

INTRINSIC RELIGIOUS ORIENTATION AND MENTAL HEALTH IN LATER LIFE

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Dissertation Prepared for the Degree of
DOCTOR OF PHILOSOPHY

UNIVERSITY OF NORTH TEXAS

December 2002

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Pruett, Charlie D. Jr., Intrinsic religious orientation and mental health in later life. Doctor of Philosophy (Sociology), December 2002, 115 pp., 18 tables, 2 figures, references, 121 titles.

This dissertation research project was conducted to investigate religion as a coping resource in later life. The major proposition of the study was that intrinsic religious orientation is positively associated with mental health in late life. A 43-item questionnaire was distributed to residents of four independent retirement communities resulting in a 66% return rate. The convenience sample of 214 individuals, with a mean age of 81.94 years, consisted of 156 female and 58 male respondents. Intrinsic religious orientation was held as the independent variable, while mental health was the dependent variable. Stress vulnerability characteristics were held as control variables including age, gender, education, stressful life events, marital status, perceived social support, and physical health. The zero order correlation between the independent and dependent variables was $r = .128, p = .034$ (1 tailed). When all control variables were entered, the relationship between intrinsic religious orientation and mental remained, $r = .116, p = .046$ (1 tailed). Regression analysis produced three predictors of mental health for females: stressful life events, age, and intrinsic religious orientation. Intrinsic religious orientation did not significantly change the relationship between stressful life events and mental health. A highly narrow variability in the sample limited stronger results. Findings indicate the importance of further investigation into religion as a coping resource, especially among older females.

ACKNOWLEDGEMENTS

The author acknowledges the import leadership and guidance received in this dissertation from his faculty committee: Susan Eve, major professor of sociology; Dale Yeatts, minor professor in aging studies; Stan Ingman; Richard Lusky; and David Williamson. Along the way, these individuals did not cease to be positive examples and excellent role models for the social scientist and university faculty I hope to become.

I acknowledge the tireless support of my friends at the Pruett Gerontology Center at Abilene Christian University: Joe & Mary Lou McKissick, Rachel Byers Perkins, and Amanda Peterson. I also acknowledge the important technical assistance of my friend, Jared Benge.

The completion of this dissertation would not have happened without the backing of Royce Money, Dwayne VanRheenen, Colleen Durrington, Marianna Rasco, Tom Milholland, Ian Fair, and Tom Winter, who all represent the supportive administration at ACU. Zack H. Pruett is also acknowledged posthumously for his supportive influence.

Special acknowledgement is given to my family for holding their husband, father, and grandfather together during the past seven years. Thank you Debbie, Lindsey, Lauren & Jason, Zack & Tami, and Bree.

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CHAPTER 1

INTRODUCTION

As individuals become older changes may occur that create the need to adapt to new situations or overcome losses. Coping may be required to deal with stressful changes that occur either in living situations, the social environment or changes in physical health. Life event changes introduce the need for adaptive coping skills and behavior. For example, the decline in the ability to perform activities of daily living may force an individual to move to a different housing arrangement introducing the need to adjust to a difficult and more dependent residential environment. Older persons who experience undesirable events such as bereavement, reduced income, illness, loss of driver's license, or becoming a caregiver, may experience significant frustrations in their aspirations to maintain a normative adult lifestyle (Kahana et al., 1995). Stressful events such as widowhood, the death of family and friends, loss of physical ability to care for self or others, physical illness, physical injury, and even role transition require coping mechanisms that will enable adaptation.

Over time, people develop various mechanisms of thought and behavior, known as coping skills, which are used to grapple with problems encountered (George, 1980). Coping describes the behaviors individuals use to prevent, alleviate, or respond to stressful situations. Successful coping with stress is an important element in the life course. Those who lack the ability to cope may experience greater mental problems than

those with greater resources and coping mechanisms. It is, therefore, highly important for the health of society that various coping mechanisms of older adults be understood. Applied research must be encouraged in order to assist those who may be less equipped to deal with losses in later life.

Coping mechanisms generally fall into two categories: behavioral strategies and cognitive/emotional strategies (Kart, 1997). Behavioral strategies include a wide array of actions that individuals can employ to change or alleviate stress. Within these, personal resources including finances, health, education, and social support provide reserves or aids that individuals may draw on in a stressful situation. Cognitive strategies refer to ways that individuals may employ psychological mechanisms to deal with stress.

One coping mechanism that has been identified in recent research is religious beliefs. For example, recently researchers have become interested in distinguishing among religious coping mechanisms and their effect on health (Pargament, 1999; 1997). However, it is still unclear if some religious coping behavior is more effective than others in helping older adults mediate the negative effect of stressful life events on mental health.

In summary, how older people employ religion to deal with life event stress is still unclear. More specifically, it is unclear whether particular religious orientations may be more effective stress mediators than others. The purpose of this dissertation is to better understand religion as a coping resource in later life. A research project was undertaken that investigated the relationship of intrinsic religious orientation and the ability to cope with stressful life events in later life.

CHAPTER 2

THEORY AND PROPOSITION

Coping With Major Changes In Later Life

Stress from major changes in later life may precipitate a greater need for coping in late life than at any other time during the life span. Stress has been identified as a process combining three major conceptual domains: the source of stress, the mediators of stress, and the manifestations of stress (Pearlin et al., 1981). Stress theories maintain that life events are stressful because they generate change. Menaghan (1983) refers to stress as a mismatch, either actual or perceived, between the person and his or her environment. As individuals grow older these mismatches occur with changes related to disruption of the physical body, social structures, and living environment. Negative life events experienced by the elderly frequently involve major life changes (e.g., death of a spouse). Negative life events may be associated with personal illness, illness of family members, and social conflict. Studies, such as one conducted by Kahana, et al (1995) have shown that negative life events tend to diminish subjective well-being, even after controlling for other factors associated with mental health. A major theme of sociological research has focused on the manifestations of stress, with specific interest in the influence that life stress exerts on health (see Thoits, 1995b). Stress has been found to have a negative effect on both mental and physical health (Kahana et al., 1995; Cohen & Williamson, 1991; Avison & Turner, 1988; Kessler et al., 1985).

How do older individuals deal with stress? Substantial theoretical and empirical literature focuses on the relations of stress and coping mechanisms (Cohen & Wills, 1985; Coyne & Downey, 1991; Cronkite & Moos, 1984; Eckenrode, 1984; Eve et al., 2001; Folkman, 1984; Kahn et al., 1985; Menaghan, 1983; Pearlin, 1989; Pearlin et al., 1981; Thoits, 1995a; 1994; 1992; 1987; 1984; 1982). Early work by Pearlin and Schooler (1978) helped conceptualize the structure of coping with stress by identifying three protective coping behaviors: 1) eliminating or modifying conditions giving rise to stress, 2) by perceptually controlling the meaning of the stressful event in a manner that neutralizes its problematic character, and 3) by keeping the emotional consequences of the stressor within manageable bounds. Folkman and Lazarus (1980) followed by suggesting that the context of the event, or how people appraise the event, influences how a person copes with stress. This is also supported by other empirical research (Thoits, 1995; Mattlin et al., 1990). Some social scientists continue to observe how some types of social relationships may have a negative influence on health and well-being (Rook, 1992).

Research indicates that personal characteristics may enhance the vulnerability to stress. For example, age, ethnicity, gender, educational attainment, income, and marital status have been identified as personal characteristics of vulnerability, with poverty, lack of education, minority status, being female, and being unmarried resulting in higher stress vulnerability (Kahana et al., 1995). Further, lack of social support has been found to leave individuals with a psychological vulnerability to stress (Thoits, 1984). Personal resources such as an active social support network can be employed to cope with stress. However, access to certain coping resources may begin to decline in later life. There is

some evidence that friendship ties of older people are a major source of coping (Lee & Shehan, 1989). However, some studies suggest that contact with friends begins to taper off in later life (Cerhan & Wallace, 1993).

It is clear from the above reviewed research and theoretical literature that some older people cope better with stress than others in later life. Advocates of the elderly want to know why this phenomenon occurs. If researchers can identify effective coping mechanisms, adaptive assistance can be developed around this scientific information.

One coping mechanism that has found recent interest is religious coping.

Use of Religion as a Coping Mechanism

The Effect of Religion on Mental Health

Sociological interest in the relationships between religious involvement and mental health can be traced to the influential work of Durkheim (1951). One tradition of sociological research follows Durkheim's original analytical strategy, relating the patterns of distribution of religious denominations and other measures of collective religious involvement to the aggregate rates of suicide and other forms of social pathology. There is no consensus among researchers on which specific dimensions of religiosity contribute to psychological well-being and subjective perceptions of life quality. However, research does suggest that religion may enhance various aspects of well-being in at least four ways: 1) through social integration and support; 2) through the establishment of personal relationships with a divine other; 3) through the provision of systems of meaning and existential coherence; and 4) through the promotion of more specific patterns of religious organization and personal lifestyle (Ellison, 1991). Koenig et al (1998) suggest that

religious beliefs may provide older people a worldview by which medical illness, suffering, and death can be better understood and accepted. This may result in lower stress.

The relationship between religion and health in the general population has found much interest among researchers. Over the past 150 years, more than 250 published empirical studies in medicine and epidemiology have explored the effects of one or more religious measures on indicators of nearly every cause of morbidity and mortality (Jarvis & Northcutt, 1987; Levin & Schiller, 1987). According to Levin (1994), regardless of the religious measures used or the health outcomes under study, the results across all of these studies are remarkably consistent. Findings point to two basic observations. First, in studies that make comparisons between two or more groups on the basis of religious affiliation, there is greater health and less morbidity among those religious groups that adhere to strict religious life styles, such as Seventh-Day Adventist and Mormons compared with other religious groups and unaffiliated individuals. Second, in studies that use at least one ordinal level measure of religiosity (e.g., religious attendance, subjective religiosity, and various other behaviors), the greater the intensity or degree of religiousness, the better health and the less of whatever illness is being investigated (Levin, 1994).

Reviews of empirical studies of the effects of religious indicators on health and well-being in older adults offer some support to the health related findings mentioned above, yet with less support for physical health than for mental health (Koenig, 1994, 1990). Interest in the area of health, aging, and religion continues to be a popular subject

for research. Early work done by Moberg (1952) established a footing for today's interest. In recent years, gerontologists, sociologists, psychologists, and geriatricians have begun to focus research on the influence of religion on both the physical and mental health of older individuals (Ainlay et al., 1992; Arcury et al., 2000; Atchley, 1997; Idler & Kasl, 1992; Ellison, et al., 1989; Ellison, 1991; Gesler, 2000; Helm et al., 2000; Husaini, 1999; Johnson, 1995; Kennedy et al., 1996; Koenig et al., 1998a; Koenig et al., 1998b; Koenig et al., 1997; Koenig, 1994; Koenig, 1990; Krause et al., 1998; Krause, 1995; Levin & Chatters, 1998; Levin et al., 1995; Mitchell & Weatherly, 2000; Morris, 1997; Musick et al., 1998; Sloan et al., 1999; Williams et al., 1991).

While some empirical studies have found a link between religiosity and physical health, others have found an ambivalent effect on older people. However, when considering mental health, a more positive influence has been found. As an example, Atchley (1997) explored whether the subjective importance of being religious influenced health over time. The 14-year study, using regression analysis, found that the importance of being religious, as well as the other religious variables, had no predictive value in terms of physical health. Williams et al (1991) found religious attendance does not directly reduce psychological distress, but it does buffer the deleterious effects of stress on mental health. Koenig et al (1998; 1994) studied the effects of religious beliefs and activity on remission of depression in medically ill, hospitalized older adults. They found intrinsic religiosity (religious beliefs) was significantly, independently, and positively related to more rapid remissions than patients with lower scores. Church attendance and private activities, such as prayer and Bible reading, were not found related.

Religious Orientation as an Independent Coping Mechanism

The term “religious coping” refers to the dependence on religious belief or activity to help manage emotional stress or physical discomfort (Koenig, 1994). There is a growing body of research into religious coping behaviors as mediators of stress and its implications for health (Chang et al., 1998; Koenig et al., 1998; Koenig et al., 1997; Koenig et al., 1992; Koenig et al., 1988; Krause, in press; Krause & Van Tran, 1989; Pargament, 1997; Pargament et al., 1995; Pargament et al., 1988; Neill & Kahn, 1999; Taylor, 1986; Wheaton, 1985; Williams et al., 1991; Wong-McDonald & Gorsuch, 2000). These studies clearly indicate that religious coping cannot be reduced to nonreligious forms of coping. Religious coping explains unique variance in the prediction of health and well-being above and beyond the effects of measures of non-religious coping (Pargament, 1999). Further, studies suggest that more specific religious coping measures are stronger predictors of outcomes of stressful situations than traditional, generic measures of religiousness (e.g., frequency of prayer, frequency of attendance, religious salience) (Pargament et al., 1998).

Studies have examined particular behavioral methods of religious coping. These behavior methods include forgiveness (Freedman & Enright, 1996; McCullough, Worthington, & Rachal, 1997), purification and confession (Pennebaker & Beall, 1986), spiritual support (Maton, 1989), social support (Ellison & George, 1994), religious appraisals (Pargament, 1999), conversion (Zinnbauer & Pargament, 1998), and approaches to control (Wong-McDonald & Gorsuch, 2000; Pargament et al 1988). These

studies have generally focused on one religious coping method as the research variable.

