

The Influence of Religiosity on Psychological Well Being
and Life Satisfaction in an Elderly Population

by

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ABSTRACT

The major hypothesis tested in this research is that the psychological well-being and life satisfaction of elderly adult individuals can be predicted from religiosity (organizational and non-organizational religious beliefs and behaviors). The sample consisted of 142 adults between the ages of 65-90, with the majority in the 65-70 age group (48%) (SD = 1.176). The entire sample resides in the state of Arizona, in both urban and rural communities. Participants were administered a questionnaire which requested demographic information, and three instruments: the *Duke University Religion Index* (the DUREL), and the *Affect Balance Scale* and the *Life Satisfaction Index - Z* (LSIZ). Correlational and Multiple regression analyses were used to examine the relation between these adults' psychological well-being, life satisfaction and their religiosity. Independent t-tests were also used to examine possible sex, ethnic and religiosity effects on psychological well-being and life satisfaction. Findings revealed that psychological well-being and life satisfaction are higher when religiosity is higher, regardless of sex or ethnicity. These findings are consistent with those of previous research in this field.

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who never stopped asking,
'Are you finished with that paper yet?'

Be of good courage,
And He shall strengthen your heart.
All you who hope in the Lord
PSALM 31

Myth provides us with absolutes, in the place of ephemeral values
and with a comforting perception of the world,
that is necessary to make the insecurity
and terror of existence bearable.

Leszek Kolakowski, Philosopher/Historian
1927-2009

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Chapter 1

INTRODUCTION

Psychologists and psychiatrists such as Carl Jung, Victor Frankl, Abraham Maslow, and Erik Fromm for many years have acknowledged the association between religious involvement and mental health (Ellison & Levin, 1998). Interest in this field goes back to at least 1872, when Francis Galton investigated the effects of intercessory prayer on mortality among English royalty, clergy, and missionaries (Galton, 1874). Galton concluded that intercessory prayer did not seem to affect mortality, and the topic received little further attention in the medical literature until the late 20th century. Between 1915 and 1947, Durkheim wrote that he believed religion to be a ‘mechanism for social integration with favorable outcomes for individual behavior and health’ (Durkheim, 1947). Prior to the days of Durkheim and his writings, the field of religion and medicine were well intertwined. At various times worldwide, medical and spiritual care were dispensed by the same person. At other times, intensive and passionate conflicts characterized the association between religion and medicine and science. As interest in alternative and complementary medicine grew, the notion of linking religious and medical interventions became widely popular, especially in the USA.

Problem in Perspective

In the 1950's, research on religion and aging began more earnestly (Moberg, 1953) and has grown considerably in the past 50 years. The quality of work on the religion-health connection has also increased rapidly, and while some investigators specialize in this specific area, the topic is now engaging prominent scholars who are known primarily for their accomplishments in other areas of health research. Furthermore, studies exploring the links between religion and health have appeared in top-tier health journals such as the *American Journal of Public Health*, the *American Journal of Psychiatry*, the *Journal of the American Medical Association*, the *Journal of Gerontology*, and leading journals devoted to medical sociology and the sociology of religion. Funding opportunities for such research have proliferated as well. Among federal agencies, the National Institute of Health and the National Institute on Aging (NIA) have funded several competitive research grants, as well as First Award grants for younger scholars, focused on religion and health (Barkan & Greenwood, 2003). Foundations, including the Templeton Foundation and the Fetzer Institute, have also funded considerable work in this area (Ellison & Levin, 1998).

The rationale for the importance of assessing these constructs in relation to health and well being has multiple reasons to support it: (1) according to the Pew Forum Survey on Religion in America (2006) and the Gallup Poll on Religion (2010), the number of Americans who indicate a belief in God or a universal spirit is relatively large: 83% and 92% respectively; 2) the rising

number of elders in America and costs of health care and their resource availability; and, 3) the discovery that at the core of religion, *belief* and subsequent *emotion* may very well be at the root of how religious beliefs and behaviors influence psychological well being, life satisfaction and some aspects of human development throughout the lifespan.

As mentioned, research in the social and behavioral sciences, in particular psychological research, has articulated primary areas of investigation in the field of religion and its relation to the concept of beliefs and emotion. What remains somewhat unknown is whether there is a consistent relationship between religiosity and well being. The psychological research has focused on specific emotions in relation to religion and how these emotions may influence human development, as well as the increasing extent the physiological aspects of emotional life in religion influence overall well being (Crump & Kloos, 1993). The general consensus is that religion does have some correlation to salutary affect on subjective and physical well being among older adults (Johnson, 1995; Levin, 1998, McFadden, 1995). When religious beliefs influence optimism, the effects of optimism on mental health have been be greatest among all elders with higher levels of religiosity including older African American and Hispanic populations over the age of 65 (Harvey, Musa and Silverman, 2003).

However, there are critical evaluations and skepticism about this same association (Branden, 1994; Sloan and Bagiella, 2002) with researchers positing that religiosity may also have a negative influence on well being. The research in

this field is relatively new and multiple theories and hypothesis are yet to be explored. Nonetheless, the majority of systematic reviews of the research literature have consistently reported that aspects of religious involvement are associated with desirable mental health outcomes (Bergin, 1983; Gartner et al, 1991) and therefore, merit continued research.

Purpose of the Study -- Rationale and Research Questions

In this study, I test the hypothesis that the psychological well being and life satisfaction of elderly adult individuals can be predicted from their level of religiosity (religious beliefs and behaviors, including church attendance, reading holy writ, and prayer). The study of religiosity and its influence on psychological well being and life satisfaction is still an evolving field. The purpose of this study is twofold: (1) to advance the research on the relation between religiosity and psychological well being and life satisfaction; and, in particular, to determine if the relation in the Hispanic elder population is different or similar in comparison to other elder groups, such as Anglos and African Americans. For the latter populations, religiosity has been observed to have a significant correlation with well being and life satisfaction. However, research on religiosity in the Hispanic elder population is limited, and the results from the current research can contribute to our understanding of its correlates in this ethnic group. Another purpose of this research is (2) to explore the role that religious beliefs may play in health and well-being, and whether beliefs which may be considered hopeful or optimistic (i.e. ‘in spite of adversity, I believe all things will turn out well’), may

influence health and well-being differently than religious behaviors such as church attendance. In assessing the construct of religiosity, it is imperative to assess beliefs ('I believe that God will take care of me') separately from behaviors (church attendance and prayer or reading holy writ). Religiosity is a multidimensional construct; therefore, research into its effects on health and well-being requires careful measurement of the separate dimensions of religiosity in relation to outcome variables. To some degree, lack of consistency in conceptualization and measurement of religiosity is characteristic of an evolving field, and differences in research findings may be the result of not only differences in study design, but also differences in the operational definitions of religious and spiritual variables, and the outcome variables. The absence of consistent definitions of religious and spiritual activity is an important problem in advancing research in this area, since many of the studies define these activities differently.

The reason this study focuses on 'religiosity' versus 'spirituality' is because of the difficulty in defining the variable 'spirituality'. Psychologists and theologians agree that societal and scholarly definitions of "religion" and "spirituality" are changing. At one time seen as equivalent, the concepts are becoming increasingly distinct (Pargament, 1997). And, these concepts will likely become further delineated as attitudes toward religion and spirituality continue to evolve. Researchers have suggested that strong and clear operational definitions of these constructs are needed to gain deeper understanding of what it

means to be religious or spiritual (Emmons and Paloutzian, 2003; Moberg, 2002; Zinnbauer and Pargament, 2005; Zinnbauer, Pargament, and Scott, 1999). Social science researchers have offered multiple and expanding definitions for these terms, particularly spirituality, a construct considered difficult to comprehend across popular, scientific, and theological circles (Hyman and Handal, 2006; Miller and Thoresen, 2003; Moberg, 2002). Despite extensive theoretical discourse and empirical research, there is still no overarching or agreed-upon definition or standard operationalization of either term (Moore et al., 2001). Some researchers suggest that religion and spirituality fall on several polarized dimensions (e.g., Moberg, 2001), although the number and content of those dimensions is a topic of some debate. Religion is often associated with negative qualities (e.g., being dogmatic or encouraging cult and fundamentalist behavior), whereas spirituality is typically associated with positive or “good” qualities (e.g., expanding self-awareness). Thus, religion represents a set of organized practices established by tradition and conducted in a central place of worship, whereas spirituality is more personal, consisting of a “lived consciousness” of relating to a higher power. Religion holds a substantive focus on its practices, beliefs, and emotions, whereas spirituality is considered more functional, focusing on nature and being, and how beliefs, emotions, and practices relate to diverse life events like death, suffering, and injustice (Zinnbauer et al., 1999).

