ Church of God
   __ Jehovah's Witness
   __ Mormon
   __ Spiritual, not religious
   __ Other

Appendix 4

Religious Methods of Coping to Gain Control Subscales

The following items deal with ways you cope with negative things in your life. There are many ways to try to deal with problems. These items ask what you did to cope with [care recipients: your illness] or [caregiver: your loved one's illness]. Different people deal with things in different ways, but we are interested in how <u>you</u> cope. Each item says something about a particular way of coping. We want to know to what extent <u>you did</u> what the item says. How much or how frequently? Don't answer on the basis of what worked or not – just whether or not you did it. Try to rate each item separately in your mind from the others. Make your answers as true for you as you can.

Collaborative Coping

1. Tried to put my plans into action together with God.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

2. Worked together with God as partners.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

3. Tried to make sense of the situation with God.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

4. Felt that God was working right along with me.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

5. Worked together with God to relieve my worries.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

Active Surrender

6. Did my best and turned the situation over to God.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

7. Did what I could and put the rest in God's hands.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

8. Took control over what I could, and gave the rest up to God.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

9. Tried to do the best I could and let God do the rest.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

10. Turned the situation over to God after doing what I could.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

Passive Deferral

11. Didn't do much, just expected God to solve my problems for me.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

12. Didn't try much of anything, simply expected God to take control.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

13. Didn't try to cope, only expected God to take my worries away.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

14. Knew that I couldn't handle the situation, so I just expected God to take control.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

15. Didn't try to do much, just assumed God would handle it.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

Self-Directed Coping

16. Tried to deal with my feelings without God's help.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

17. Tried to make sense of the situation without relying on God.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

18. Made decisions about what to do without God's help.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

19. Depended on my own strength without support from God.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

20. Tried to deal with the situation on my own without God's help.
1 = Not at all 2 = Somewhat 3 = Quite a bit 4 = A great deal

Appendix 5

Meaning in Life

1. I have a system of values and beliefs that guide my daily activities.
1 = Disagree strongly 2 = Disagree somewhat 3 = Agree somewhat 4 = Agree strongly

2. I have a philosophy of life that helps me understand who I am.
1 = Disagree strongly 2 = Disagree somewhat 3 = Agree somewhat 4 = Agree strongly

3. I feel like I am living life fully.
1 = Disagree strongly 2 = Disagree somewhat 3 = Agree somewhat 4 = Agree strongly

4. I feel like I have found a really significant meaning in my life.
1 = Disagree strongly 2 = Disagree somewhat 3 = Agree somewhat 4 = Agree strongly

5. In my life, I have goals and aims.
1 = Disagree strongly 2 = Disagree somewhat 3 = Agree somewhat 4 = Agree strongly

6. I have a sense of direction and purpose on life.
1 = Disagree strongly 2 = Disagree somewhat 3 = Agree somewhat 4 = Agree strongly

7. I feel good when I think about what I have accomplished in life.
1 = Disagree strongly 2 = Disagree somewhat 3 = Agree somewhat 4 = Agree strongly

8. I am at peace with my past.
1 = Disagree strongly 2 = Disagree somewhat 3 = Agree somewhat 4 = Agree strongly

Appendix 6

Center for Epidemiological Studies Depression Scale (CES-D)

This section deals with statements people might make about how they feel. For each of the statements, please indicate how often you have felt that way during the past week.

1. I was bothered by things that usually don't bother me.
- a. Rarely or none of the time (<1day)
- b. Some or a little of the time (1-2 days)
- c. Occasionally or a moderate amount of the time (3-4 days)
- d. Most or almost all of the time (5-7 days)

2. I did not feel like eating; appetite was poor.
- a. Rarely or none of the time (<1day)
- b. Some or a little of the time (1-2 days)
- c. Occasionally or a moderate amount of the time (3-4 days)
- d. Most or almost all of the time (5-7 days)

3. I felt that I could not shake off the blues, even with help from my family and friends.
- a. Rarely or none of the time (<1day)
- b. Some or a little of the time (1-2 days)
- c. Occasionally or a moderate amount of the time (3-4 days)
- d. Most or almost all of the time (5-7 days)

4. I felt that I was just as good as other people.
- a. Rarely or none of the time (<1day)
- b. Some or a little of the time (1-2 days)
- c. Occasionally or a moderate amount of the time (3-4 days)
- d. Most or almost all of the time (5-7 days)

5. I had trouble keeping my mind on what I was doing.
- a. Rarely or none of the time (<1day)
- b. Some or a little of the time (1-2 days)
- c. Occasionally or a moderate amount of the time (3-4 days)
- d. Most or almost all of the time (5-7 days)

6. I felt depressed.
- a. Rarely or none of the time (<1day)
- b. Some or a little of the time (1-2 days)
- c. Occasionally or a moderate amount of the time (3-4 days)
- d. Most or almost all of the time (5-7 days)

7. I felt that everything I did was an effort.
- a. Rarely or none of the time (<1day)
- b. Some or a little of the time (1-2 days)
- c. Occasionally or a moderate amount of the time (3-4 days)
- d. Most or almost all of the time (5-7 days)