What is coming to light is that people seem to use a combination of these methods.

Research interest has begun to move from specific religious coping methods or behaviors into the classification of religious coping behavior. This direction in research, to some degree, has occurred due to the need to measure religious coping with smaller item scales in larger social science research survey instruments. (Pargament et al., 1998; Pargament, 1997).

The Influence of Religious Orientation and Continuity Theory

In seeking to explain differing outcomes of religious coping with stress in later life, it will be helpful to understand two related theoretical perspectives: religious orientation and continuity theory. The continuity theory of aging (Atchley, 1995; 1991; 1989; 1977) has been created to help explain how people adjust to changes in later life. The central thesis of continuity theory is that in adapting to challenges in later life, people attempt to preserve and maintain the long-standing patterns of living and coping that they identify as being uniquely theirs (Atchley, 1989). Continuity theory suggests that individuals develop habits, preferences, commitments, and other dispositions that become part of their personalities (Moberg, 2001). Coping strategies are employed that relate to familiar ideas, values, environments, activities, and social relationships. As people age, they make adaptive choices which will attempt to preserve and maintain existing internal and external structures. Atchley (1989) suggests people who are adapting to normal aging are predisposed and motivated toward inner psychological continuity as well as outward continuity of social behavior and circumstances. In discussing the spiritual self,

Atchley (1995) suggests that continuity has both an internal and external orientation. Internal continuity is the persistence of an inner structure formed by values, beliefs, knowledge, worldview, philosophy of life, and moral framework. External continuity is like a geographical map locating the self in a physical and social environment. Participation in religious organizations and external aspects of worship such as singing, religious symbols, and ceremony all provide satisfying external continuity. Adults generally want to preserve the patterns that have been most satisfying (Atchley, 1995).

In seeking to understand the role of religion as a coping resource in the life of an older person faced with late life stresses, the orientation of religion is important to understand. Atchley suggests “knowing the location of religion and spirituality in the individual’s personal system can also give important clues for understanding how specific changes would affect the person. For example, when an elder is forced to relocate, if his or her focus is mainly on the inner aspects of spirituality and less on religious participation, then the effects of relocation would probably be less troublesome than for a person whose emphasis was on participation in a particular religious congregation. The degree of upheaval experienced would probably differ considerably” (Atchley, 1995, p. 70).

Allport (1966) suggested the existence of personal religious orientations that relate differently to mental health variables. Religious orientation constructs were conceptualized for research by Allport and Ross (1967). They distinguish intrinsic and extrinsic orientation as two poles of subjective religion. The extrinsically motivated person uses religion, whereas the intrinsically motivated person lives religion. Allport

and Ross (1967) argue that a person with an extrinsic religious orientation uses religion to provide security, comfort, status, or social support for the self. Religion is not a value in its own right, but serves other needs. They suggest that intrinsic religious orientation is not an instrumental device. It is not a crutch or a bid for status. Intrinsic orientation internalizes the total creed and values of the religion. All other needs are subordinated to an overarching religious commitment (Allport & Ross, 1967).

The personal religious orientation research has given attention to measurement issues. For example, a number of scales have been developed to measure personal religious orientation (Allport & Ross, 1967; Gorsuch & McPherson, 1989; Gorsuch & Venable, 1983). Although Allport initially conceived that intrinsic and extrinsic are two religious orientations that are opposites on the same continuum, researchers have subsequently concluded that the constructs can be independently assessed (Gorsuch & McPherson, 1989; Donahue, 1985; Gorsuch & Venable, 1983). Therefore, intrinsic religious orientation has been used as an independent concept to measure religious orientation. For example, Hathaway and Pargament (1990) used intrinsic religiousness as a measurement for religious orientation to study the relationship of religious coping styles and mental health. This dissertation research project followed a similar line of research by investigating the influence of intrinsic religious orientation on mental health in later life.

Research Theoretical Construct and Hypotheses

Research Theoretical Construct

In summary, by combining the continuity theory of aging with the construct of intrinsic religiosity, one might expect to find two characteristics among older people. First, following the theory of continuity, it is expected that the internal construct of religious commitment should remain level and not become stronger over time. Second, one might expect to find older people who have a higher intrinsic religious orientation to experience less stress when faced with difficult life events that interrupt their normal course of life than those with a lower intrinsic religious orientation. An internal religious orientation would suggest a religious coping style more focused on internal values, beliefs, and faith less related to external activity. Older individuals whose religious orientation is less intrinsic would be expected to experience difficulty when their geographical external structure of continuity is challenged. For example, losses such as significant social roles, family members, functional health, etc. could be expected to create a threat to continuity of self-identity and value. Interruption of external continuity may challenge the emotional health of individuals who have found a high level of religious identity in the ability to participate in public religious ceremonies, gather with other religious people, and maintain a sense of religious maturity by doing good works for others.

Research Theoretical Hypotheses

Based on the research reviewed above, a dissertation research project was proposed that would investigate intrinsic religious orientation as a coping resource in

later life. Specifically, this dissertation examined the strength and nature of the relationship between intrinsic religious orientation and mental health. Based on the overall theoretical construction suggested by this dissertation, the hypothesis was derived that mental health is a function of religious orientation. Specifically, as intrinsic religious orientation increases, mental health increases. Figure 1 presents the research model developed that guided investigation into the relationship. As seen in this model, mental health served as the dependent variable, while intrinsic religious orientation served as the independent variable. The following hypotheses were set forth for investigation.

Major Hypotheses

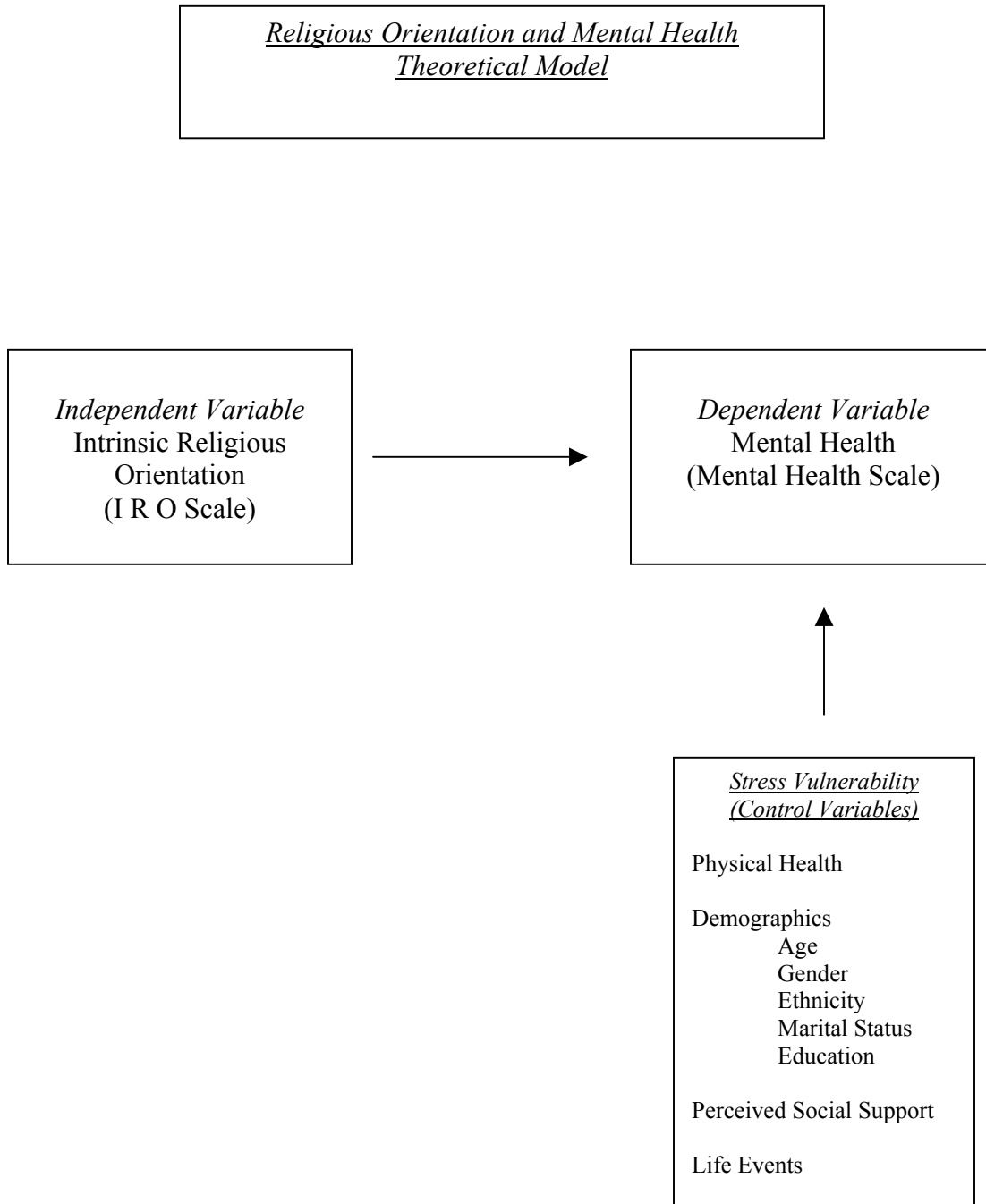
Hypothesis 1: An intrinsic religious orientation is positively related to mental health among older adults. This hypothesis suggests that, among older individuals, as the level of intrinsic religious orientation increases so will the level of mental health. For my research, this hypothesis was as follows: Among people over the age of 65, living in a church related retirement community, scores on an intrinsic religiosity scale will be positively associated with scores on a mental health scale.

Hypotheses for Control Variables

Consideration was given to the possibility that other variables may explain the hypothesized relationship between intrinsic religiosity and mental health. The above review of stress literature facilitated the identification of variables that have been shown to influence mental health in later life. To further investigate the relationship of intrinsic religious orientation and mental health, the following were included in the model as

Figure 1

Theoretical Research Model



control variables: stressful life events, age, gender, education, ethnicity, marital status, physical health, and perceived social support. Hypotheses for the variables entered as controls were also developed for this research.

Hypothesis 2: The relationship between intrinsic religious orientation and mental health will be interpreted by age as a control variable. Age has been identified as having an inverse association with mental health in late life.

Hypothesis 3: The relationship between intrinsic religious orientation and mental health will be interpreted by gender as a control variable. The literature review for this research identified the personal characteristic of being female as a characteristic of stress vulnerability. It is entered as a control variable due to a possible relationship with mental health. Whether being female contributes to a higher level of intrinsic religious orientation was not identified in the literature review.

Hypothesis 4: The relationship between intrinsic religious orientation and mental health will be interpreted by education as a control variable. Literature reviewed for this research also identified a lower level of education as a characteristic that may put a person at greater risk for stress vulnerability. Education level is entered as a control variable due to a possible inverse relationship with mental health.

Hypothesis 5: The relationship between intrinsic religious orientation and mental health will be interpreted by marital status as a control variable. The literature review for this research identified the characteristic of marital status as having a relationship with stress vulnerability, with being not married as contributing to greater

vulnerability. Marital status is entered as a control variable due to a possible relationship with mental health.

Hypothesis 6: The relationship between intrinsic religious orientation and mental health will be interpreted by ethnicity as a control variable. The literature review for this research identified the personal characteristic of being in a minority status increased the risk of stress vulnerability. Ethnicity is entered as a control variable due to a possible relationship with mental health.

Hypothesis 7: The relationship between intrinsic religious orientation and mental health will be interpreted by entering physical health as a control variable. Stress literature reviewed suggested poor physical health contributed to lower levels of mental health. Because this inverse relationship has been identified between physical health and mental health, physical health was entered as a control variable that might explain the relationship between intrinsic religious orientation and mental health.

Hypothesis 8: The relationship between intrinsic religious orientation and mental health will be interpreted by perceived social support as a control variable. The question of what religion may supply as a source for coping in later life was near the central focus of this dissertation research. Some have suggested that at least part of what religion supplies is strong social support from a supportive community of believers. Strong social support was also identified in the above literature review as possibly contributing to better mental health. Social support was therefore entered as a control variable. It was expected that intrinsic religious orientation and mental health have a relationship that cannot be explained by social support.

Hypothesis 9: The relationship between intrinsic religious orientation and mental health will be interpreted by stressful life events as a control variable. Stress literature has for a long time identified an inverse relationship between stressful life events and mental health. The same relationship was expected to be found within the research sample. However, the relationship between stressful life events and mental health was not expected to explain the relationship between intrinsic religious orientation and mental health.

CHAPTER 3

RESEARCH DESIGN

Data Collection

Accepted research procedures were followed to insure minimal risk to each participant. The dissertation research proposal was first reviewed and approved by the researcher's dissertation faculty committee. After receiving approval from the dissertation committee the proposal was reviewed and approved by the committee for the Protection of Human Subjects located in the University of North Texas Office of Research Services.