Most people consider themselves to be both religious and spiritual, although spirituality means different things to different people. Research

consistently shows that between two-thirds and three-fourths of Americans consider themselves to be both spiritual and religious, with about half of the remainder saying they are “spiritual only” and the others split between “religious only” and neither (Marler & Hadaway, 2002). There is, therefore, a growing consensus in sociology and psychology that eventually the study of spirituality and of religiousness should be pursued together (Moberg, 2001).

Published research would be substantially improved with better definitions of these terms since many researchers have noted that the inconsistency in the empirical findings makes it difficult to support recommendations for clinical interventions. With the growing number of elder individuals and the continuing diminished resources for many of them, discovering whether religiosity has any influence on well being and life satisfaction may serve to provide social scientists and researchers with a confirmation that religiosity is a health and well being benefit and indeed a valid resource in life and an integral aspect of personhood.

There are also a limited number of reliable instruments that can be accommodated in surveys or research. Of the recent advances in the conceptualization and measurement of religious involvement, few have addressed those religious dimensions that bear the closest theoretical relationship to health (e.g., religious support, coping, and meaning) (Levin et al, 1994). Because many functions of religion are rarely measured directly, there is usually no way to see which, if any, of these mechanisms might account for the widely observed salutary effect of religious attendance on health (Levin, 1998). In addition, most

of the research in the field consist of correlation models and not causal, thereby creating a greater need for more research. Among the various hypotheses pertaining to the explanation for the influence of religious behaviors and beliefs on well being, the coherence hypothesis makes the argument for a positive association between religion and health or well-being at the cognitive and emotional level. Religious involvement may offer either or both of two consequences found by investigators to have effects on health and well-being: (1) the reduction of a sense of fatalism or helplessness in the face of the unpredictability of the environment (Abramson, Seligman & Teasdale 1978; Wheaton 1983); and, (2) the fostering of a sense of optimism, a perception that things will turn out all right, whether one has any control over them or not (Antonovsky, 1980). Although related, fatalism and optimism are conceptually distinct in that a sense of helplessness need not be accompanied by a hopeless feeling that the environment is threatening (Idler, 1987). Additional aspects of Antonovsky's theory detailed later in this paper will theoretical framework for this study.

It should be noted that the religious involvement may be associated with better well being and life satisfaction because religiously involved individuals may behave differently than the nonreligious with respect to known health risk factors. That is the religiously involved may be more likely than the nonreligious to avoid risk factors, such as smoking, drinking, eating behaviors, having multiple

sexual contacts, or follow the prescription of regular rest, relaxation or meditation (Troyer, 1988).

Hypotheses of the Study

The specific hypotheses that were addressed by this research are the following:

Hypothesis 1: Religiosity will have a positive correlation with psychological well-being and life satisfaction. The general consensus in multiple studies on religiosity is that religion does have some correlation to salutary affect on subjective and physical well being among older adults (Johnson, 1995; Levin, 1998, McFadden, 1995).

Hypothesis 2: Among the religious behaviors examined (i.e., church attendance, reading holy writ, and prayer), church attendance will influence psychological well being and life satisfaction more strongly than the other individual factors due to the benefit of social involvement and interaction with other elders. Multiple studies have had positive results in terms of positive relationship to church attendance and well being: (Ellison, Boardman, Williams and Jackson (2001), Frazier, Mintz and Mobley (2005), and Robinson (2007). All have noted the importance of church and religion amongst seniors across different ethnic backgrounds, and have suggested that the involvement of elders in religious attendance/participation has proven valuable to their well being and life satisfaction.

Hypothesis 3: Among the religious beliefs examined, the specific cognition that ‘regardless of adversity all in life turns out well’ will influence psychological well being and life satisfaction more strongly than the other individual belief factor due to the strong influence of positive cognition. Religious involvement may offer either or both of two consequences found by investigators to have effects on health and well-being, the reduction of helplessness in the face of the unpredictability of the environment and the fostering of optimism or ‘hopefulness’; a perception that things will turn out all right, whether an individual has any control over them or not (Abramson, Seligman & Teasdale 1978; Antonovsky, 1987).

Hypothesis 4: Although income may be inadequate and health may be poor, for Hispanic women, overall religiosity will have a positive correlation with life satisfaction as religiosity seems to be an important resource in the lives of elderly Hispanic women. A growing body of research focuses specifically on the relationship between religiosity and health among ethnic women. High levels of religious well-being and frequent church attendance allow low-income Hispanic women to cope with the stresses of poverty and remain essentially healthy. An ethnographic study of Hispanic women demonstrated an emphasis on the importance of religiosity and the integration of the religious/spiritual dimension as important to healthy living (Higgins, 1999).

Measures of overall religiosity will be obtained from the sample through the use of the DUREL (Duke University Religion Index), a 5 question instrument

developed by Koenig, Meador, and Parkerson (1997) which captures the three major dimensions of social and private religious involvement and depth of spiritual involvement: organizational, non-organizational and intrinsic religiosity. The instrument was developed for use in large cross-sectional and longitudinal observational studies and has been administered to 7000 individuals between 18-90 years of age (Koenig et al, 1997).

Psychological Well-Being: Psychological Well Being, one of two dependent variables, will be measured by the Affect Balance Scale Satisfaction Measure (LSR), a 10 item inventory on positive affect, negative affect and overall psychological well-being (affect balance) developed by Bradburn & Noll (1969). It has shown good to excellent internal consistency in a number of studies with alphas that consistently exceed .80, and show good concurrent, predictive and construct validity (Bradburn & Noll, 1969). Research indicates that the positive affect scale reflects one's satisfaction with a number of things, such as one's social life, esteem for others, and a focus on the friends, objects, and activities outside oneself (Bradburn, 1969, Lawton et al, 1984 in McGloshen and O'Bryant, 1988).

Life satisfaction: Life Satisfaction, the second dependent variable, is defined as satisfaction with life based on financial situation, housing and overall quality of life. It is referred to as a cognitive and judgmental process, one that assesses a global assessment of one's life as a whole (Diener, 1984). In this study, life satisfaction will be measured by the Life Satisfaction Index – Z (LSIZ),

an 18-item instrument designed to measure the life satisfaction of individuals over 65, developed by Neugarten, Havighurst & Tobin (1961). This instrument is recommended mainly for individuals over the age of 65. Responding to all instruments and to gender, health, age, education, and income adequacy/financial satisfaction questions will take approximately 20 minutes to complete.

Descriptive statistics, comparative means, and correlations are examined in the data set and a multiple linear regression model is tested. The data are analyzed in stages: (1) Male and female respondents are compared on their mean scores and with respect to relationships between religiosity and health, well-being and life satisfaction. This analysis is conducted to determine if males and females should be analyzed separately or together. (2) Regression analysis is performed to determine for each sex, the factors of religiosity that significantly impact factors of psychological well being and life satisfaction. Independent t-tests are conducted to compare males and females on the variables. (3) Zero-order correlations between religiosity, psychological well being, health, and life satisfaction are conducted for males and females.