8. I felt hopeful about the future.
- a. Rarely or none of the time (<1day)
- b. Some or a little of the time (1-2 days)

c. Occasionally or a moderate amount of the time (3-4 days)
d. Most or almost all of the time (5-7 days)

9. I thought my life had been a failure.

a. Rarely or none of the time (<1day)
b. Some or a little of the time (1-2 days)
c. Occasionally or a moderate amount of the time (3-4 days)
d. Most or almost all of the time (5-7 days)

10. I felt fearful.

a. Rarely or none of the time (<1day)
b. Some or a little of the time (1-2 days)
c. Occasionally or a moderate amount of the time (3-4 days)
d. Most or almost all of the time (5-7 days)

11. My sleep was restless.

a. Rarely or none of the time (<1day)
b. Some or a little of the time (1-2 days)
c. Occasionally or a moderate amount of the time (3-4 days)
d. Most or almost all of the time (5-7 days)

12. I was happy.

a. Rarely or none of the time (<1day)
b. Some or a little of the time (1-2 days)
c. Occasionally or a moderate amount of the time (3-4 days)
d. Most or almost all of the time (5-7 days)

13. I talked less than usual.

a. Rarely or none of the time (<1day)
b. Some or a little of the time (1-2 days)
c. Occasionally or a moderate amount of the time (3-4 days)
d. Most or almost all of the time (5-7 days)

14. I felt lonely.

a. Rarely or none of the time (<1day)
b. Some or a little of the time (1-2 days)
c. Occasionally or a moderate amount of the time (3-4 days)
d. Most or almost all of the time (5-7 days)

15. People were unfriendly.

a. Rarely or none of the time (<1day)
b. Some or a little of the time (1-2 days)
c. Occasionally or a moderate amount of the time (3-4 days)
d. Most or almost all of the time (5-7 days)

16. I enjoyed life.

a. Rarely or none of the time (<1day)
b. Some or a little of the time (1-2 days)
c. Occasionally or a moderate amount of the time (3-4 days)
d. Most or almost all of the time (5-7 days)

17. I had crying spells.

a. Rarely or none of the time (<1day)
b. Some or a little of the time (1-2 days)
c. Occasionally or a moderate amount of the time (3-4 days)

d. Most or almost all of the time (5-7 days)

18. I felt sad.

a. Rarely or none of the time (<1day)
b. Some or a little of the time (1-2 days)
c. Occasionally or a moderate amount of the time (3-4 days)
d. Most or almost all of the time (5-7 days)

19. I felt that people disliked me.

a. Rarely or none of the time (<1day)
b. Some or a little of the time (1-2 days)
c. Occasionally or a moderate amount of the time (3-4 days)
d. Most or almost all of the time (5-7 days)

20. I could not get going.

a. Rarely or none of the time (<1day)
b. Some or a little of the time (1-2 days)
c. Occasionally or a moderate amount of the time (3-4 days)
d. Most or almost all of the time (5-7 days)

Appendix 7

Positive Aspects of Caregiving

Some caregivers say that in spite of all the difficulties involved in giving care to a family member with memory or health problems, good things have come out of their caregiving experience too. I'm going to go over a few of the good things reported by some of the caregivers. I would like you to tell me how much you agree or disagree with these statements.

Providing help to my loved one has…

1. Made me feel more useful
1 = disagree a lot
2 = disagree a little
3 = neither agree nor disagree
4 = agree a little
5 = agree a lot
-3 = refused
-4 = unknown

2. Made me feel good about myself
1 = disagree a lot
2 = disagree a little
3 = neither agree nor disagree
4 = agree a little
5 = agree a lot
-3 = refused
-4 = unknown

3. Made me feel needed
1 = disagree a lot
2 = disagree a little
3 = neither agree nor disagree
4 = agree a little
5 = agree a lot
-3 = refused
-4 = unknown

4. Made me feel appreciated
1 = disagree a lot
2 = disagree a little
3 = neither agree nor disagree
4 = agree a little
5 = agree a lot
-3 = refused

-4 = unknown

5. Made me feel important
1 = disagree a lot
2 = disagree a little
3 = neither agree nor disagree
4 = agree a little
5 = agree a lot
-3 = refused
-4 = unknown

6. Made me feel strong and confident
1 = disagree a lot
2 = disagree a little
3 = neither agree nor disagree
4 = agree a little
5 = agree a lot
-3 = refused
-4 = unknown

7. Enabled me to appreciate life more
1 = disagree a lot
2 = disagree a little
3 = neither agree nor disagree
4 = agree a little
5 = agree a lot
-3 = refused
-4 = unknown

8. Enabled me to develop a more positive attitude towards life
1 = disagree a lot
2 = disagree a little
3 = neither agree nor disagree
4 = agree a little
5 = agree a lot
-3 = refused
-4 = unknown

9. Strengthened my relationships with others
1 = disagree a lot
2 = disagree a little
3 = neither agree nor disagree
4 = agree a little
5 = agree a lot
-3 = refused
-4 = unknown