Data for this study were gathered from older adults living in senior retirement congregate living communities. In February 2002, 4 independent-living retirement facilities participated in this project: 1 from Columbus, Ohio; 1 from Mesquite, Texas; and 2 from Abilene, Texas. These facilities are independent living communities, which should not be confused with nursing homes or assisted living facilities. Administrators from each community distributed survey packets to all the residents living in their perspective retirement community. Two letters, 1 from the administrator and another from the lead researcher, were included in the packet explaining the confidentiality and voluntary nature of the survey (See Appendix A). A 43-item questionnaire (see Appendix B) was included along with a self-addressed postage paid return envelope. Potential participants were instructed to complete the questionnaire, place it in the

envelope, and drop it in the mail. Two weeks following the initial distribution of the survey administrators of the retirement communities contacted each resident a second time. The second communication reminded each resident to voluntarily complete the questionnaire, if it had not already been completed.

A total of 416 questionnaires were distributed to the four retirement communities. Distribution totals for individual communities were: 51 to location 1; 116 to location 2; 100 to location 3; and 149 to location 4. Participants returned a total of 274 questionnaires. This gave a strong return rate of 66%. Return rates for individual communities were: 82% from location 1, 58% from location 2, 76% from location 3, and 60% from location 4.

Data were entered into a computer using statistical software for social sciences research. Data were cleaned and checked for data entry error. Every 9th case was double checked to search for data entry error. No errors were found that would have any effect of data analysis. Distribution frequencies were run to identify variables with missing data. The data set was then visually reviewed to remove any cases that had missing items in scales. Fifty-nine cases were removed from the data set. However, data analysis showed no significant difference when analysis was done that included missing items.

Sample

Data for this project came from the process explained above. Sample description is displayed in Table 1. The analyses presented below are based on 214 participants ranging in age of 66 to 100 years of age. The retirement community and the percentage it represents in the sample are: location 1, 16.7%; location 2, 20.9%; location 3, 28.4%; and

location 4, 34%. The average age of sample is 81.94 years with median age of 82 and standard deviation of 6.37 years. Typical of this age group there are more female than male participants. Twenty-seven percent of the sample responded as male, $n = 58$, while 73 % were female, $n = 156$. Participants were also asked to give their marital status. The sample consists of 33.5% married, 0.5 % divorced and remarried, 0.9% widowed and remarried, 6% divorced, 53.5% widowed, and 5% single-never married. The sample showed no ethnic diversity with 98% Caucasian/white. Religious affiliation is also one of the demographic characteristics of the sample. The Church of Christ religious affiliation made up the largest religious group represented with 46% of the sample. Baptists made up 15.3%. Methodists represented 19.5%. Presbyterians made up 6.5% of the sample. Also represented in the sample were Catholics, with 1.4%. The remaining religious affiliations were grouped into a category called “other” representing 9.9% of the sample. Three people, or 1.4% of the sample, did not give a religious affiliation. The highest level of academic achievement was measured to describe the educational level of participants. The educational makeup of the sample is: 0.9% who attended some elementary; 7.4% who had some high school education; 21.9% who completed high school; 24.7% who had some college education; 23.3% who graduated from college, and 21.9% who attended or completed graduate school.

This is a convenience sample and should be understood as such. The sample better represents religious elderly living in church affiliated independent living retirement communities than elderly living in the general population.

Table 1

Description of Research Sample

Variable	Frequency
Sample Size:	
Location 1	$n = 36$
Location 2	$n = 45$
Location 3	$n = 61$
Location 4	$n = 72$
Total	$N = 214$
Age:	
Mean	81.94
Median	82
Range	66 – 100
SD	6.37
Gender:	
Female	156 (73%)
Male	58 (27%)
Marital Status:	
Married	72 (33.5%)
Divorced and Remarried	1 (.5%)
Widowed and Remarried	2 (.9%)
Divorced and Not Remarried	12 (5.6%)
Widowed, Not remarried	115 (53.5%)
Single and Never married	11 (5.1%)
Missing	1 (.5%)

(table continues)

Table 1 (Continued)

Description of Research Sample

Variable	Frequency
Ethnicity:	
Causation/white	211 (98.6%)
Hispanic	1 (.5%)
Other	1 (.5%)
Missing	1 (.5%)
Education:	
Some Elementary School	2 (.9%)
Some High School	16 (7.5%)
High School Graduate	47 (22%)
Some College	53 (24.8%)
College Graduate	50 (23.4%)
Graduate School	46 (21.5%)
Religious Affiliation:	
Church of Christ	98 (45.8)
Baptist	33 (15.4%)
Methodist	42 (19.6%)
Presbyterians	14 (6.5%)
Catholic	3 (1.4%)
Other	21 (9.8%)
Missing	3 (1.4%)

Dependent, Independent, and Control Variables Measured

Dependent Variable

The dependent variable for this project was mental health. Mental health was operationalized as the mental component summary (MCS) scale produced within the Short Form 12-item Version 2™ (SF-12V2) health summary scale (Ware, Kosinski, & Keller, 1996). Rights to use this instrument were purchased from QualityMetric Incorporated, Lincoln, Road Island. The SF-12V2 is a multipurpose short-form generic measure of health status. It was developed to be a shorter, yet valid, alternative to the Short Form-36 (SF-36) for use in large surveys of general and specific populations studies of health outcomes. John Ware (1993) used regression methods to select and score 12 items from the original SF-36 which was also developed by Ware (1993) as part of the Medical Outcomes Study at the New England Medical Center in Boston and the Rand Corporation in Santa Monica, California. The SF-36 was originally designed for use in clinical practice and research, health policy evaluations, and general population surveys. Construction of the SF-36 took into account the minimum psychometric standards necessary for group comparisons involving generic health concepts. It was designed to be self administered by individuals 14 years and older. The SF-12V2 takes between 2-5 minutes to complete lowering the response burden of a long scale. The SF-12V2 produced a mental health component summary from twelve questions. The twelve questions which comprise the SF-12V2 are displayed, with permission from QualityMetrics Incorporated, in Table 2. Likert type answers are offered for each question. For example, question 1 asked, “In general, would you say

Table 2

SF-12V2 Health Survey Questions and Sample Response Frequencies

Items in Survey <i>N</i> = 214	Response Frequency	Percent
1. In general would you say your health is:		
Excellent	6	2.8
Very Good	55	25.7
Good	80	37.4
Fair	66	30.8
Poor	7	3.3
2. Does your health now limit you in moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf?		
Yes, limited a lot	68	31.8
Yes, limited a little	105	49.1
No, not at all	41	19.2
3. Does your health now limit you in moderate activities, such as climbing several flights of stairs?		
Yes, limited a lot	95	44.4
Yes, limited a little	82	38.2
No, not at all	37	17.3

(table continues)

Table 2 (continued)

SF-12V2 Health Survey Results

Items in Survey <i>N</i> = 214	Response Frequency	Percent
4. Have accomplished less than you would like during the past 4 weeks due to physical health?		
Yes	87	40.7
No	127	59.3
5. Were limited in activities during the past 4 weeks due to physical health?)		
Yes	91	42.5
No	123	57.5
6. Have emotional problems such as feeling depressed or anxious caused you to accomplish less than you would like during the past 4 weeks?		
Yes	145	67.8
No	69	32.2
7. Have emotional problems such as feeling depressed or anxious caused you to not do work or activities as carefully as usual during the last 4 weeks?		
Yes	153	71.5
No	61	28.5

(table continues)

Table 2 (continued)

SF-12V2 Health Survey Results

Items in Survey <i>N</i> = 214	Response Frequency	Percent
8. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?		
Not at all	63	29.4
A little bit	60	28
Moderately	50	23.4
Quite a bit	32	15
Extremely	9	4.2
9. During the last 4 weeks, have you felt calm and peaceful?		
All of the time	21	9.8
Most of the time	113	52.8
A good bit of the time	41	19.2
Some of the time	35	16.4
A little of the time	4	1.9
None of the time	0	0

(table continues)

Table 2 (continued)

SF-12V2 Health Survey Results

Items in Survey <i>N</i> = 214	Response Frequency	Percent
10. During the last 4 weeks, did you have a lot of energy?		
All of the time	4	1.9
Most of the time	58	27.1
A good bit of the time	38	17.8
Some of the time	60	28
A little of the time	38	17.8
None of the time	16	7.5
11. During the last 4 weeks, have you felt downhearted and depressed?		
All of the time	0	0
Most of the time	2	.9
A good bit of the time	8	3.7
Some of the time	44	20.6
A little of the time	89	41.6
None of the time	71	33.3

(table continues)

Table 2 (continued)

SF-12V2 Health Survey Results

Items in Survey <i>N</i> = 214	Response Frequency	Percent
12. During the last 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities like visiting friends or relatives?		
All of the time	3	1.4
Most of the time	18	8.4
Some of the time	62	29
A little of the time	33	15.4
None of the time	98	45.8

your health is.” Respondents were instructed to choose from five answers; “Excellent,” “Very good,” “Good,” “Fair,” or “Poor.” Responses were initially given a numeric value of 1 to 5, or less, depending on the number of choices for each of the twelve questions. For example, question 1 had an initial answer value of 1 to 5 for “Excellent” to “Poor,” respectively. After data entry was completed, all possible answers for each of the twelve items on the SF-12V2 were recoded with appropriate algorithm weights supplied by Ware et al (1998). Ware gives both a mental health weight and a physical health weight to each of the twelve questions. The weights for the SF12V2 items may be reviewed in Table 3. A physical and mental weight of 0 is assigned for the item response that is indicative of the most favorable health state. The values for each of the twelve items were then added to produce summaries for both mental health and physical health. The mental health scores were then standardized by adding the constant (60.75781) to the mean of the mental health weights. In our sample, the sample mean MCS score (-6.148) was added to the constant (60.75781), which resulted in a norm-based standardized MCS mean score of 54.61 as shown in Table 3. The physical health scores were standardized by adding the constant (56.57706) to the sum of the physical health weights (See Table 3). Thus, scores were produced that are norm-based with the general population (Ware, et al 1998).

The dependent variable, mental health, for the study participants is compared to the U.S. population (Ware, et al 1998) in Table 4. The mean score on the SF12V2 for the general U.S. population on both the mental health and physical health components is 50, and the standard deviation is 10. The study sample was divided into two groups for

Table 3

SF-12V2 Health Survey Weights

Items in Survey	Mental	Physical
1. General health		
Excellent	0	0
Very Good	-.06064	-1.31872
Good	-.03482	-3.02396
Fair	-.16891	- 5.56461
Poor	- 1.71175	- 8.37399
2. Moderate activities		
Yes, limited a lot	3.93115	- 7.23216
Yes, limited a little	1.8.86840	- 3.45555
No, not at all	0	0
3. Climbing flights of stairs		
Yes, limited a lot	2.6828295	- 6.24397
Yes, limited a little	1.43103	- 2.73557
No, not at all	0	0
4. Accomplished less than would like (physical)		
Yes	1.44060	- 4.61617
No	0	0

(table continues)

Table 3 (continued)

SF-12V2 Health Survey Weights

Items in Survey	Mental	Physical
5. Limited in kinds of activities		
Yes	1.66968	- 5.51747
No	0	0
6. Accomplish less than you would like (emotional)		
Yes	- 6.82672	3.04365
No	0	0
7. Did things less carefully (emotional)		
Yes	- 5.69921	2.32091
No	0	0
8. Pain interferes with normal activity		
Not at all	0	0
A little bit	.090384	- 3.80130
Moderately	1.49384	- 6.50522
Quite a bit	1.76691	- 8.38063
Extremely	1.48619	- 11.25544

(table continues)

Table 3 (continued)

SF-12V2 Health Survey Weights

Items in Survey	Mental	Physical
9. Felt calm and peaceful		
All of the time	0	0
Most of the time	- 1.94949	.066514
A good bit of the time	- 4.09842	1.36689
Some of the time	- 6.31121	2.37241
A little of the time	- 7.92717	2.90426
None of the time	- 10.19085	3.46638
10. Have a lot of energy		
All of the time	0	0
Most of the time	- .92057	- .42251
A good bit of the time	- 1.65178	- 1.14387
Some of the time	- 3.29805	- 1.61850
A little of the time	- 4.88962	- 2.02168
None of the time	- 6.02409	- 2.44706

(table continues)

Table 3 (continued)

SF-12V2 Health Survey Weights

Items in Survey	Mental	Physical
11. Felt downhearted and depressed		
All of the time	- 16.15395	4.61446
Most of the time	- 10.7791	3.41593
A goof bit of the time	- 8.09914	2.34247
Some of the time	- 4.59055	1.28044
A little of the time	- 1.95934	0.41188
None of the time	0	0
12. Health interferes w/social activities		
All of the time	- 6.29724	- .33682
Most of the time	- 8.26066	- .94342
Some of the time	- 5.63286	- .18043
A little of the time	- 3.13896	0.11038
None of the time	0	0
Constant	60.75781	56.57706
Sample Summary Scale Mean	- 6.148	-19.707
Norm-based Mean Score	54.61	36.87

Ware, J.E., Kosiniski, M., & Keller, S. (1998). SF-12: How to Score the SF-12 Physical and Mental Health Summary Scales, (3rd ed.). Lincoln, RI: Quality Metric Incorporated. Used by permission.