Conceptual Models/Theories

Among the various theories pertaining to the explanation of the influence of religious behaviors and beliefs on well being, two conceptual models or theories that have application to the constructs of religiosity's influence are Antonovsky's (1984) Theory of Sense of Coherence and the Theory of Stress and Coping (Lazarus, 1966; Lazarus & Folkman, 1984).

Antonovsky's Sense of Coherence theory (1987 and 1993) makes the argument for a positive association between religion and health or well-being at the cognitive and emotional level. This theory attempts to explain how individuals cope with the multitude of stressors that are faced daily, and how these experiences are integrated into a coherent worldview. Antonovsky posits that a high sense of coherence is a global or dispositional orientation, in which the world and life experiences are seen as comprehensible (the cognitive component), manageable (the instrumental component), and meaningful (the motivational component), and will help mediate high stress events and environments (Antonovsky, 1987). The sense of coherence (SOC) and subsequent 'salutogenesis' is the construct that Antonovsky proposed to explain successful coping with stressors and movement toward the health end of the health ease/disease continuum, or as the core of the organization of a complex human system for successful processing of information and energy. It is that which makes conflict resolution possible. Sense of coherence is very explicitly not a substantive coping strategy, as it is a mastery orientation or an internal locus of control (Antonovsky, 1984).

The person with a strong SOC in coping with a stressor is not tied to one type of resource; he/she may fight, flee or freeze, as she or he deems appropriate to that situation. It is this very flexibility which opens the way for successful resolution of conflict. A person with a strong Sense of Coherence (SOC) has a set of fundamental rules, a canon, such as the Ten Commandments, but the tactics are

flexible (Antonovsky, 1990). Resources are at the person's disposal, not that the person is in control of the requisite resources. The SOC model recognizes the immanence of conflict in all of existence. When a person with a strong SOC or hardiness is confronted with a conflict, she or he will search for meaning and resolution, and not seek to escape the burden. In this sense, stressors are open-ended in their consequences for health. The development and maintenance of a strong SOC, then, facilitate successful resolution of the innumerable conflicts of complex existences (Antonovsky, 1990).

The second conceptual model and theory that underpins this study is the Theory of Stress and Coping (Lazarus, 1966; Lazarus & Folkman, 1984). Contextual formulations of coping (Lazarus, 1966) focus on specific thoughts and actions that a person uses to manage the demands of a specific stressful encounter. The behavioral flow begins with a person's cognitive appraisal of a person-environment relationship. The appraisal includes an evaluation of the personal significance of the encounter (primary appraisal on what is at stake in the encounter) and an evaluation of the options for coping (secondary appraisal on how the individual can respond) (Lazarus, 1966; Lazarus & Folkman 1984). Together, primary appraisal and secondary appraisal shape emotion quality and intensity and influence the coping response. Appraisals are influenced by antecedent person and situation characteristics. Thus, the personal significance of an encounter is determined on the one hand by the pattern of motivation (e.g., values, commitments, and goals), beliefs about oneself and the world, and by

one's personal resources for coping, such as financial means, social and problem-solving skills, and health and energy (Cummings et al, 1991).

Individual differences in these variables help explain why an encounter may be appraised as a threat by one person and as neutral or a challenge by another. For example, when an elder has to move from one city to another to be close to his/her children, this move is likely to be appraised as a harm or loss for a person for whom independence is a major goal, whereas it may be only mildly stressful or even a relief for a person whose goal is to preserve as much time as possible for closer family life. The experience of an illness can also be cognitively appraised as surmountable or not surmountable. Appraisal processes are also influenced by situation characteristics such as the nature of the danger, its imminence, ambiguity, and duration, and the existence and quality of social support resources to facilitate coping (Cummings et al, 1991, Antonovsky, 1984). Coping processes continuously change as a function of continuous appraisals and reappraisals of the shifting person-environment relationship. Shifts may be due to coping efforts directed at changing the environment or the meaning or understanding of the event. Shifts may also be the result of changes in the environment that are independent of the person. Any shift leads to a reappraisal of the situation, which in turn influences subsequent coping efforts. Thus, coping changes during an encounter as it unfolds, and it changes from encounter to encounter. Growing older creates many new and additional stressors. Assessing these stressors is a continuous appraisal process (Cummings et al, 1991).

The theoretical foundations that allow elders to make sense of their world also allow religious beliefs and behaviors to be a primary and cohesive aspect of that foundation. It is this foundation that, in fact, may play a significant role in the health and well being of these individuals in late life.

Chapter 2

REVIEW OF THE LITERATURE

According to a recent Pew Forum on Religion and Public Life regarding the ‘U.S. Religious Landscape Survey’ (2007), in general, older adults are more likely than younger adults to say religion is very important in their lives. For example, less than half (45%) of adults under age 30 say religion is very important in their lives, compared with more than two-thirds (69%) of those age 65 and older. This pattern also holds across many religious traditions, but it is particularly strong among Catholics and members of mainline Protestant churches. There is no generation gap, however, among Mormons, Jews and Muslims. Within these groups, those who are younger are about as likely as those who are older to say religion is very important to them.

Older Americans are considerably more likely than younger Americans to profess certain belief in a personal God. Among those age 65 and older, almost six-in-ten (57%) express this belief, compared with less than half (45%) of those under age 30. Generational differences are especially pronounced among Catholics and Jehovah’s Witnesses. In other traditions, however – especially members of evangelical, mainline and historically black Protestant churches – young people are about as likely as their older counterparts to express certain belief in a personal God.

The Landscape Survey also confirms how important religion is to most Americans. A majority of adults (56%) say religion is very important in their

lives, and more than eight-in-ten (82%) say it is at least *somewhat* important. Only about one-in-six adults (16%) say religion is not too or not at all important in their lives. The groups most likely to say religion is very important in their lives include members of historically Black (85%) and evangelical (79%) Protestant churches, as well as Jehovah's Witnesses (86%), Mormons (83%) and Muslims (72%). Slightly more than half of Catholics and members of mainline Protestant churches say religion is very important in their lives. By contrast, only about a third of Jews (31%) and Buddhists (35%) say religion is very important in their lives. Women are significantly more likely than men to say they are absolutely certain in their belief in a personal God (58% vs. 45%). This holds true for most religious traditions with the exception of Mormons, Buddhists and Hindus, where men and women profess roughly the same levels of absolute belief in a personal God (Pew Forum, 2007).

Overall, Americans with a college education tend to be slightly less likely to believe with certainty in a personal God compared with those without a degree. But the opposite is true among members of evangelical churches, where those with a college degree are more likely than those with a high school degree or less to profess certain belief in a personal God. This is also true, though to a lesser extent, among Catholics and members of historically black churches.

Older Americans are more likely than younger Americans to say they attend services at least once a week. Among Christian groups, the age gap is particularly large for Catholics; nearly two-thirds of Catholics over age 65 (62%)

say they go to church every week, compared with only about a third of Catholics under age 30 (34%). There are similar, though somewhat less pronounced, generational differences among all three Protestant traditions. Notable exceptions to this pattern are Mormons, Jews and Muslims, among whom younger individuals are at least as likely as their older counterparts to say they attend religious services on a weekly basis. As with other measures of religious involvement, women are considerably more likely than men to say they pray daily, and this pattern holds to varying degrees across many religious traditions. Similarly, older adherents pray at least once a day at much higher rates than their younger counterparts, both among the public overall and across several religious traditions (Pew Forum, 2007).

Perhaps the most comprehensive review of the field was the meta-analysis of 200 psychiatric and psychological studies published through 1989, in which the authors reached a similar conclusion of a positive relationship between religiosity and well-being (Larson et al, in Ellison & Levin, 1998). In 1992, Larson reported that of the 50 studies that reported relationships between religiosity and mental health, 74% reported a positive relationship, 16% reported a negative relationship, and 6% reported a neutral relationship (Larson in Hackney & Sanders, 2003). Several other prominent analyses report that indicators of personal piety, religious devotion (e.g. frequency of prayer, feelings of closeness to God) and subjective religious identity are linked to well-being (Pollner, 1989; Taylor, Levin, Chatters & Taylor, 1994 in Ellison & Levin, 1998, Lutgendorf, 2004). These benefits

seem to be closely related, in particular, among elders (Ellison, C.G., 1991; Thomas & Holmes, 1992; Lutgendorf, 2004). Koenig & Larson (2001) reviewed 850 studies and found several associations between religiosity and mental health. Of those studies that correlated religiosity with life satisfaction, 80% demonstrated a positive relationship between religious beliefs and practices and greater life satisfaction (Hackney & Sanders, 2003).