Appendix 8

Stress-Related Growth Scale Short Form

[Care recipient] Because of dealing with my illness…
[Caregiver] Because of dealing with my loved one's illness…

1. I learned to be nicer to others.
0 = not at all 1 = somewhat 2 = a great deal

2. I feel freer to make my own decisions.
0 = not at all 1 = somewhat 2 = a great deal

3. I learned that I have something of value to teach others about life.
0 = not at all 1 = somewhat 2 = a great deal

4. I learned to be myself and not try to be what others want me to be.
0 = not at all 1 = somewhat 2 = a great deal

5. I learned to work through problems and not just give up.
0 = not at all 1 = somewhat 2 = a great deal

6. I learned how to reach out and help others.
0 = not at all 1 = somewhat 2 = a great deal

7. I learned to be a more confident person.
0 = not at all 1 = somewhat 2 = a great deal

8. I learn to listen more carefully when others talk to me.
0 = not at all 1 = somewhat 2 = a great deal

9. I learned to be open to new information and ideas.
0 = not at all 1 = somewhat 2 = a great deal

10. I learned to communicate more honestly with others.
0 = not at all 1 = somewhat 2 = a great deal

11. I learned that I want to have some impact on the world.
0 = not at all 1 = somewhat 2 = a great deal

12. I learned that it is OK to ask other people for help.
0 = not at all 1 = somewhat 2 = a great deal

13. I learned to stand up for my personal rights.
0 = not at all 1 = somewhat 2 = a great deal

14. I learned that there are more people that care about me than I thought.
0 = not at all 1 = somewhat 2 = a great deal

15. I learned to find more meaning in life.
0 = not at all 1 = somewhat 2 = a great deal

Appendix 9

Religious Growth

[Care recipient] Because of dealing with my illness…
[Caregiver] Because of dealing with my loved one's illness…

1. I have grown closer to God.

1 = I strongly disagree
2 = I mildly disagree
3 = I agree and disagree
4 = I mildly agree
5 = I strongly agree

2. I have grown closer to my church.

1 = I strongly disagree
2 = I mildly disagree
3 = I agree and disagree
4 = I mildly agree
5 = I strongly agree

3. I have grown spiritually.

1 = I strongly disagree
2 = I mildly disagree
3 = I agree and disagree
4 = I mildly agree
5 = I strongly agree

Appendix 10

Pearlin-Schooler Mastery Scale

Rate the degree to which you agree with the following statements.

1. I have little control over the things that happen to me.
1 = Strongly Agree
2 = Agree
3 = Disagree
4 = Strongly Disagree

2. There is really no way I can solve some of the problems I have.
1 = Strongly Agree
2 = Agree
3 = Disagree
4 = Strongly Disagree

3. There is little I can do to change many of the important things in my life.
1 = Strongly Agree
2 = Agree
3 = Disagree
4 = Strongly Disagree

4. I often feel helpless in dealing with the problems in life.
1 = Strongly Agree
2 = Agree
3 = Disagree
4 = Strongly Disagree

5. Sometimes I feel as if I'm being "pushed around" in life.
1 = Strongly Agree
2 = Agree
3 = Disagree
4 = Strongly Disagree

6. What happens to me in the future mostly depends on me.
1 = Strongly Agree
2 = Agree
3 = Disagree
4 = Strongly Disagree

7. I can do just about anything I really set my mind to do.
1 = Strongly Agree
2 = Agree
3 = Disagree
4 = Strongly Disagree

Appendix 11

In-Person Interview

“How does your religious/spiritual life help you cope?”

“How would you describe your relationship with God/a Higher Power or your lack of a relationship with God/ a Higher Power?”

“How are you involved in the church?”

“How does church help you cope?”

“What does meaning mean to you?”

[To be asked of caregivers only]
“Does caregiving provide you with meaning? If so, how?”

IRB# 08-014-ME-R2

UNIVERSITY OF ALABAMA INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN SUBJECTS
REQUEST FOR APPROVAL OF RESEARCH INVOLVING HUMAN SUBJECTS

I. Identifying information

	Principal Investigator	Second Investigator	Third Investigator
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Title of Research Project: Legacy Intervention Family Enactment (LIFE)

Date Printed: 12-15-2010 Funding Source: National Institute of Nursing Research

Type of Proposal: ___New | _X_Revision _X_Renewal ___Completed | ___Exempt

Attach a renewal application

Attach a continuing review of studies form

Please enter the original IRB # at the top of the page

UA faculty or staff member signature: Rebecca S. Allen

II. NOTIFICATION OF IRB ACTION (to be completed by IRB):

Type of Review: _✓_ Full board ___ Expedited

IRB Action:

___Rejected Date:________

___Tabled Pending Revisions Date:________

___Approved Pending Revisions Date:________

_✓_Approved—this proposal complies with University and federal regulations for the protection of human subjects.

Approval is effective until the following date: 2-10-12

Items approved:

___ Research protocol: dated
___ Informed consent: dated
___ Recruitment materials: dated
___ Other: dated

Approval signature [signature] Date 2-15-11