Table 4

Comparison of SF-12V2 Scores with General U.S. Population

Age Group	Sample (N=214)	U.S. Population*
Mental Health		
<i>Age 66-74 (n=25)</i>		
Mean	56.07	52.10
SD	6.64	9.53
Range	29.5 (35.2 - 64.7)	51 (19 - 70)
<i>Age 75+ (n=188)</i>		
Mean	52.25	50.66
SD	8.34	10.94
Range	37.2 (29.5 - 66.7)	47 (22 - 69)
Physical Health		
<i>Age 66-74 (n=25)</i>		
Mean	40.02	43.65
SD	13.26	11.02
Range	41.3 (14.7 - 56)	46 (13 - 59)
<i>Age 75+ (n=188)</i>		
Mean	36.50	38.68
SD	11.03	11.04
Range	47.5 (11.5 - 59)	40 (17 - 57)

*Source = (Ware et al., 1998)

comparison with the SF-12V2 score reported by Ware. The study sample subgroup, age 66 – 74, had a mean score of 56.07, standard deviation of 6.64, and range 29.54. This compares well with the U.S. population score for the same age group which was, mean = 52.10, standard deviation = 9.53, and range 51. The 75 and older portion of the present study sample also scored higher than the national average for the same age group with 52.25 compared to 50.06 in the U.S. population. The range and standard deviation were both smaller in the study sample than in the U.S. population of the same age group.

Independent Variable

As has been reported (Ainlay et al., 1992), older people experience greater functional limitation and, in turn, are less likely to engage in various church activities. If religiosity can simply be measured by levels of attendance at church gatherings, the functional decline of old age would bias the measurement. Therefore, a measurement that determines the level of religious commitment was preferable for this research project.

Since this dissertation research project sought to connect the theoretical perspective of continuity theory with the concept of intrinsic religious orientation, it was important to find a measurement scale that is valid for such research. Robert Atchely (1995) theorized that people adapt to life events while maintaining longstanding patterns of relating to the world. His continuity theory gives more attention to an inner spiritual continuity that binds life together. Koenig (1994) suggests the concept of intrinsic religiosity is particularly useful because it is not contaminated with indicators of well-being or items confounded by physical health, and thus can be used to explore

associations between a mature faith and mental health. Therefore, for this research project intrinsic religious orientation was conceptualized following the work of Allport and Ross (1967) who helped develop personal religious orientation as a concept. The original Religious Orientation Scale (Allport & Ross, 1967) was reworded by Gorsuch and Venable (1983) to create the Age Universal I-E Scale. The wording was adjusted so that it could be successfully administered to children, as young as the fifth grade, and to adults at any age. The characteristic of an easily administered scale is important to the old age of this sample. The Age Universal I-E Scale was later shortened from twenty to fourteen questions in the I/E-R scale maintaining validity and reliability (Gorsuch & McPherson, 1989).

To quantify intrinsic religious orientation, this research employed the eight-item intrinsic scale, which is a component of the Intrinsic/Extrinsic-Revised scale (I/E-R) developed by Gorsuch and McPherson (1989). These eight items function as an independent measurement of intrinsic religious orientation. The eight items, along with response item values and response frequencies are displayed in Table 5. Two examples of the eight item statements are: question 1, “I enjoy reading about my religion;” and question 3, “It is important to me to spend time in private thought and prayer.” A 5-selection Likert type answer ranging from “strongly disagree” to “strongly agree” is offered for each of the 8 items. Each item had a possible score of 1 –5, giving a possible total score from 8 to 40, with 8 being the lowest possible score and 40 being the highest possible score.

Table 5

 Intrinsic Religious Orientation Scale Items, Values, and Response Frequencies

Scale Item <i>N</i> = 214	Frequency	Percent	Value
Q1: I enjoy reading about my religion			
Strongly Disagree	5	2.3	1
Disagree	4	1.9	2
Neutral	17	7.9	3
Agree	109	50.9	4
Strongly Agree	79	36.9	5
Q2: Doesn't matter much what I believe so long as I am good			
Strongly Disagree	122	57	5
Disagree	56	26.2	4
Neutral	16	7.7	3
Agree	16	7.5	2
Strongly Agree	4	1.9	1
Q3: It is important to me to spend time in private thought and prayer			
Strongly Disagree	1	.5	1
Disagree	6	2.8	2
Neutral	7	3.3	3
Agree	98	45.8	4
Strongly Agree	102	47.7	5

 (table continues)

Table 5 (continued)

Intrinsic Religious Orientation Scale Items and Response Frequencies

Scale Item <i>N</i> = 214	Frequency	Percent	Value
Q4: I have often had a strong sense of God's presence			
Strongly Disagree	7	3.3	1
Disagree	10	4.7	2
Neutral	27	12.6	3
Agree	100	46.7	4
Strongly Agree	70	32.7	5
Q5: I try hard to live all my life according to my religion			
Strongly Disagree	2	.9	1
Disagree	7	3.3	2
Neutral	6	2.8	3
Agree	103	48.1	4
Strongly Agree	96	44.9	5
Q6: Although I am religious, I don't let it affect my daily life			
Strongly Disagree	98	45.8	5
Disagree	79	36.9	4
Neutral	10	4.7	3
Agree	19	8.9	2
Strongly Agree	8	3.7	1

(table continues)

Table 5 (continued)

Intrinsic Religious Orientation Scale Items and Response Frequencies

Scale Item <i>N</i> = 214	Frequency	Percent	Value
Q7: My whole approach to life is based on my religion			
Strongly Disagree	8	3.7	1
Disagree	17	7.9	2
Neutral	24	11.2	3
Agree	101	47.2	4
Strongly Agree	64	29.9	5
Q8: Although I believe in my religion, many other things are more important in life			
Strongly Disagree	112	52.3	5
Disagree	65	30.4	4
Neutral	15	7	3
Agree	10	4.7	2
Strongly Agree	12	5.6	1

1 = Questions 2, 6, & 8 have reversed values

Both Validity and reliability of the Age Universal I-E Scale intrinsic religiosity scale have been tested and supported for several years (Gorsuch & McPherson, 1989). The intrinsic religiosity scale was also found to be reliable for this research project with an $\alpha = .777$. Intraclass correlation coefficients test was done as a second statistical test for reliability. This measures the consistency of each item included in the scale rather than absolute agreement. This reliability measurement involves constructing ANOVA-type models for the observations. The average measure intraclass correlation was .777, with a lower of .728 and an upper of .819. The ICC test for reliability gave an $F = 4.47$, $df = 213$, $p = .000$ for the reliability of the intrinsic religiosity scale used for this research.

Factor analysis was also used to study the interrelation of the items within the intrinsic religious orientation scale. This was done to determine that all the items in the scale represented just one dimension for the population with which the sample is associated. Results are included in Appendix C. Principle component analysis method was chosen for extraction by Eigenvalues at a power of 1. All eight items clustered together into one factor.

Control Variables

Age. Age was measured in years. Respondents were asked to give the year of their birth. The year of birth was subtracted from 2002 to give the age of the respondent. As displayed in Table 1, the mean age of the sample was 81.94 years. This is an old sample both well suited for the research question and much older than any located in any publication on the same research topic. The sample ranged from a minimum of 66 years

to 100 years for the oldest participant giving a range of 34 years. The sample had a median of 82 years old with a standard deviation of 6.37 years. Skewness, -0.384, and kurtosis, 0.267, indicate the symmetry of the sample was well within normal distribution.

Gender. Gender was measured as “male” or “female.” A dummy variable was created with “0” for male and “1” for female, as displayed in Table 6. Typical of a sample this old the majority of the respondents were female. Seventy three percent of the sample was female, $n = 156$. There were 58 males, making up the remaining 27% of the sample.

Education. Socioeconomic status variable was measured by “highest educational background.” Table 7 displays the six choices given each participant, along with the values for each selection. Items and their values are: “some elementary school” = 1; “some high school” = 2; “high school graduate” = 3; “some college” = 4; “college graduate” = 5; and “graduate school” = 6.

Table 8 displays frequency of sample response. The median, 4, fell within the “some college” level. Participants reported a mean of 4.27, indicating an educated sample with an average between some college and a college degree. The standard deviation was 1.28. Fifty (23.4%) of the sample had college degrees, while 46 (21.5%) had attended graduate school. This is not surprising in that three of the retirement communities have direct or indirect relations with colleges.

Ethnicity. Ethnicity was measured by a choice of “Caucasian/white,” “African American/black,” “Hispanic,” “Asian,” and “other,” with a blank for explanation.

Results to the ethnicity variable (See Table 1) show no ethnic diversity in the

Table 6

Gender Variable Values

Gender	Frequency	Percent	Value
Female	156	73%	1
Male	58	27%	0

Table 7

Education Variable Values

Level Maximum Education	Values Assigned
Which is your highest educational background?	
Some Elementary School	1
Some High School	2
High School Graduate	3
Some College	4
College Graduate	5
Graduate School	6

Table 8

Education Variable Frequencies

Level Maximum Education	Frequency	Percent
<i>N</i> = 214		
Which is your highest educational background?		
Some Elementary School	2	0.9%
Some High School	16	7.5%
High School Graduate	47	22%
Some College	53	24.8%
College Graduate	50	23.4%
Graduate School	46	21.5%
Total	214	100%
Mean Education of Sample	4.27	
Median of Sample	4	
<i>SD</i>	1.28	

sample. Two hundred thirteen participants reported their ethnicity, while one did not answer. The sample was 98.6% “Caucasian/ white,” with no African American/black respondents, one “Hispanic” respondent, and one who responded “Other.”

Marital status. Marital status was measured by a six-item selection response, as displayed in Table 9. Participants were asked to report their marital status by selecting one of the six. Marital status was measured by “married” = 1, “divorced and remarried” = 2, “widowed and remarried” = 3, “divorced and not remarried” = 4, “widowed and not remarried” = 5, or “single, never married” = 6. The sample did show diversity in marital status. Marital status for the sample was “Married” = 72, “Divorces and Remarried” = 1, “Widowed and Remarried” = 2, “Divorces and Not Remarried” = 13, “Widowed” = 115, and “Single Never Married” = 11.

After initial data entry, a dummy variable was created with a value of “0” for those not presently married and “1” for those who are presently married. This was done by recoding items 1, 2, & 3 as “1” and items 4, 5, & 6 as “0.” Table 9 displays the frequency results.

Religious affiliation. Religious affiliation was the self-reported name of “church affiliation.” Participants were requested to “please write in your religious or church affiliation.” Table 10 gives a breakdown of religious affiliation by location. Religious affiliation composition of the sample was: Church of Christ, 46%; Methodist, 19.5 %; Baptist, 15.3 %; Presbyterian, 6.5%; Catholic, 1.4 %; and a group combining all other responses, 9.8%. This composition reflects the religious affiliation of the not-for-profit

Table 9

Marital Status of Sample

Marital Status <i>N</i> = 214	Frequency	Percent	Code
Married	72	33.5%	1
Divorced and Remarried	1	.5%	2
Widowed and Remarried	2	.9%	3
Divorced and Not Remarried	12	5.6%	4
Widowed, Not remarried	115	53.5%	5
Single and Never married	11	5.1%	6
Missing	1	(.5%)	

Dummy variable: "Marriage" (0 = those not in marriage, 1 = those in marriage)

Those in Marriage	138	64.5%
Those not in Marriage	75	35%
Missing	1	

Table 10

Religious Affiliation by Location

Religious	Location 1	Location 2	Location 3	Location 4	Percent Sample
Baptist		15	4	14	15.3
Catholic			2	1	1.4
Church of Christ	36	10	8	45	46
Methodist		15	24	3	19.5
Presbyterian		2	13	6	6.5
Other		2	13	6	9.8

N = 214

elder housing communities from which the sample was taken. Location 3 reflected a much broader diversity of religious affiliation. Location 1 presented no diversity of religious affiliation with 100% Church of Christ.

Physical health. Physical health was operationalized as the physical health component summary (PCS) scale produced within the SF-12V2 Health Summary Scale (Ware, Kosinski, & Keller, 1996). The method by which the PCS scale was scored has been presented in the discussion above for the dependent variable, mental health. The PCS is a generic measure of health status that fits well the interest of the present research in a global health measurement that included several perspectives of wellness in later life as it is related to stress. A summary of the twelve questions and frequencies reported by the study sample are displayed in Table 2. The SF-12V2 includes one multi-item scale that assesses eight health concepts: 1) physical functioning, 2) role functioning due to physical problems, 3) role limitation due to emotional problems, 4) body pain, 5) social functioning, 6) mental health, 7) vitality, and 8) general health perceptions. The content validity of the SF-12V2 has been compared to that of other widely used generic health surveys (Ware, 1992; Van Hook, et al 1996).

The research sample has a norm-based standardized PCS score mean of 36.87, standard deviation = 11.35. As reported earlier, this score was reached by recoding original responses with the weights provided by Ware et al (1998), see Table 3. The sample mean PCS score of (-19.707) was then added to the constant (56.57706), which resulted in a norm-based standardized PCS mean score of 36.87, see Table 3. The skewness measure of .067 indicates a normal symmetry of distribution in both directions.

Table 4 shows how well the study sample compares to the general United States population. The scores for the United States population are taken from Ware, et al (1998). Our study sample reported lower scores than the same age groups in the general population. As will be discussed later, this may be explained by the nature of individuals living in the locations from which the sample was taken. Those who were between the age of 66 and 74, in our sample, had a mean of 40.02, standard deviation = 13.26, and range of 41.25. In the general population physical health was somewhat better at 43.65, standard deviation = 11.02. The general population of the age of 75 and above reported better health, mean 38.68, standard deviation 11.04, than our sample, mean = 36.50, standard deviation 11.03. Ware did not give the mean age of either group in his report. Our study sample compares well with the general population in the physical health variable.