Since 1939, survey research and public opinion polls have consistently found senior adults over the age of 65 to have the highest measures of religion and spirituality, with only an occasional exception of reduced attendance at religious services among the oldest old, higher proportions of whom have problems of mobility. This once was used to support the now discredited versions of secularization theory that predicted lower religiousness with each generation, for decade after decade the pattern is so consistent that it cannot be attributed to only a cohort explanation (Moberg, 1997). The persistently higher levels of religiousness among the oldest generation are more likely a product of the deepening of spiritual interests and concern during the later years, although differential survival may also contribute to it, for people who are more religious and spiritual live longer than others (Moberg, 1997; see Hummer et al., 1999). Among the leading “secrets” people past age 85 gave Hogstel and Kashka (1989) for good health and long life are faith in God and Christian living. Brennan and Missinne (1980) found that senior adults tended to retain earlier beliefs in God and the afterlife, but considerably higher proportions prayed or meditated

regularly and considered themselves to be “a religious person” “now” than had “always” done so.

Among the 1,188 women in the Search Institute survey of Lutheran Church–Missouri Synod, significant differences were evident between the young (18-34), young middle aged (35-49), older middle aged (50-64), and senior (65+) women. On almost every measure of religion and spirituality, the older respondents scored significantly higher than those who were younger, a curvilinear finding that is typical in studies of American Christians (Moberg, 1999).

A rare longitudinal study followed the same persons, born in 1920-21 or 1928-29, over several decades. While the overall levels of spirituality were relatively low, they all, irrespective of gender and cohort, showed a significant increase in spirituality from late middle age (mid-50s to late 60s) to their older adulthood (late 60s to mid-70s). This supports the conclusion that there is a general tendency for individuals to become more interested in spiritual interests and practices as they grow older. Earlier in life the patterns of change were much more varied. Women turned toward increased spirituality earlier and at a faster rate than the men (Wink & Dillon, 2002). Of course, there are a variety of patterns of religious transitions during the life course. For some people there is a high degree of stability (no change), but for others religiosity may increase, decrease, or show a curvilinear trajectory (Ingersoll-Dayton, Krause, & Morgan, 2002).

Religiosity, well-being and life satisfaction

For the purpose of this study, religiosity, the independent variable, will be defined as a formal, organizational dimension that is demonstrated by external acts such as church attendance, reading holy writ and prayer for self and others. Zinnbauer (1990) defined religiosity as personal beliefs about a higher power, in addition to organizational practices such as church attendance and membership as well as other religious behaviors such as prayer and meditation or time spent in reading holy writ. According to Wolff and Trevino (1998) religiosity is described, as "one of sensitivity to or capacity for religion which consists of those powerful and timeless inner needs rooted in the human soul.not a set of dogmas, but a particular essence of being, a fundamental quality of human nature that only some persons possess in fully developed form. Through this unique form or worldview, persons experience the totality of life and comprehend the meaning of their existence. Persons with religiosity usually develop faith, which, as a fact of spiritual nature that expresses itself within the state of religiosity, transcends subjective states (e.g., fear and hope, exuberance and the need for redemption) as well as objects of religious faith (e.g., the image of God, doctrines, and the idea of salvation). Religiosity, then, is a fundamental need - a desire to find completeness, a yearning for a fixed point - that requires a transcendental reality as its fulfillment (Wolff and Trevino, 1998).

Two prototype studies that have addressed the concept of religiosity and life satisfaction with diverse populations include the following: Study one,

“Church Attendance, Religious Activities, and the Life Satisfaction of Older Adults in Middletown, U.S.A.”(Morris, 1991; Morris, 1997) examined the influence of such factors as religious attendance and activity, sex, health, income and age with regard to well-being as expressed by older individuals in the Middletown studies. One of the original areas delineated by the original researchers of Middletown, the Lynds (1929), was the variable of ‘engaging in religious practices’ (the other categories were: ‘getting a living’, ‘making a home’, training the young’, ‘using leisure’, and engaging in community activity’). Morris (1991) (1997) found in his more recent review of the study that the two most prominent topics which dealt with older adults were family relations and religion. In a sample of 400 individuals, 60 years of age and older, multiple regression revealed that three variables accounted for the majority of variances in life satisfaction: subjective health status, satisfaction with income, and church attendance. Over the years the original Middletown community study was examined and reexamined by many other researchers including Hoover (1976) and Caplow, et al (1976) with similar results.

The second study, Correlates of Life satisfaction Among Elderly African Americans, *Journal of Gerontology: Psychological Sciences*, by M.M. Coke (1992), examined correlates of life satisfaction among elderly African Americans. Predictors of life satisfaction included health, self-perceived adequacy of income, and hours of attendance in religious service activities. The study found that attendance in religious service activities to be significant predictors of life

satisfaction among African Americans (Coke, 1992). Both of these studies suggest that religiosity correlate to life satisfaction and well-being among the aged. In addition, multiple other studies have had similar results in terms of positive relationship to church attendance and well being: (Ellison, Boardman, Williams and Jackson (2001), Frazier, Mintz and Mobley (2005), and Robinson (2007). All have noted the importance of church and religion amongst seniors across different ethnic backgrounds and have suggested that the involvement of elders in religious attendance/participation has proven valuable to their well being and life satisfaction.

As with physical health, there is at least some evidence of the positive influence of religion on mental health, on average, among both men and women, adolescents through elders, different ethnic groups, and individuals from various socioeconomic classes and geographical locations (Ellison & Levin, 1998). For physical health, religious involvement has been linked to lower rates of a myriad of problems, including cardiovascular disease, hypertension, certain types of cancer, and even mortality (Barkan and Greenwood, 2003). For mental health, religious involvement seems to influence higher levels of psychological well-being such as life satisfaction and happiness, and to also influence lower rates of mental health problems such as depression and anxiety (Levin, et al, 1994, Levin and Chatters, 1998; Witter et al, 1985 in Barkan and Greenwood, 2003). The work of Levin and colleagues (1993) indicate that religious attendance may reduce depression in a prospective study of Mexican Americans from three

generations and the studies of Ellison and colleagues (1997) indicate that African Americans who attend religious service more than once per week and those who report receiving a great deal of guidance from religion in their daily lives, may also enjoy reduced psychological distress and reduced risk of major depressive disorders over the course of a 3-year prospective study. These studies control for physical health status, social ties, stressors and an exhaustive battery of relevant covariates and the evidence clearly points toward religious benefits (Witter et al, 1985; Levin, J.S. in Ellison & Levin, 1998).

Further, as briefly noted earlier, religious involvement may be associated with better well-being and life satisfaction because religiously involved individuals may behave differently than the nonreligious with respect to known health risk factors, such as smoking, drinking excessively, eating behaviors, having multiple sexual contacts, or in the prescription of regular rest, relaxation or meditation (Troyer, 1988). It has been well documented that one of the primary reasons participation in religious communities and religious beliefs often promote physical and mental well-being by regulating health-related conduct which reduce the risk of disease. Particular behaviors are encouraged and others are discouraged. Numerous studies have been conducted on groups such as Latter Day Saints and Adventists and the inverse relationship between religious involvement and the use of alcohol, tobacco, and substance use and abuse (Cochran, J.K. et al, 1988; Koenig, H.G. et al, 1997, in Ellison & Levin, 1998), their lower rate of diseases such as cancer or sexually transmitted diseases

(Gardner, J.W. et al, 1995 in Ellison & Levin, 1998), and the reduction of criminal and juvenile delinquency (Ellis, 1985). As is often noticed, most religious groups encourage these similar behaviors or values, and discourage risky or extreme behaviors. Nonetheless, it is believed by researchers that the potential influence religious involvement on individual lifestyles may extend well beyond these known links (Ellison, 1994).