Social support. Social support has been conceptualized as aid from significant others that is intended to meet the emotional or material needs of the individual (Thoits, 1982). Sociological studies have, for a long time, indicated that relatively disadvantaged socio-demographic groups, such as women, the aged, the unmarried, and the poor, are more psychologically reactive to the impacts of major life events and chronic life strains (Kessler, 1979). Emotional aid can be esteem, sympathy, and encouragement. Instrumental aid could be something like financial loans or help with responsibilities and are functional aspects of social support. Previous research (Thoits, 1995) indicates instrumental aspects of social support are less effective in measuring the buffering effects of social support than are the emotional aspects.

For this research project, social support was conceptualized as the perception of support received from three sources: 1) family members; 2) friends outside their church group; and 3) friends inside their church group. A religious and non-religious social support short form was developed by the researcher for this project as displayed in Table 11. Participants were asked to give their perceived satisfaction with support that they expect from the three sources: 1) “family,” 2) “friend who are in my church,” and 3) “friends who do not attend my church.” Five Likert type responses were offered from 1 = “strongly disagree” to 5 = “strongly agree.” Table 12 displays the three items included in the form along with the frequencies of response to five possible answers. By adding together the responses for each item, participants could have scores with a possible range of 3 – 15. The social support variable was quantified in this manner.

Since the scale was newly developed for this research project content validity and internal reliability were a concern to the researcher. Content validity and internal reliability for the scale were addressed. Content validity was addressed in two ways. First, the scale is conceptualized based upon theory and empirical research literature reviewed for this project. Second, the scale was reviewed by six independent social researchers to determine if the short form scale contained appropriate items that addressed social support as conceptualized for this research project. Internal reliability was statistically measured by using two statistical tests, Cronbach’s alpha and the Intraclass Correlation Coefficients (ICC). The most commonly used statistical procedure is the Cronbach’s alpha. By choosing this mathematical statistic, reliability was defined

Table 11

Social Support Scale Questions

Directions: The following statements are about how you perceive others may assist you with life's problems. Please circle the one answer that best describes your feeling about the statement.

Circle only one answer per question.

1. My family provides all of the support (financial, social, spiritual, etc.) that I expect of them. (circle one)

Strongly Agree Agree Neutral Disagree Strongly Disagree

2. My friends who are in my church provide all of the support (financial, social, spiritual, etc.) that I expect of them. (circle one)

Strongly Agree Agree Neutral Disagree Strongly Disagree

3. My friends who do not attend my church provide all of the support (financial, social, spiritual, etc.) that I expect of them. (circle one)

Strongly Agree Agree Neutral Disagree Strongly Disagree

Table 12

Social Support Scale Items with Frequencies and Values

Scale Item <i>N</i> = 214	Frequency	Percent	Value
Family as source of support			
Strongly Agree	54	25.2	5
Agree	119	55.6	4
Neutral	19	8.9	3
Disagree	11	5.1	2
Strongly Disagree	10	4.7	1
Missing	1	.5	
Church Friends as source of support			
Strongly Agree	29	13.6	5
Agree	108	50.6	4
Neutral	47	22	3
Disagree	20	9.3	2
Strongly Disagree	9	4.2	1
Missing	1	.5	
Non Church Fiends as source of support			
Strongly Agree	15	7	5
Agree	90	42.1	4
Neutral	60	28	3
Disagree	33	15.4	2
Strongly Disagree	15	7	1
Missing	1	.5	

as the proportion of the variability in the responses to the survey that was the result of differences in the respondents. Mathematically, alpha is based on the number of items on the survey and the ratio of the average inter-item covariance to the average item variance (SPSS Base 9.0, 1999). The scale developed for this research project was reliable with $\alpha = 0.774$. ICC test was done as a second statistical test for reliability. This measures the consistency of each item included in the scale rather than absolute agreement. This reliability measurement involves constructing ANOVA-type models for the observations. ICC was 0.774, with a lower of 0.716 and an upper of 0.822 with a 95% confidence. The ICC test for reliability gave an $F = 4.43$, $DF = 212$, $p = .000$ for reliability of the social support scale created for this research. The society support scale developed for this project conformed to accepted research procedures for both reliability and internal validity.

Factor analysis was used to study the interrelation of the items within the social support scale. This was done to determine that all the items in the scale represented just one dimension for the population with which the sample is associated. Results are included in Appendix D. Principle component analysis method was chosen for extraction by Eigenvalues at a power of 1. All three items clustered together into one factor.

The sample reported an average score on the social support scale of 10.79. For this scale, a score of 15 is the highest and indicates complete satisfaction with perceived social support, while a score of 9 indicates a neutral position. The 10.79 mean score indicates the sample is in a satisfied position just over half way between neutral and agreement position.

Life event change. Stress from life events has been measured two ways. First, it has been measured as the cumulative number of life events (Krause & Van Tran, 1989). Second, it has been measured by giving weights to life events as in the Social Readjustment Rating Scale (SRRS) developed by Holmes & Rahe (1967). The twenty seven-item Life Stress Questionnaire for Later Years (Mensch, 1983) employed a weighted measure of stress resulting from life events. The Mensch questionnaire was derived from the original 43-item Holmes & Rahe (1967) Social Readjustment Rating Scale. Mensch modified the scale for older respondents by selecting life events from the original scale specific to life events in later life. In the Mensch questionnaire, a cumulative total score for the scale is given. Holmes and Rahe (1967) gave stress weighting to each life event. Scully et al (2000) reexamined the validity of the Holmes and Rahe SRRS and have developed new weights and order for the SRRS.

For this research project, a 15-item scale was developed by modifying the updated SRRS scale (Scully et al., 2000). Five different social researchers reviewed the scale for content validity. Items were chosen that relate to stress events in later life: death of a spouse, death of a child or close family member, death of a close friend, change in financial situation, personal illness, personal injury, change in residence, marital difficulty, family difficulty, mental problems, change in relationship with friend, change in health of family member, change in social/leisure activity, change in eating habit, and change in the ability to visit family members. Participants were able to select “yes” or “no” for each of the fifteen items if the life event had been experienced within the last year. No attempt was made to weight the items because extensive research has shown

that results produced with weighted and unweighted stress measures are virtually identical (see Thoits, 1982). Instead, a simple summary score was created in the present study by summing the number of events reported by each participant. A high score on this index reflects more stress experienced in the past year. Possible scores ranged from 0 to 15 maximum.

Table 13 displays the 15 stressful life events along with the frequency, percent of sample reporting the event, and rank order from highest to lowest occurrence. Participants experienced an average of 3.71 stressful life events during the last year. The reported number of negative life events ranged from a minimum of 0 to a maximum of 11, giving a range of 11 for the sample and a standard deviation of 2.37. Twelve individuals reported they had experienced none of the fifteen negative life events during the last year. Three participants had experienced the maximum reported of 11. The most frequently reported score by participants was 2 negative life events during the past year. Forty-six individuals reporting they had experienced only two of the fifteen negative life events. There was no difference in frequency or types of negative life event between male and female participants.

Analysis

To quantify the strength and nature of the relationship between intrinsic religious orientation and mental health statistical procedures were used which measure association. Because mental health and intrinsic religious orientation are both measured at an interval level, Pearson's r was used to determine the strength and nature of the relationship. The

Table 13

Stressful Life Event Frequency In Rank Order Reported

Rank	Percent Reporting	Frequency	Stressful Life Event
1	49.8	107	Death of Close Friend
2	47.4	107	Personal Illness
3	47	101	Change in health of family member
4	40	86	Change in leisure activity or social activity
5	36.7	79	Change in Financial situation
6	34.9	75	Change in ability to visit family members
7	24.2	52	Change in place of residence
8	22.8	49	Change in eating habits
9	20.5	44	Family difficulties
10	19.1	41	Death of a child or close family member
11	10.23	22	Change in your relationship with your friend
12	6.98	15	Mental health problems
13	6.5	14	Personal severe injury
14	4.65	10	Death of a spouse
15	.93	2	Marital difficulty

N = 214

Mean = 3.71 (average event reported per person)

SD = 2.37

Range = 11 (0-11)

Mode = 2 x 46

research model displayed in Figure 1 was a simple independent and dependent variable model. Intrinsic religious orientation was entered as the independent variable, while mental health was entered as the dependent variable. Stress vulnerability variables, also displayed in Figure 1, were entered as control variables to obtain a partial correlation coefficient. Pearson's correlation procedure allows for the adjusting of multiple control variables simultaneously. This is important because only one partial correlation coefficient is obtained. According to Blalock (1979), the results of a partial correlation can be interpreted as the correlation between variable X and variable Y after Z has been allowed to explain all it can of both variables.

Observations for the partial correlation coefficients were drawn using the analysis of James Davis (1971). Davis introduced the rule that defines guidelines for specifying what constitutes a significant difference between the original and the partial. According to Davis, before an influence of a control variable can be claimed, the partial correlation coefficient must differ by 10 units (10% of a perfect correlation of 1) from the zero order correlation. Differences less than 10 points should be considered negligible. The control variable serves to specify the conditions under which the correlation coefficient will be higher or lower. If the partial correlation is higher than the zero order, then it can be said that the control variable is a suppressor variable.

A number of investigators dichotomize or trichotomize continuous data and then use categorical analytic procedures. However, social researchers (Cohen & Wills, 1985; Blalock, 1979) suggest there must be strong conceptual reasons for treating data in this

way, because it can severely decrease statistical power due to the loss of metric information and reduce the probability of finding an effect that truly exists.

After Pearson's correlation coefficient procedure was used to test the research model, the researcher pursued an interest in determining which of all the research variables would best predict mental health within a population similar to the research sample. The most common statistical procedure used in social research, when the criterion variables are continuous, is regression analysis. Regression analysis was preferred for this project because it treats the predictor variables and dependent variable (mental health) as continuous. Regression was also preferred because it provides a means of controlling for confounding variables. It also allows for a precise determination of strength and nature of the relationship between predictor variables and mental health.

CHAPTER 4

RESULTS

Test of Hypothesis Results

The research model for this project is displayed in Figure 1. This model set the course for an investigation into the strength and nature of a relationship between intrinsic religious orientation and mental health in later life. The model also included control variables that have shown to be associated with mental health in later life. As displayed in Table 14, the zero order measure of association between intrinsic religious orientation and mental health was $r = .128, p = .034$ (1 tailed). It is significant with a $p < .05$, indicating the hypothesis that the correlation is 0 (no linear relation between variables) is rejected. The one tailed test was used because theoretical conceptualization predicted a positive correlation between mental health and intrinsic religious orientation. Though the correlation is not high, it is found to be a significant positive relationship. The bottom of Table 14 displays the association between intrinsic religious orientation and mental health when all control variables were allowed to explain all they could about the independent and dependent variables. This control situation, $r = .124, p = .038$ (1 tailed), indicates the relationship between the independent and the dependent variables remains both positive and significant. Not only did the relationship remain positive and significant, the zero order relationship was not changed enough to indicate the control variables combined to interpret the relationship. According to the rule established by

Table 14

Research Model Results: Correlation and Partial Correlation Results of Mental Health and Religiosity with All Control Variables

Variables <i>N</i> =214	Bivariate w/o Control	Partial w/ Control	Control Variable
Religiosity x Mental Health			
<i>r</i>	.128*	.116*	Age
<i>p</i> (1 tailed)	.034	.046	
<i>r</i>		.121*	Gender
<i>p</i> (1 tailed)		.039	
<i>r</i>		.154*	Life Events
<i>p</i> (1 tailed)		.012	
<i>r</i>		.125*	Education
<i>p</i> (1 tailed)		.035	
<i>r</i>		.122*	Physical Health
<i>p</i> (1 tailed)		.038	
<i>r</i>		.120*	Social Support
<i>p</i> (1 tailed)		.041	
<i>r</i>		.130*	Marital
<i>p</i> (1 tailed)		.029	
<i>r</i>		.124*	All Above
<i>p</i> (1 tailed)		.038	

* Correlation is significant at the .05 level (1-tailed)

Davis (1971), before an influence of a control variable can be claimed to be an interpretation variable, the partial correlation coefficient must differ by .10 from the zero order correlation. Differences less than .10 should be considered negligible. The major hypothesis for this project stated, an intrinsic religious orientation is positively related to mental health among older adults. Again, the partial r represents results controlling for stressful life events along with other variables. Support for the major hypothesis was found.

Hypotheses were also set forth for the influence of each individual control variable on the relationship between intrinsic religious orientation and mental health. None of the individual control variables were found to act as interpretation variables in the relationship between intrinsic religious orientation and mental health.

Hypothesis 2, that age would be an interpretation variable in the relationship between intrinsic religious orientation and mental health, was rejected. When age was allowed to explain all it could about the independent and dependent variables, the association was reduced to $r = .116, p = .046$ (1 tailed). The change from the zero order correlation to the partial correlation was negligible.