Researchers are also looking at this topic from a biological/physiological level. Some interesting studies indicate that weekly attendance at a religious service is possibly associated with increased survival and a boosted immune system in the elderly (Lutgendorf, 2004). This particular study noted a biological pathway for linking religious behavior, physiological functioning and mortality. It addressed behavioral lifestyle factors, immune factor and a decrease in death rate as all being related to each other. Even when accounting for factors such as age, sex, health behaviors, illness and depression, religious attendance seemed significantly related to lower mortality over a 12-year period (Lutgendorf, 2004).

Attending religious services is also being addressed possibly corresponding to a decrease in blood levels of Interleukin-6 which could account for a decrease seen in mortality. Interleukin -6, or IL-6, is an immune system protein that affects the development of heart disease, osteoporosis, muscle weakness and certain cancers. Higher levels of Interleukin-6 seem to be associated with negative health effects (Lutgendorf, 2004), although more controlled studies are needed to confirm these studies.

In 1999, a researcher at the National Institute of Aging and a co-author of this aforementioned study showed that adults with higher levels of Interleukin-6 had twice as great a mortality risk as great as older adults with low levels. Of the 557 people tracked in the study, those who said they regularly attended religious services also displayed Interleukin-6 levels well below the level Harris' research outlined. Those whose religious attendance was frequent as one or two times a month also showed protective effects in lowered Interleukin-6 levels, but became significant for those study participants who also attended religious services at least twice a month. People with high IL-6 levels had a 48% risk of death over a 12 year period. However, Lutgendorf (2004) does acknowledge that IL-6 may not directly cause disease or death. This research builds on the prior research of Harold Koenig at Duke University Medical Center, whose original work found a weak yet possible relationship between these two variables. Interleukin-6 was one of eight outcome variables; however, there was no attempt to control for multiple comparisons, as the authors themselves reported (Lutgendorf, 2004).

In another retrospective study, (Sloan, Bagiella and Powell, 2002), the associations between frequency of prayer and six items measuring subjective health were examined. Analyses of variance were conducted on each of these six perceptions of health and three revealed effects of frequency of prayer at the 0.05 level of statistical significance. Although in such studies, adjustments of levels to control for such multiple comparisons may render these findings non-significant, therefore, the need for additional research.

When researching this topic with other populations such as Hispanics, studies are limited, with approximately 24 articles in any of the major research databases. The majority of Mexican Americans (80%) are self-reported Roman Catholics (Stolley & Koenig, 1997). This is a result of the critical role the Catholic Church has had in the development of the population in Mexico. In a 1997 survey in San Antonio, Texas, Stolley & Koenig found that, 75% of the Mexican American respondents self-reportedly attended a religious activity weekly, with women reporting higher rates of attendance than men. Older individuals were more active in religious activities in older years and 42% of the women expressed a desire to increase their participation. Health and transportation were the major problems that prevented regular church attendance (Stolley & Koenig, 1997).

Religion has had an important influence on the health practices of contemporary Mexican Americans when faced with childbirth, mental health illness, chronic illness and end of life (Berry, 1999; Levine & Markides, 1996). A positive correlation between church attendance and subjective health was found only among the older female participants (Stolley & Koenig, 1997). Religion becomes especially important to Mexican Americans when faced with the end of life (Siefken, 1993; Somerstein, 2002) where Hispanic elders reported that having health care personnel that have respect for the person's religion enhances the dying process.

Religion can have both a negative and/or positive influence on health outcomes, depending on the meaning that the individual assigns to the religious belief. In a 1996 study by Flaskerud and Nyamathi, with a 40% Mexican American sample of 216 participants, the subjects assigned a different meaning to divine intervention in relation to health challenges. The researchers noted that the subjects consistently expressed a need to rely on God for health improvement and made specific requests to saints for their intercession in the amelioration of pain and other symptoms (Flaskerud & Nyamathi, 1996). Many subjects voiced the possibility of modifying divine providence, in relation to health matters, through the use of prayer, burning religious candles or committing to pilgrimages to sacred shrines (Flaskerud & Nyamathi, 1996). These researchers consistently reported Mexican American subjects used religious rituals, such as prayer, the wearing of religious medals, candle burning and pilgrimages to garner health from God. These results would seem to indicate that the religious beliefs and activities of Mexican Americans may influence their health practices. Kane and Williams (2002) found that Florida Hispanic Catholics, part of a sample of 473, would seek assistance from a priest for mental disorders, moral concerns and practical life and family problems. The importance of religion also increases dramatically among Mexican Americans facing the end of life (Somerstein, 2002).

Siefken (1993) explored the perspective on death and dying of Hispanic patients in Florida. Although the researcher identified the participants as Hispanic, without identifying their specific subgroup self-identification (Mexican

American), the findings offered valuable insight into relevant individual's perceptions. Having a doctor who is considered one of the family, who focuses on the inner importance of the person, and who has respect for the person's spirituality and religious beliefs is of major importance to dying Hispanic elders (Lujan & Campbell, 2006).

Mechanisms and their Influence

For years, researchers have been trying to identify how characteristics of practicing religion or being religious influence health and well-being effects (Levin in Ellison & Levin, 1996). The prominent mechanisms that have influenced well-being are both behavioral and psychosocial constructs. They include (1) the regulation of individual lifestyles and health behaviors (2) the provision of social resources such as social ties, formal and informal support (3) the promotion of positive self perceptions such as self-esteem and feelings of personal mastery, (4) the provision of specific coping resources, in particular cognitive or behavioral responses to stress (5) the generation of positive emotions, such as love and forgiveness and (6) the promotion of healthy beliefs (Ellison & Levin, 1998).

For this particular study, of those constructs mentioned above, religiosity will be addressed primarily as a coping resource (cognitively and behaviorally) and will be addressed in how religiosity influences healthy beliefs in the elderly. Religious involvement, as reflected by various religious practices, such as church attendance, reading holy writ, and prayer have been cited as an important aspect

of adjustment in much of the research literature on coping strategies for and as a buffer to the many transitions and on experiences of losses experienced in later life (McGloshen et al, 1988). Ellison (1991) described a correlation between religiosity and psychological well being, finding that participants with strong religious faith reported higher levels of psychological well being and fewer negative consequences of traumatic life events. Furthermore, Ellison, Boardman, Williams and Jackson (2001) found that frequency of church attendance and belief in eternal life both positively correlated with higher levels of psychological well being. While religious beliefs may not protect individuals from experiencing troubles, feelings of discomfort, depression or disappointments, these beliefs may make individuals more resilient when faced with worldly trials, disappointments, and major life-changes. Based on their data, Ellison found that individuals with strong religious faith beliefs may redefine potentially negative life events in religious terms as opportunities for spiritual growth (Ellison, 1991). Their perception and interpretation of these experiences may in fact play a major role in the influence of subsequent health and well-being in these individuals.

Although research is mixed as to whether men or women have higher correlations in relation to religiosity and well being or life satisfaction, women are about four times more likely than men to have a religious affiliation and over twice as likely as men to indicate that religion is important to them (Reyes-Ortiz et al, 2007). Older adults who considered religion as very important are also less likely to report fair or poor health compared to those who are less religious. Older

adults also have a high prevalence of religious affiliation and most of them consider religion to be important. Better self-rated health is also associated with higher self-rated religiosity (Reyes-Ortiz et al, 2007). Adults also tend to increase levels of religious affiliation and private religious devotion across the life span, especially in later life (van Olphen, et al, 2003).

Rationale

Religious involvement may offer either or both of two consequences found by investigators to have effects on health and well-being: (1) the reduction of a sense of fatalism or helplessness in the face of the unpredictability of the environment (Abramson, Seligman & Teasdale 1978), and (2) the fostering of a sense of optimism, a perception that things will turn out all right, whether one has any control over them or not (Antonovsky, 1987). Though related, fatalism and optimism are conceptually distinct in that a sense of helplessness need not be accompanied by a hopeless feeling that the environment is threatening (Idler, 1987).

Social Support

Scholars have attempted to explore the relationship between expressions of religious commitment and life satisfaction (Levin, 1988) as well as to identify sources of social support or strength in certain populations and certain age groups that might lead to higher levels of life satisfaction and well being (Coke, 1992). Although this is not one of the variables being assessed in this paper, the social

support concept merits some attention and description as part of the rationale since many researchers have cited the support associated with participation in church activities as important determinants of both health and life satisfaction for elderly individuals (Aschenbrenner et. al in Coke, 1992; Levin, 1988). The rationale is that active involvement either in church or other volunteer activities as well as involvement with family and friends will help an individual, in particular the elderly, with developing and maintaining a positive and optimistic outlook on life. Social activity in general has been shown to be related to elder's overall sense of positive well-being (Costa & McCrae in McGloshen, 1988).

Extensive research literature documents the salutary effects of various types of social resources on mental and physical health outcomes. The research typically distinguishes between social integration (e.g., network size and frequency of interaction), objective support (e.g. enacted or received support, from both formal and informal sources) and subjective support (e.g., satisfaction with support, anticipated support) (Cohen & Willis, 1985; Ellison & Levin, 1996).

Both theory and empirical evidence suggest that regular attendees at religious services enjoy the larger and denser social networks among their members and the more frequent and varied exchanges of goods, services and information than less frequent attendees (Ellison & George, 1994; Bradley, 1995). Friendships develop most readily between persons who share values, interests and activities. Religious services and related activities tend to bring together persons with common faith commitments and often broadly similar social and political

values on regular occasions. Thus, congregations offer fertile terrain for the cultivation of friendships, which can be developed further in other secular settings (Ellison & Levin, 1998).

Compassion and kindness are key imperatives to most religions and their traditions, especially in helping elders and those less fortunate. Outreach services in community involvement are central goals to many churches and are especially prevalent in minority communities such as African American and Hispanic communities (Bradley, 1995). Church members serve as valuable sources of support, such as financial assistance, providing meals, providing transportation and information about other resources in the community, as well as pastoral counseling or advice on personal, family and spiritual issues. They also provide informal socioeconomic support, boost morale through confiding in each other, visiting those who are shut-in, and providing comfort for the bereaved. Members also provide spiritual support for each other, discussing religious and spiritual beliefs, ideas and insights and praying for one another or for other individuals not necessarily members of their church. Some studies suggest that volunteering and assisting others can benefit support providers as well as the recipients and this may yet be another way in which religious communities promote mental and physical health and well-being (Ellison & Levin, 1988).

While social integration and enacted support clearly have implications for health outcomes, subjective *perceptions* of support, such as the satisfaction with supportive relationships and the anticipation that support is available when

needed, may be especially important predictors of mental and physical health status and mortality risk (Cohen, 1985). Churches and synagogues and the small groups they generate, may enhance these perceptions of support by fostering a sense of community that leads individual members to feel loved, cared for, and integrated (Ellison, 1994). Supportive relationships are often most beneficial when they involve persons with common status characteristics, experiences and values. Religious groups are often relatively homogeneous along some or all of these social and religious dimensions and religious congregations offer a context for the development of support convoys or accumulations of supportive ties over the individual life course. Individuals who provide support to their fellows can be confident that their 'credits' are likely to be honored in the future if needed, due to the shared norms of altruism and reciprocity (Ellison & Levin, 1998)

In addition, some have speculated that social support delivered through religious channels may also differ in content from that provided through other, nonreligious sources (Ellison, 1994). Support attempts are more likely to succeed when both provider and recipient share similar interpretations of stressors, as well as common beliefs about the proper motivations for helping behaviors and the 'fit' between stressors and supportive behaviors (Jacobson, 1987). Shared values within religious communities may provide the basis for a common discourse and set of shared meanings concerning human suffering, adjustment, and support (Ellison, 1994). Co-religionists may also assist their fellows with 'meaning work', such as helping them to place their life experiences within broader

interpretive frames, reducing the sense of threat and uncertainty through messages of hope, etc. Thus, religious involvement may enhance the quality, as well as the quantity, of social resources available to individuals (Ellison in Levin, 1994).

Beyond the social relationships, however, and according to Erickson (1950), religion may enable individuals to have the perspective on life described as “an experience, which conveys some world order and spiritual sense” (p.232 in McGloshen, 1988). Furthermore, as a coping strategy for many stressful events in an elder person’s life, such as coping with grief and as a platform from which to gain perspective on late life, it is evident that religious involvements may serve as coping strategies for and as a buffer to the many transitions and losses experienced in later life (McGloshen, 1988). At a psychological level, religious involvement, in particular religious service attendance, has been cited as an important aspect of adjustment in much of the research literature on experiences of loss in for elders, especially widowhood (e.g. Berardo in McGloshen, 1988). The spiritual dimension of religious involvement is thought to help people deal with various kinds of personal troubles. By turning to their faith in times of trouble, they are better able to cope with the stress and other problems that accompany personal crisis (Barkan and Greenwood, 2003). Positive emotions, such as hope, forgiveness, joy and other positive emotions which in turn enhance well being are also promoted through religious involvement (Pargament, Smith, Koenig, and Perez 1998, in Barkan, 2003).

Coping Resources and Behaviors

There is mounting evidence that religious cognitions and behaviors can offer effective resources for dealing with stressful events and conditions (Pargament, K.I., 1997); and, dealing effectively with stress has been shown to be a powerful factor in both preventing disease and hastening recovery from illness (Ellison & Levin, 1998). As noted earlier, religious coping is apparently quite effective for certain social groups, such as African Americans, elders and women all of whom have higher levels of religiosity (Ellison & Taylor, 1996). In addition, religious cognitions and behaviors, such as those centered on prayer, meditation, and other devotional pursuits, seem to be especially valuable in dealing with serious health problems and bereavement (Idler, E., 1995; Pargament, K., 1997). Both health and bereavement are conditions and events that (1) lack satisfying worldly expectations (2) may constitute 'boundary experiences' in that they challenge foundational premises of existence (or threaten existence itself), and (3) may undermine commonsense notions that the world is just, and (4) may require emotion management as well, as problem-solving efforts (Ellison, C.G., 1994; Pargament, 1997).

It is believed that religious cognitions and practices may aid in coping with stressors in several ways. Prayer and other intra-psyche religious coping efforts may alter primary appraisals, leading religious persons to reassess the meaning of potentially problematic conditions as opportunities for spiritual growth or learning, or as part of a broader divine plan, rather than as challenges to

fundamental aspects of personal identity (Folley, D.P., 1988). Certain 'styles' of religious coping, such as perceived collaboration with 'divine other' appear to bolster feelings of secondary control, enhancing confidence in the ability to manage difficulties and producing desirable health outcomes, while other religious coping styles, such as deferring and leaving all problem solving to God, can seemingly contribute to pathological outcomes (Pargament et al, 1988, 1990).

According to some studies, religion can help individuals to adjust the self-concept so that physical frailties and other problems are less threatening to personal identity (Idler, 1995). Along with the comfort and solace obtained via private religious activities, individuals also receive help in managing emotions and solving problems through pastoral counseling, as well as through formal church programs and church-sponsored small groups (Ellison & Levin, 1998).