Hypothesis 3, that gender would be an interpretation variable in the relationship between intrinsic religious orientation and mental health, was rejected. Gender lowered the association a miniscule amount to $r = .121, p = .039$. The change from the zero order correlation to the partial correlation was negligible.

Hypothesis 4, that level of education would be an interpretation variable in the relationship between intrinsic religious orientation and mental health, was rejected.

Education changed the zero order measure only slightly to $r = .125, p = .035$. The change from the zero order correlation to the partial correlation was negligible.

Hypothesis 5, that marital status would be an interpretation variable in the relationship between intrinsic religious orientation and mental health, was rejected. Marital status increased the relationship between intrinsic religious orientation and mental health only slightly to $r = .130, p = .029$. The change from the zero order correlation to the partial correlation was negligible.

Hypothesis 6, that ethnicity would be an interpretation variable in the relationship between intrinsic religious orientation and mental health, was not tested. The sample taken for this research project lacked enough ethnic diversity to make any conclusions regarding this hypothesis.

Hypothesis 7, that physical health would be an interpretation variable in the relationship between intrinsic religious orientation and mental health, was rejected. Physical health lowered the association to $r = .122, p = .038$. The change from the zero order correlation to the partial correlation was negligible.

Hypothesis 8, that social support would be an interpretation variable in relationship between intrinsic religious orientation and mental health, was rejected. Social support lowered the measure slightly to $r = .120, p = .041$. The change from the zero order correlation to the partial correlation was negligible.

Hypothesis 9, that stressful life events would be an interpretation variable in the relationship between intrinsic religious orientation and mental health, was rejected. The negative life events variable had the most influence on the relationship, raising the r to

.154, $p = .012$. This could indicate that stressful life events is acting in a suppressing manor, however, the influence is still negligible.

Alternative Research Model Results

Having found a small, but significant, positive relationship between intrinsic religious orientation and mental health, I proceeded to test an alternative research question. Since there is a relationship between intrinsic religious orientation and mental health, the question was raised as to the influence of intrinsic religious orientation on the relationship between stressful life events and mental health. The alternative research model is presented in Figure 2. This model places stressful life events as the independent variable and mental health as the dependent variable. Intrinsic religious orientation was moved to the position of a control variable to test if it may act to influence the relationship between stressful life events and mental health.

Results for the alternative research model are displayed in Table 15. The zero order correlation between stressful life events and mental health was $r = -.308$, $p = .000$ (1 tailed). These results indicate a strong inverse relationship. When intrinsic religious orientation was allowed to explain as much as it could about the two variables the partial correlation was increased to $r = -.319$, $p = .000$ (1 tailed). Though intrinsic religious orientation mildly suppressed the influence of stressful life events, the interpretation was negligible. Statistically, intrinsic religious orientation cannot be said to have significantly changed the influence of stressful life events on mental health, in our sample. The hypothesis that intrinsic religious orientation significantly influenced the

Figure 2

Alternative Theoretical Research Model

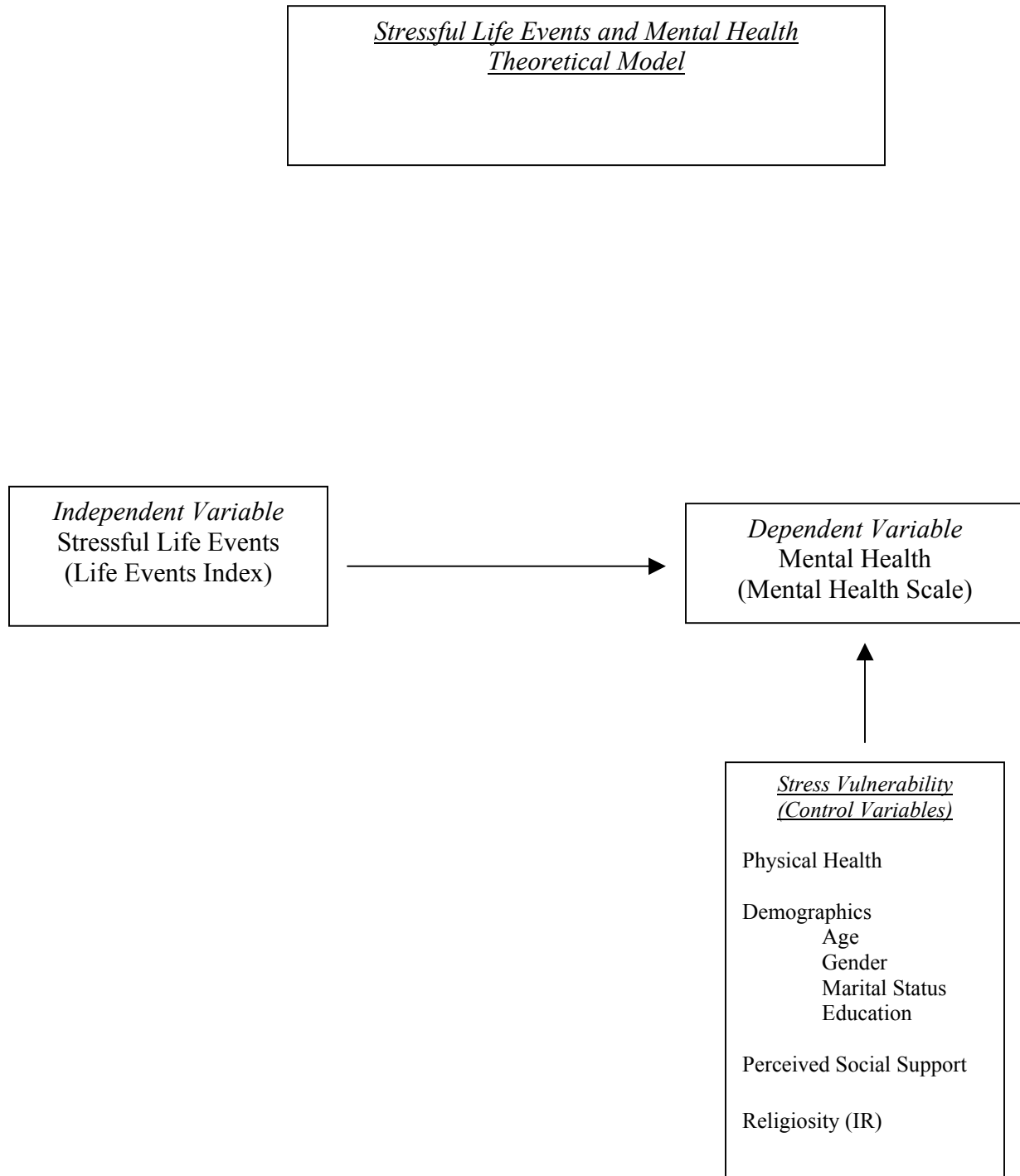


Table 15

Alternative Research Model Results
 Correlation and Partial for Life Events and Mental Health

Variables	Bivariate w/o Control	Partial w/ Control	Control Variable
Life Events X Mental Health			
<i>r</i>	-.308***	-.319***	Religiosity
<i>p</i> (1-tailed)	.000	.000	
<i>r</i>		-.307***	Age
<i>p</i> (1 tailed)		.000	
<i>r</i>		-.310***	Gender
<i>p</i> (1 tailed)		.000	
<i>r</i>		-.319***	Education
<i>p</i> (1 tailed)		.000	
<i>r</i>		-.289***	Physical Health
<i>p</i> (1 tailed)		.000	
<i>r</i>		-.311***	Social Support
<i>p</i> (1 tailed)		.000	
<i>r</i>		-.304***	Marital
<i>p</i> (1 tailed)		.000	
<i>r</i>		-.314***	All Above
<i>p</i> (1 tailed)		.000	

*** Correlation is significant at the .000 level (1 tailed)

effect that stressful life events had on mental health was not supported in this sample.

Suggested explanations will be addressed in the discussion chapter.

The remaining control variables also failed to show any interpretation. As seen in Table 15, controlling for physical health caused the greatest change in the partial correlation between stressful life events and mental health, with $r = -.289$. $p = .000$. Mental health of individuals who are in better physical health seems to be less influenced by stressful life events. However, the difference in the zero order and partial correlation statistics was only 0.021 , and not near the .10 needed to be considered a interpretation status.

Regression Model Results

After the above models were tested, interest was turned to discover what would happen if all research variables were put in an equation predicting mental health. The purpose of this step was to statistically estimate the best predictors of mental health in the sample. The most frequently used selection method (SPSS. 9) is known as stepwise selection. This method was employed to let the statistical software build the best model for predicting mental health in a population similar to our sample. Stepwise method begins by entering into the model the variable that has the strongest positive or negative correlation with the dependent variable. At each subsequent step, the variable with the strongest partial correlation is added. At each step, variables are tested for removal. The criteria for removing variables from the model was set at defaults to stepping method criteria of F -to-remove at 2.71 and maximum probability of F -to-remove at .10, with use probability of F at .05.

Mental health was entered as the dependent variable, while stressful life events, intrinsic religious orientation, age, gender, education, physical health, social support, and marital status were entered as independent (constants). Table 16 displays the results of stepwise selection for the entire sample. Stepwise selection built only two models with one variable being added in each. Two variables were chosen for the most effective model to predict mental health in a population similar to the research sample: Stressful life events and age. Model 1 included only stressful life events as the strongest linear relation with mental health, $R = .307$, which is the correlation between the observed and predicted values of the dependent variable. R Squared = .094, which can be interpreted as the proportion of the total variation in mental health. The stressful life event variable explained only 9.4 % of the variability of mental health. When the predictor age is added to the model, the R Squared = .125 indicates that 12.5 %, of the variability of mental health is explained by the second model.

The data set was split for analysis. Gender was selected as the condition for splitting data. Males were coded “0” and females coded “1” which allowed for this process. Table 17 presents the results of stepwise selection for females. Regression analysis for the females in the sample allows for the inclusion of intrinsic religious orientation to stressful life events and age as predictors of mental health. As Table 17 indicates, the three variables included by stepwise selection explain just over 18% of the variance in mental health. A t test comparing the mean intrinsic religious orientation scores for males (mean 32.22, $n = 58$) and females (mean 33.91, $n = 156$).

Table 16

Summary of Stepwise Selection Regression Analysis for Predicting Mental Health:
N = 214

Variable Entered (Constant)	<i>R</i>	<i>R</i> Squared	<i>F</i>	<i>p</i>	<i>B</i>	Beta	<i>p</i>
Model 1							
Life Events (model sum)	.307	.094	21.59***	.000	-1.066***	-.307***	.000
Model 2							
Life Events					-1.060***	-.305***	.000
Age					-.227**	-.175**	.008
Model Summary	.353	.125	14.74***	.000			

*** *p* < .000

** *p* < .01

* *p* < .05

Table 17

Summary of Stepwise Selection Regression Analysis for Predicting Mental Health:
Female $n = 156$

Variable Entered (Constant)	<i>R</i>	<i>R</i> Squared	<i>F</i>	<i>p</i>	<i>B</i>	Beta	<i>p</i>
Model 1							
Life Events (model sum)	.335	.113	19.03***	.000	-1.075***	-.335***	.000
Model 2							
Life Events					-1.112***	-.347***	.000
Age					-.253**	-.207**	.007
Model Summary	.394	.155	13.69***	.000			
Model 3							
Life Events					-1.135***	-.354***	.000
Age					-.240*	-.196*	.009
Int. Rel. Orient					.298*	.165*	.029
Model Summary	.427	.182	10.99***	.000			

*** $p < .000$, ** $p < .01$, * $p < .05$

Males had a significantly lower intrinsic religious orientation score than females, $t = -2.37, p = .019$ (two tailed).

When the dataset was split by gender, none of the variables were selected as strong enough predictors of mental health in the small male sample of $n = 58$. Table 18 displays the results of stepwise selection for the entire sample without the variable gender being entered as an independent variable. As with females, three variables were left in the model as predictors of mental health in a population similar to the sample: stressful life events, age, and intrinsic religious orientation. Gender is found to as specification variable in the study sample. Results are significantly different for men and women. However, the results for the males in the sample may be due to small sample size.

Table 18

Stepwise Selection Regression Analysis for Predicting Mental Health
Without Gender Entered

Variable Entered (Constant)	<i>R</i>	<i>R</i> Squared	<i>F</i>	<i>p</i>	<i>B</i>	Beta	<i>p</i>
Model 1							
Life Events (mod sum)	.309	.095	22.16	.000	-1.071***	-.309***	.000
Model 2							
Life Events					-1.072***	-.309***	.000
Age					-.227**	-.176**	.007
Model Summary	.356	.127	15.14	.000			
Model 3							
Life Events					-1.098***	-.317***	.000
Age					-.213*	-.165*	.011
Int. Religiosity					.223*	.130*	.045
Model Summary	.379	.143	11.59	.000			

*** *p* <.000

** *p* <.01

* *p* <.05

CHAPTER 5

SUMMARY AND DISCUSSION

Summary

This research project sought to contribute to the understanding of religion as a coping resource in later life. The focus of my research was to investigate a relationship between religiosity and mental health in later life. I theorized that there is a positive association between the two for older people living in church related retirement communities. If a positive relationship was found, then certain aspects of religion as a coping resource could be implicated. This summary details the research process that was undertaken to reach conclusions set forth in this paper.