Emotions engendered through religious experiences may provide another possible linkage with health status. The practice of religion, particularly prayer and worship, whether communal or alone, may lead to the experience or expression of certain emotions that, through psycho-neuro-immunological or neuro-endocrine pathways, could affect physiological parameters (Ellison & Levin, 1998). Religious involvement may lead to positive emotions such as forgiveness (Kaplan, B.H. et al, 1994), contentment and love, as well as to reduction in negative emotions which may influence responses in a variety of physiological systems (Ader, R. et al, 1991). Although there are relatively few systematic studies, it has been suggested that 'ecstatic' worship services, as seen

in African American and Pentecostal churches, may give rise to positive emotions by providing outlets for the release of negative emotions and stimulating catharsis among participants (Griffith, E.H. et al, 1984; Ellison & Levin, 1998).

Whether any of the aforementioned pathways are apparent in any given situation, simply believing or expecting religious practice to benefit health or expecting God to reward expressions of piety, devotion, observance or obedience with health and well being may be enough to influence positive health outcomes among more religiously committed populations or respondents (Ellison & Levin, 1998). Constructs such as learned optimism, “positive illusions” (Taylor, S.E. 1989) and “hope and optimism” (Sethi & Seligman, 1994) have been proposed to account for the psychological mediation of positive mental attitudes on health status (Ellison & Levin, 1998). Koenig (in Levin, 1994), discusses how, especially for older adults, religious faith can create a sense of hope that offers both emotional and tangible means of promoting well being (Ellison & Levin, 1998)

Key Variables and Operational Definitions

The key variables for this study are the following:

Religiosity is operationally defined in this research as the scores observed for each participant on the *DUREL* (Duke University Religion Index developed by Koenig, Meador, and Parkerson, 1997), a 5-item scale that measures 3 major dimensions of religiousness: the organizational/social religious involvement (e.g., church attendance), non-organizational religiosity/private religious involvement

(e.g., prayer, meditation or bible study/reading other holy writ) and subjective or intrinsic religiosity dimensions (e.g., carry religion into life), following from the classic Allport (1958) intrinsic-extrinsic distinction.

Psychological well-being is operationally defined as the scores observed for each participant on the *Affect Balance Scale* (Bradburn, 1969), a 10-item inventory designed to assess positive affect, negative affect, and overall psychological well being (affect balance).

Life Satisfaction is operationally defined as the scores observed for each participant on the *Life Satisfaction Index - Z* (LSIZ), a 19-item instrument designed to measure the life satisfaction of older people developed by Neugarten, Havighurst and Tobin (1961).

Chapter 3

METHODS

Participants

The sample, 142 adults between the ages of 90-65, was recruited from adult community centers throughout the state of Arizona. Both men ($N = 38$) and women ($N = 104$) were asked to participate. The sample was ethnically diverse: 54% Hispanic ($N = 76$), 31% Anglo ($N = 44$), 8% African-American ($N = 12$), 7% Other (Native American & Other; $N = 10$). By religion, 48% were Catholic. Other Christian faiths represented included Protestant, Christian, Mormon and Baptist (6%, 5%, 4%, 5% respectively) with 20% not listing any particular religion of practice. Attendees at adult community centers were surveyed over a three month period, July - August, 2011, through individual and group administration of the questionnaire and instruments used to obtain data for examination of the relation between religiosity, psychological well-being and life satisfaction. Data were collected through a questionnaire given to elders over the age of 65 primarily at local community centers throughout Arizona. By gender, the majority were women (73%, $N = 104$). Participants ranged in age from 90+-65 years, with the majority in the age bracket 75-65 (56%). Marital status data indicated 44% were married and 39% were widowed for a total of 83% currently or having been prior married. Fifty-seven percent (57%) had incomes under \$19,000, with 27% living at poverty level (i.e., under \$10,000) based on Health and Human Services guidelines (Federal Register, 2011). A sample of

convenience was employed with the investigator presenting the study to individuals and small groups of individuals gathered primarily at local community centers.

Instruments

Measures of overall religiosity, psychological well being, and life satisfaction were obtained from the sample through the use of the following three instruments: the *DUREL* (*Duke University Religion Index* developed by Koenig, Meador, and Parkerson, 1997), The Life Satisfaction Index – Z (LSIZ), Neugarten, Havighurst & Tobin (1961) and the Affect Balance Scale Satisfaction Measure (LSR), (Bradburn, 1961).

Religiosity, the independent variable, was assessed through the DUREL, a 5-item scale that measures 3 major dimensions of religiousness: the organizational/social religious involvement (e.g., church attendance), non-organizational religiosity/private religious involvement (e.g., prayer, meditation or bible study/reading other holy writ) and subjective or intrinsic religiosity dimensions (e.g., carry religion into life), following from the classic Allport (1958) intrinsic-extrinsic distinction. The overall scale has high test-retest reliability (intra-class correlation = 0.91), high internal consistence (Cronbachs alphas = 0.780.91), high convergent validity with other measures of religiosity ($r_s = 0.710.86$), and the factor structure of the DUREL has now been demonstrated and confirmed in separate samples by other independent investigative teams. The instrument has been used in over 100 published studies

conducted throughout the world and is available in 10 languages (Koenig & Bussing, 2010). The score range for the DUREL is 1-6 ('never' to 'more than once a week' for questions 1 and 2 and 'definitely not true of me' to 'definitely true of me' for questions 3-5. Higher scores indicate higher levels of religiosity.

Psychological Well-Being, the first dependent variable, was measured with the *Affect Balance Scale* (Bradburn, 1969), a 10 item inventory designed to assess positive affect, negative affect, and overall psychological well being (affect balance). This scale has shown good to excellent internal consistency in a number of studies with alphas that consistently exceed .80, as well as provided extensive data on concurrent, predictive and construct validity (Bradburn & Noll, 1969). will be conceptualized in term of a multi-dimension model (Diener, 1984; Diener & Emmons, 1984; Emmons & Diener, 1986; Harding, 1982) that has been defined as a sense of peace, harmony and lack of distress. Although a global dimension of well being can be identified and measured (Stones & Kozma, 1985), several lines of evidence suggest the value of examining effects of well-being at a sub-global level. Components at this level have been shown to relate differently to various variables. Currently it is possible to distinguish three commonly agreed upon dimensions of wellbeing: life satisfaction, positive affect, and negative affect (Andrews & Withey, 1976; Diener, 1984). In this study, I will examine the relationship of religiosity to these three components of well-being. Scoring for the Affect Balance has a range of 0-10 for positive and negative affect. Higher scores indicate higher positive and higher negative affect.

Life Satisfaction, the second dependent variable, was measured using the *Life Satisfaction Index - Z (LSIZ)*, a 19-item instrument designed to measure the life satisfaction of older people developed by Neugarten, Havighurst and Tobin (1961). This instrument is recommended mainly for individuals over the age of 65. These instruments asked respondents to Agree or Disagree with specific statements. Scores ranged from 0-2. Reverse scoring was conducted on the instruments where required. The complete research packet included a demographic aspect of the questionnaire which requested participant age, gender, marital status, income, income satisfaction, ethnicity, education level, type of profession involved in most of their life, and religion practices (if any).

All instruments as well as responses to age, gender, marital status, income, income satisfaction, education and health took approximately 20 minutes to complete. Scales for each of the instruments were pre-determined by the instrument developers and scored (or reverse scored) as determined by instructional use.

Table 1 summarizes the responses to instruments on the questionnaire and indicates the score range of each of the three instruments: Religiosity, Psychological Well being and Life Satisfaction. (See Appendix A for the Consent Form and Appendix B for the complete Questionnaire).

Table 1

Responses to Questions on Religiosity, Psychological Well-Being and Life

Satisfaction

Instrument	Range	M	SD
1. Life Satisfaction	38-1	22.99	7.34
2. Psychological WB	10-0	7.24	2.18
3. Religiosity	15-3	12.6	3.03

Procedure

Questionnaires were distributed both individually and in groups at local senior citizen centers and other areas where senior citizens congregated throughout Arizona.