Sociological literature and past research reports were reviewed to gain an initial understanding of the width and depth of present knowledge in the area of stress and coping. Attention was given to the history and development of stress and coping research. Stress literature has long indicated the influence of stressful life events on both physical health and mental health. The review of literature also found that leading researchers and theorist such as Thoits, Pearlin, Schooler, and Cohen helped to establish conceptual thought in the structure of coping. These, and other sociologists, suggest individuals cope with stressful events in three ways: 1) eliminating or modifying conditions giving rise to stress, 2) by perceptually controlling the meaning of the stressful event in a manner that neutralizes its problematic character, and 3) by keeping the

emotional consequences of the stressor within manageable bounds. Literature also suggests that these three coping behaviors are supported through the application of coping resources. Not everyone has equal coping resources. For example, age, ethnicity, gender, educational attainment, income, and marital status have been identified as personal characteristics of vulnerability, with poverty, lack of education, minority status, being female, and being unmarried resulting in higher stress vulnerability. The role of religion as a coping resource was next investigated. Durkheim's work in the nineteenth century was the earliest work found that linked mental health and religion. It was also discovered that the investigation of religion as a coping resource has gained interest among sociology researchers within the past five to eight years. Among leading researchers in the field of religious coping are Keonig, Pargament, Krause, Ellison, and Levin. These researchers have concluded that religious coping cannot be reduced to nonreligious forms of coping.

A question derived from my review of literature related to the role religion plays in providing a cognitive construct. I wanted to learn if religion provides a resource for perceptually controlling the meaning of the stressful events. The question was narrowed to the following: Does intrinsic religious orientation have a relationship with mental health in later life? This question remains unsettled within sociological stress literature.

In my research model intrinsic religious orientation was the independent variable and mental health was the dependent variable. Control variables were chosen that have been shown to have an association with mental health: age, gender, stressful life events, education, physical health, social support, ethnicity, and marital status. A research

instrument was developed, then reviewed and approved by my faculty committee. Attention was given to make sure no harm would come to individuals who would participate. The Human Subjects Research Committee at the University of North Texas gave approval to the dissertation proposal.

Data were gathered from four independent living retirement communities. The managers of each facility willingly participated due to their interest in the subject and personal friendship with the researcher. Packets were distributed to each resident at each location. The packets included: letter of introduction from administrator, instructions explaining the volunteer nature of the information and how to complete the questionnaire, questionnaire, and self-address stamped return envelope. Residents were reminded two weeks later to return their completed questionnaire, if they chose to participate. The sampling procedure experienced a strong return rate of 66%. Data from 214 responses are the source of results and conclusions for this dissertation research.

Data were entered into a computer using software for social research. The mean age of the sample was 81.94, with a range of 66 – 100, and median of 82. This sample was older than any found in related literature. This is a convenience sample and should be understood as such. The sample better represented religious elderly living in church affiliated independent living retirement communities than elderly living in the general population.

The Pearson's correlation coefficient between the independent and dependent variables was $r = .128$, $p = .034$ (1 tailed) at the zero-order level. Though small, results indicate a positive and significant relationship between intrinsic religious orientation and

mental health. The significant finding indicates the same association could be expected in a population similar to the study sample. When control variables were entered to produce a partial correlation, the relationship between intrinsic religious orientation and mental health remained positive and significant. None of the control variables explained or specified the relationship. When all were combined as a single control, the partial correlation produced was $r = .124, p = .038$ (1 tailed).

After finding the small, but significant relationship between intrinsic religious orientation and mental health, an alternative research model was presented. This model moved stressful life events to the independent variable and intrinsic religious orientation to the position of a control variable. The measure of association between stressful life events and mental health was measured as $r = -.308, p = .000$ (1 tailed). As stress literature suggested, an inverse relationship existed in our sample between stressful life events and mental health. Would intrinsic religious orientation influence this relationship? When intrinsic religious orientation was entered as a control the results were $r = -.319, p = .000$ (1 tailed). While intrinsic religious orientation mildly suppressed the zero order relationship, no effect was statically found that could be classified as anything other than negligible. No control variable was individually found to be an interpretation variable for the relationship between stressful life events and mental health. When all control variables were controlled in unison, the zero order r was changed only in a negligible amount.

Regression analysis was used to discover the best predictors of mental health in the sample. Mental health was held as the dependent variable while all other variables

were entered as independent. Stepwise selection process chose the significant predictors. For the entire sample, stressful life events and age were the only significant predictors. Both of these produced an inverse relationship. When the sample was split by gender, the statistical software did not identify significant predictors of mental health for males, $n = 58$. For females, $n = 156$, three variables predicted mental health: stressful life events, age, and intrinsic religious orientation. For females, intrinsic religious orientation was included in the model as the only positive predictor for mental health in later life.

Discussion

Proposition Support

The purpose of this dissertation research was to better understand religion as a coping resource in later life. I wanted to learn if intrinsic religious orientation enhances the ability to cope with stressful life events in later life. Related literature and theory review helped establish a research model that held intrinsic religiosity as the independent variable and mental health as the dependent variable. Social stress literature helped identify contributors to stress in later life. These were held as control variables for my research. Support was found for the proposition that intrinsic religiosity is a source of coping. A positive association was found between mental health and intrinsic religious orientation. In my study, intrinsic religiosity was the only positive predictor of mental health for females in the sample. Intrinsic religiosity did not remove the effects of stressful life events, but the negative correlation between stressful life events and mental health increased slightly when intrinsic religiosity was controlled. However, this finding was statistically negligible. In addition, religiosity was not found to increase with age, as

some have suggested. Thus, my research found support for the use of continuity theory to explain the level of religiosity in a sample of the very old.

Earlier studies indicate that religious coping cannot be reduced to nonreligious forms of coping for the general population, suggesting methods of religious coping explain unique variance in the prediction of mental health above and beyond the effects of measures of non-religious coping (Pargament, 1999). I found support for those findings in a sample of the very old. Intrinsic religious orientation was found to be a better predictor of mental health than social support, gender, marital status, physical health, and education. Only negative life events and age were stronger predictors.

Role of Religiosity in Coping and Future Research

Life events for the oldest old may differ somewhat from those stressful events at a younger age. Events that are more common to late life may be classified as stressful events over which the individual has no control or autonomy. In my study, these were “personal illness,” “change in the ability to visit family members,” “change in financial situation,” “change in leisure & social activity,” and “family difficulty.” Each of these has in common the need for autonomy and power over one’s environment with the ability to come and go as desired. When these occur the locus of control may be perceived to have moved outside the self. Religion may provide an avenue by which the individual perceives control over life is not lost entirely. Dan Blazer (1998) suggests one of the most important aspects to adjusting to changes in later life is the perception of control over events. My research findings add weight to the theory that religion provides a psychological cognitive construct by which life events are interpreted. A positive and

helpful result may be expected when religious beliefs provide a cognitive construct that places the locus of control within the power of a caring and merciful God. This fits well with the structure of coping theory developed by Pearlin and Schooler (1978), who suggest that if the stressful events cannot be modified or changed, individuals may cope by perceptually changing or controlling the meaning of the stressful event.

Is there a point when religion may actually become detrimental to mental health in the oldest old? Further research is needed in the area of religion and aging with respect to the effect of a strict legalistic religious belief on well-being as health decline and life events begin to interfere with overt religious participation. An interesting result was found when the independent variable for religiosity was divided into three groups by intervals of standard deviation units. In my sample, a slight decline in mental health mean scores occurred for those with highest religious commitment. This may indicate that in the oldest old, those who have the strongest religious commitment may be at greater risk for mental health problems than those with lesser religious commitment. Religion may be helpful to a point, but could possibly have an inverse relationship at the highest levels. Research is needed to determine the influence of religious commitment among various religious groups that put a great deal of stress upon their members to perform ritualistic activities, duties, and good deeds associated with religious commitment. As individuals experience the debilitating effects of old age, the ability to perform actions and duties expected by the religiously committed may result in weaker mental health. Religious beliefs may, in some cases, produce a highly increased stress level if religious beliefs suggest God to be punishing the individual for past mistakes. In

such cases the level of stress may also be associated with a measure of perceived failure to meet behavioral expectations.

Koenig et al (1998) suggests religious beliefs may provide older people a worldview by which medical illness, suffering, and death can be better understood and accepted. Support was found for this theory in two of the items from the intrinsic religious orientation scale. Mental health was positively and significantly correlated with “I try hard to live all my life according to my religion” and “My whole approach to life is based on my religion.”

It has been suggested that one of the beneficial coping resources found in religion is social integration and support (Ellison & George, 1994; Ellison, 1991). Respondents were asked if they were being provided all the support that was expected from family, church friends, and non-church friends. The sample did indicate a positive correlation between mental health and each of the sources, but not at a significant level. Interestingly, the average response for each of the three sources fell between neutral and agree, indicating that, although pleased, there was some distance away from being completely satisfied with the support they are receiving from each source. However, results from the study indicate a strong positive correlation between intrinsic religious orientation and satisfaction with social support from church friends. This may indicate that more importance is placed on social support from a faith community by those with higher religious commitment.

Combining the above observation of the function of a worldview with the observation regarding social support leads to an item for future research. Further

investigation is suggested into the beneficial effects of living in a religiously affiliated retirement community. Not only does congregate living enhance the odds of social contact, but social contact with individuals of similar beliefs and worldviews. It may be that living in such an environment magnifies the positive influence of religious beliefs and social activities. No significant correlation was found in my study between perceived social support and mental health, as has been reported in previous studies. This may be explained by the types of social support available to the study participants. The scale developed for this research followed related literature in development. It is conceivable that other items are needed to measure social support for future research within retirement housing communities. Our scale included perceived social support from family, friends from within communities of faith, and non-church friends. The influence of social support from those living within the same housing community as well as the support provided by the staff and administration may well become more instrumentally important to the mental health of the older individual than family and friends not living within the facility. Future research needs to address this issue.

In light of the findings of this research project, attention should be given to the influence of religious orientation as a predictor of religious coping behavior. The question of the influence of religious orientation on religious coping outcomes has been found in discussions of religious coping. For example, Pargament (1997) concludes his review of religious coping literature with the suggestion that religious coping methods mediate the relationship between an individual's general religious orientation and the outcomes of major life events. He suggests that in the face of a stressful life event,

general beliefs and practices have to be translated into specific forms of coping.

Pargament (1997) also suggested these specific coping methods appear to have the most direct implications for the individual's health in stressful times. Recently it has been theorized that researchers can expect to find two patterns of religious coping: one made up of the helpful religious coping methods, while a second is made up of negative religious coping behavior (Pargament et al., 2001; Pargament, Koenig, & Perez, 2000; Pargament, 1997). Positive religious coping behavior may include seeking spiritual support & connection, forgiveness, collaborative religious coping, benevolent religious appraisal, ritual purification, and seeking support from clergy or fellow church members. Negative religious coping may include appraisal of the life event as God's punishment, spiritual discontent, seeking personal control, religious doubt, and anger with God (Pargament, 1999). This leads to a logical question regarding the influence of religious orientation on coping behavior in later life. Further research is needed to investigate a causal influence on religious coping behavior by religious orientation among the oldest members of society.

Another item for future research is the need to logically differentiate between religiosity and spirituality as independently measured research concepts. The present research investigated intrinsic religiosity as an independent variable that may have an association with mental health in later life. While my study sample indicated that intrinsic religiosity might decline slightly in the oldest old, the nature and association of spirituality and late life were not addressed. Researchers need to distinguish between religiosity and spirituality as sources of coping in later life. Even some of the leading

researchers in this area seem to limit distinction. As an example, David Moberg (2001) addressed the association between the level of “spirituality” (p. 59) and age. He suggests the level of spirituality does increase with age with a deepening spirituality in later life. However, most of the studies he referenced to support his observations employed various conceptualizations of religiosity instead of spirituality. Research referenced by Moberg used religious beliefs and behaviors such as: a religiously committed lifestyle; organizational religiosity, e.g. attendance at religious services; and non-organizational religious activity such as praying, listening to religious radio programs and music. Clear distinction between religion and spirituality is important for two reasons. First, religious behavior and practices have received little attention from medical professionals and social services in the past. In that light, the term “spirituality” is proving to be a much more neutral ground from which health care and social work professionals may seek to meet the needs of an aging population. Secondly, as mentioned earlier, religiosity may, in fact, not be something that increases with late life as has been accepted by some gerontologists. Instead of religious commitment, what could actually be increasing in later life may be the phenomenon of spiritual maturity.

Often, the early work by Dan Blazer and Erdman Palmore (1976) is used to infer religiosity increases with age. In their 18-year longitudinal study, Blazer and Palmore reported that religious activity declined with age, but that religious attitudes remained fairly constant. They reported finding significant correlation between religious activity and happiness, feelings of usefulness, and personal adjustments. Their study found these correlations were greater at older ages, leading them to conclude, “that religion becomes

increasingly important for personal adjustment in the later years (page, 85).” Blazer and Palmore did not conclude that people become more religiously committed, but that religion becomes increasingly important. My research results found intrinsic religiosity remained constant for the study sample with a slight decline among the oldest in the sample. While generalizations would be unwise, there is an indication that the cognitive construct provided by religion remains constant in later life. Individuals were not found to have an increased religious commitment as problems increased, nor was religiosity found to significantly decline among the oldest in the study sample. This supports a theoretical perspective that individuals are predisposed to maintain and not increase their religious orientation while using this orientation as a cognitive construct in coping with the stressful changes associated with aging. Thus, this research project adds support for the use of continuity theory to explain the role of religion as a coping resource in later life.

At this point, a word is needed that will tie together a few of the observations regarding religiosity and spirituality as independently measured concepts. By measuring the two as independent concepts, room is given for research into spiritual growth in later life. If an individual’s cognitive construct is, in some way, established or formed by religious beliefs in mid-life, then a constant religious commitment does not mean that the level of spirituality also remains constant. It is quite conceivable that religious commitment peaks and remains constant while the losses of later life provided a spiritual journey that intensifies both the importance of religiosity and reality of spiritual needs. A deepening spirituality may develop while religiosity remains constant.

More specific research is needed to investigate the oldest old. The longevity of society is outracing an accepted research practice of generalizing about the oldest old from data collected from the young-old. For example, in trying to answer the question “Does spirituality increase with age?,” Schultz-Hipp (2001) studied 784 women from parts of Wisconsin who attended a Christian women’s retreat. Her study group was divided into 4 groups by age: under 35, 35 – 49, 50- 64, and 65+. Conclusions about what happens in late life were drawn from age group 65 and older. This research methodology must be seen as weak for two reasons. First, including the present research project, only longitudinal studies following large numbers of the same people over time can settle the question of whether the aging process or cohort factors account for the age differences. Secondly, care must be given to not generalizations from a younger cohort (65-75) about those who may be 85 years age and older.

Weaknesses of Study

The researcher acknowledges that data for this project come only from a cross-sectional comparison of people at different ages. The demographics of the sample limit the ability to generalize the findings to the general population of the same age. This was a convenience sample taken from retirement housing groups that had affiliations with various religious denominations. The sample reflected religious affiliations limited to a more conservative Christian orientation. Minority groups were not represented with the sample consisting of predominantly White females. In addition, the sample represented a group of individuals who were more highly educated than the general population of

similar age. Also, the research sample was not large enough to include religious affiliation as a variable control variable.

The nature of the convenience sample taken for this project acted to weaken statistical findings. As pointed out by Cohen and Wills (1985), it is desirable to have a sample with broad ranges of stress and social support, and other variables related to contributors to mental health. From a conceptual standpoint, it is advantageous to have individuals in the sample who sufficiently differ from one another. The probability of finding stronger relations between the research independent and dependent variables would have increased with more variability in the sample. Cohen and Wills suggest that results for more homogeneous populations tend to be less marked than those found with general population samples, where the range of variables is usually considerable. My sample demonstrated extremely limited variance in the independent variable, intrinsic religious orientation, resulting in weakened relationship between the independent variable and dependent variable, mental health.

Importance of Study

My research is important for several reasons. While limited from generalizing to the U. S. population, this research is important for specific segments of our society. First, no other research of this nature has been done within a similar sample of this old. Frankly, the study data were gathered from a sample older than any known to the researcher. Also, the growth in not-for-profit retirement housing industry, in general, compels research such as the present study. The proliferation of retirement communities by those affiliated with conservative religious groups is creating a need for this type of

research in subgroups similar to this sample. In addition, both interest and support are growing for the attention to spirituality within health care professions. With the apparent influence of religious orientation on the mental health of the old, health and social workers may choose to support, encourage, and in all cases respect the older person's religious beliefs and behaviors.

My research is important, because it forms a foundation for future discovery and practical application in ministry to those oldest members within communities of faith. In that light, two specific institutions can benefit from this research. One is the professional institution consisting of developers and administrators of retirement and nursing facilities associated with not-for-profit housing. A second institution that will be benefited by this research is the academic institution that prepares individuals for ministry. This research has practical application for the academic preparation of young ministers who are being trained to serve an aging church.

APPENDIX A
QUESTIONNAIRE LETTER

Letter Sent With Questionnaire

Dear Potential Participant,

Living successfully is no small feat. The challenges, experiences, and lessons you have learned over your lifetime are truly impressive, and useful to those who are willing to listen and learn from your lives.

Part of that learning comes through research. I am completing my doctoral dissertation in Sociology at the University of North Texas on the topic of the role of religion in the lives of senior citizens. However, I need your help. This research requires me to obtain multiple people who are willing to complete a battery of questionnaires. These questionnaires do not consist of right or wrong answers, but rather are attempting to understand your background, beliefs, and attitudes.

If you are willing to assist me in this project, please take note of the following instructions:

This study is completely voluntary. You do not have to answer all or any of the questions, and all questions do not have to be answered at the same time.

-Please return the survey in the envelope provided as soon as you can. The envelope is self addressed and stamped, so all you need to do is drop the completed survey into the envelope and put it in a mailbox.

-You should not put your name anywhere on the survey or envelope. We do not want you to feel uncomfortable answering any of these questions, so we will never know who sent in what information.

-Some of these questions may seem vague, difficult, or confusing. Please attempt to answer them the best you can, as there are no right or wrong answers.

If you need assistance with this survey, or need further clarification, do not hesitate to contact me at the Pruett Gerontology Center on the Abilene Christian University Campus at 1926 Campus Court, or feel free to call me at (915) 674-22350.

This study has been reviewed and approved by the committee for the Protection of Human Subjects. If you have any questions about your rights as a subject in this study, please contact me or the University of North Texas Office of Research Services, Box 305250, Room 160 Admin. Building, Denton, TX 76201-5396, (940) 565-3940.

Thank you so much for the opportunity to learn about how to age successfully from you.

Best Wishes, Charlie D. Pruett

APPENDIX B
QUESTIONNAIRE

SURVEY QUESTIONNAIRE

Directions: Please write the number representing your answer beside each statement below.

Answer Selections:

- 1. Strongly Disagree**
- 2. Disagree**
- 3. Neutral**
- 4. Agree**
- 5. Strongly Agree**

- _____ 1. I enjoy reading about my religion.
- _____ 2. It doesn't much matter what I believe so long as I am good.
- _____ 3. It is important to me to spend time in private thought and prayer.
- _____ 4. I have often had a strong sense of God's presence.
- _____ 5. I try hard to live all my life according to my religious beliefs.
- _____ 6. Although I am religious, I don't let it affect my daily life.
- _____ 7. My whole approach to life is based on my religion.
- _____ 8. Although I believe in my religion, many other things are more important in life.

Directions: The following is about things that may have happened to you in the last year. Please circle “Yes” if you have experienced the life event in the past year. Circle “No” if you have not experienced the life event in the last year.

Yes, I have experienced this event in the past year.

or

No, I have not experienced this event in the past year.

1. **Yes** **No** Death of a spouse
2. **Yes** **No** Death of a child or close family member
3. **Yes** **No** Death of a close friend
4. **Yes** **No** Change in financial situation
5. **Yes** **No** Personal Illness
6. **Yes** **No** Personal severe injury
7. **Yes** **No** Change in place of residence
8. **Yes** **No** Marital difficulties
9. **Yes** **No** Family difficulties
10. **Yes** **No** Mental health problems
11. **Yes** **No** Change in your relationship with your friends
12. **Yes** **No** Change in health of family member
13. **Yes** **No** Change in leisure activity or social activity (i.e. change in ability to visit friends)
14. **Yes** **No** Change in eating habits
15. **Yes** **No** Change in ability to visit family members

Directions: The following statements are about how you perceive others may assist you with life's problems. Please circle the one answer that best describes your feeling about the statement.

Circle only one answer per question.

1. My family provides all of the support (financial, social, spiritual, etc.) that I expect of them. (circle one)

Strongly Agree Agree Neutral Disagree Strongly Disagree

2. My friends who are in my church provide all of the support (financial, social, spiritual, etc.) that I expect of them. (circle one)

Strongly Agree Agree Neutral Disagree Strongly Disagree

3. My friends who do not attend my church provide all of the support (financial, social, spiritual, etc.) that I expect of them. (circle one)

Strongly Agree Agree Neutral Disagree Strongly Disagree

INSTRUCTIONS: This questionnaire asks for your views about your health. This information will help you keep track of how you feel and how well you are able to do your usual activities.

Please answer every question by circling one answer. If you are unsure about how to answer please give the best answer you can.

1. **In general would you say your health is: (Circle the phrase that best describes your answer.)**

Excellent Very Good Good Fair Poor

2. The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so how much?

Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf (circle one)

Yes, limited a lot Yes, limited a little No, not at all

Climbing several flights of stairs (circle one)

Yes, limited a lot Yes, limited a little No, not at all

3. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

Accomplished less than you would like (circle one)

Yes No

Were limited in the kind of work or other activities (circle one)

Yes No

4. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

Accomplished less than you would like (circle one)

Yes No

Didn't do work or activities as carefully as usual (circle one)

Yes No

5. **During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)? (circle one)**

Not at all A little bit Moderately Quite a bit Extremely

6. **These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much for the time during the past 4 weeks...**

Have you felt calm and peaceful? (circle one)

All of the time Most of the time A Good bit of the time Some of the time A little of the time None of the time

Did you have a lot of energy? (circle one)

All of the time Most of the time A Good bit of the time Some of the time A little of the time None of the time

Have you felt downhearted and depressed? (circle one)

All of the time Most of the time A Good bit of the time Some of the time A little of the time None of the time

7. **During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)? (circle one)**

All of the time Most of the time Some of the time A little of the time None of the time

Instructions: Please complete the following questions.

In what year were you born? (write in the blank) _____

What is your gender? (mark one) Male Female

Which statement best applies to your highest educational background (circle one)?

- 1-Some elementary school
- 2-Some high school
- 3-High School Graduate
- 4-Some College
- 5-College graduate
- 6-Graduate School

What is your ethnicity? (circle one)

- 1-Caucasian/White
- 2-African American/Black
- 3-Hispanic
- 4-Asian
- 5-Other _____

What is your marital status? (circle one)

- 1-Married
- 2-Divorced and Remarried
- 3-Widowed and Remarried
- 4-Divorced
- 5-Widowed
- 6-Single, never married

Please write in your religious or church affiliation (i.e. Baptist, Catholic, Church of Christ, Methodist, Presbyterian, Wesleyan, etc.).

Thank you so very much for helping me with my dissertation project. Will you take a moment and go back to make sure you have answered all the questions? Remember, you are NOT to write your name anywhere on this survey. When you have completed, please place this finished questionnaire in the postage paid envelope and drop it in the mail.

Charlie Pruett
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APPENDIX C
RESULTS OF FACTOR ANALYSIS

Results of Factor Analysis for IR Scale Items

Total Variance Explained			
Initial Eigenvalues			
Component	Total	% Variance	Cumulative %
1	3.301	41.267	41.267
2	.973	12.162	53.428
3	.880	11.01	64.432
4	.817	10.218	74.650
5	.624	7.806	82.456
6	.581	7.268	89.724
7	.446	5.577	95.3
8	.376	4.7	100

Component 1 Matrix:

Item 7	.772
Item 3	.725
Item 5	.677
Item 2	.654
Item 4	.653
Item 1	.647
Item 8	.536
Item 6	.403

1 component extracted: Principle Component Analysis

Rotated Component Matrix+ Solution cannot be rotated because only one component extracted.

(Appendix C continues)

Correlation Matrix IR Scale Items and Factor Analysis (Appendix C continued)

Items Variables	1	2	3	4	5	6	7	8
1. Enjoy Reading Sig. (1 tailed)	---	.312 .000	.420 .000	.264 .000	.447 .000	.227 .000	.409 .000	.183 .004
2. Doesn't Matter Sig. (1 tailed)		---	.362 .000	.288 .000	.324 .000	.222 .001	.427 .000	.401 .000
3. Private time important Sig. (1 tailed)			---	.563 .000	.328 .000	.168 .007	.456 .000	.281 .000
4. Sense of God's presence Sig. (1 tailed)				---	.331 .000	.150 .014	.428 .000	.223 .001
5. Live by beliefs Sig. (1 tailed)					---	.155 .012	.510 .000	.277 .000
6. Religion no affect Sig. (1 tailed)						---	.272 .000	.189 .003
7. Life based on Religion Sig. (1 tailed)							---	.311 .000
8. Other thing more important								---

APPENDIX D
SOCIAL SUPPORT SCALE ANALYSIS

Factor Analysis for Social Support Scale

Total Variance Explained

Component	Initial Eigenvalues		
	Total	% Variance	Cumulative %
1	2.074	69.126	69.126
2	.557	18.555	87.681
3	.370	12.319	100

Component 1 Matrix:

Church Friends	.871
Family	.835
Non-Church Friends	.787

1 component extracted: Principle Component Analysis

Rotated Component Matrix = Solution cannot be rotated because only one component extracted.

(Appendix D continues)

Correlation Matrix Between Social Support Scale Items (Appendix D continued)

$N = 214$

Source of Support	1	2	3
1. Family			
<i>r</i>	---	.619***	.455***
<i>p</i> (2 tailed)		.000	.000
2. Church Friends			
<i>r</i>		---	.534***
<i>p</i> (2 tailed)			.000
3. Non-Church Friends			
<i>r</i>			---
<i>p</i> (2 tailed)			

*** Correlation is significant at the .000 level (2 tailed)

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