Each participant was given a written description of the study including the time required to complete the questionnaire and procedures for maintaining confidentiality. Participants were asked to sign the Consent Form stating their willingness to participate in the study as a volunteer. They were asked not to write their name on the Questionnaire so as to maintain confidentiality. The Consent Form and the completed Questionnaire were maintained in separate envelopes.

After signing the Consent Form, participants were given a copy of the questionnaire. It took approximately 20 minutes or less for the participants to complete. Some participants needed assistance as they could not see very well, so

the questions were read aloud to them either by this researcher or the Senior Citizen Center personnel. Once participants completed the questionnaire, they were asked if they had any questions to which the researcher responded. There was no compensation provided to respondents for participating in the study.

Research Design and Data Analysis

Descriptive statistics, comparative means, correlations and regressions were computed for the data. The data were analyzed in stages: (1) Independent t-tests were conducted to compare males and females on the variables. Male and female respondents were compared on their mean scores and with respect to relationships between religiosity and well-being and life satisfaction. This was conducted to determine if males and females should be analyzed individually or together. Independent t-tests were also conducted on the Hispanic respondents to determine if that group should be analyzed separately. (2) Regression analysis was then computed to determine for each sex and for each ethnic group, the factors of religiosity, psychological well being and life satisfaction. (3) Zero-order correlations between religiosity, psychological well being, and life satisfaction were conducted for males and females and by ethnic groups.

Chapter 4

DATA ANALYSIS AND RESULTS

Preliminary analyses were conducted to examine whether males and females differed on the target variables as well as potential ethnic mean difference existed. Then, the three primary hypotheses were tested using both correlational and regression analyses.

Mean differences. To examine potential sex and ethnic differences in the study variables a 2 (sex) by 2(Anglo versus Hispanic) MANOVA was conducted. Results from this analysis are reported in Table 2 and show main effects for both sex, $F(10, 108) = 2.39, p < .05$, and ethnicity, $F(10, 108) = 6.84, p < .001$. No interaction effects were detected. As can be seen in the table of means (Table 2), sex effects were found for overall religiosity, hopefulness, and income such that males were less religious, less hopeful and reported less income satisfaction. In addition, ethnic differences were found for frequency of church attendance, frequency of prayer and meditation, income and education such that Hispanic elders reported more frequent church attendance, but less prayer and meditation. Moreover, they tended to have lower incomes and less education.

Relations among variables. To examine if religiosity is positively related to elders' psychological well-being and life satisfaction, a set of correlations were computed. Specifically, one set of correlations were computed for the sample as a whole, the next set was computed separately by sex, and the final by ethnicity. These correlations can be found in Tables 3 through 5.

Table 2. Means for study variables by sex and ethnicity

Measures	Males (<i>N</i> = 33)	Females (<i>N</i> = 87)	Hispanic (<i>N</i> = 76)	Anglo (<i>N</i> =44)
Life satisfaction	23.36 (7.41)	23.68 (6.93)	22.58 (7.31)	25.34 (6.25)
Psych wellbeing	7.42 (2.29)	7.25 (2.19)	7.11 (2.43)	7.64 (1.75)
Overall religiosity	11.30(3.64) ^a	12.99 (2.72) ^b	12.51 (3.06)	12.55 (3.15)
Church attendance	3.79 (1.65)	4.28 (1.26)	4.36 (1.21) ^a	3.77 (1.61) ^b
Prayer, meditation	3.73 (1.84)	4.20 (1.71)	3.80 (1.68) ^a	4.52 (1.80) ^b
Hopefulness	3.88 (1.39) ^a	4.44 (.90) ^b	4.39 (.98)	4.09 (1.22)
Health	2.76 (.71)	2.56 (.81)	2.55 (.82)	2.73 (.69)
Income	3.00 (1.37) ^a	2.47 (1.30) ^b	2.16 (1.08) ^a	3.41 (1.37) ^b
Income satisfaction	1.94 (.66)	2.15 (.72)	2.05 (.71)	2.16 (.71)
Education level	1.88 (.78)	1.82 (.90)	1.62 (.77) ^a	2.20 (.90) ^b

Note. Means that are denoted by different letters differ at $p < .05$.

Table 3. Correlation matrix for all study variables.

Measures	1	2	3	4	5	6	7	8	9	10
1 Life satisf	1.00	.67	.22	.06	.18	.33	.17	.21	.39	.02
2 Well being		1.00	.15	.07	.14	.31	.14	.17	.27	.15
3 Overall relig	.22	.15	1.00	.46	.65	.78	.03	-.10	.10	.02
4 Church attn	.06	.07	.46	1.00	.32	.39	-.09	-.20	-.12	.02
5 Prayer, medit	.18	.14	.65	.32	1.00	.54	.10	-.07	.06	.15
6 Hopefulness	.17	.14	.78	.39	.54	1.00	-.07	-.18	.03	-.07
7 Health	.33	.31	.03	-.09	.10	-.07	1.00	.21	.38	.12
8 Income	.21	.17	-.10	-.20	-.02	-.18	.21	1.00	.49	.21
9 Income satisf	.39	.27	.10	-.12	.06	.03	.38	.49	1.00	-.03
10 Educ level	.02	.15	.02	.02	.15	-.07	.12	.21	-.03	1.00

Note. $r \geq |.16|$ are significant at $p < .05$.

Table 4. Correlation matrix for all study variables separately by sex (males (N = 38) above the diagonal and females (N = 104) below) diagonal.

Measures	1	2	3	4	5	6	7	8	9	10
1 Life satisf	1.00	.68	.17	.05	.35	.19	.48	.27	.42	.15
2 Psych wellbeing	.67	1.00	.12	.20	.28	.20	.25	.17	.17	.18
3 Overall relig	.24	.20	1.00	.42	.76	.88	.05	-.17	.00	.11
4 Church attend	.06	.02	.46	1.00	.30	.43	-.17	-.10	-.14	.05
5 Prayer, medita	.11	.10	.59	.32	1.00	.63	.24	.05	.29	.39
6 Hopefulness	.16	.13	.71	.34	.48	1.00	.03	-.19	.00	.03
7 Health	.27	.33	.05	-.06	.03	-.11	1.00	.21	.40	.10
8 Income	.19	.15	-.01	-.24	-.01	-.14	.19	1.00	.44	.36
9 Income satisf	.38	.31	.12	-.13	-.03	.02	.40	.55	1.00	.20
10 Educ level	.01	.12	.00	-.02	.06	-.16	.19	.24	-.02	1.00

Note. For males, $r \geq |.16|$ are significant at $p < .05$. For females, $r \geq |.16|$ are significant at $p < .05$.

Table 5. Correlation matrix for all study variables separately by ethnicity (Hispanic (N = 76) above the diagonal and Anglo (N = 44) below) diagonal.

Measures	1	2	3	4	5	6	7	8	9	10
1 Life satisfaction	1.00	.76	.18	.05	.21	.12	.23	.21	.46	.07
2 Psych wellbeing	.58	1.00	.10	.03	.17	.11	.29	.02	.28	.17
3 Overall religiosity	.34	.31	1.00	.41	.66	.83	.01	.00	.17	.05
4 Church attendance	.33	.32	.48	1.00	.28	.40	-.03	-.08	-.16	.23
5 Prayer, meditation	.23	.21	.68	.41	1.00	.55	.15	.15	.30	.18
6 Hopefulness	.20	.17	.75	.30	.71	1.00	-.03	-.10	.14	.07
7 Health	.45	.34	.06	-.18	-.09	-.11	1.00	.29	.46	.03
8 Income	-.01	.18	-.18	-.06	-.27	-.27	.10	1.00	.49	-.05
9 Income satisfaction	.09	.03	.04	.03	-.21	-.15	.18	.60	1.00	-.06
10 Education level	.23	.28	.02	-.11	-.10	-.10	.35	.38	.17	1.00

Note. For Hispanic sample, $r_s \geq |.16|$ are significant at $p < .05$. For Anglo sample, $r_s \geq |.16|$ are significant at $p < .05$.

Of particular interest in addressing the first hypothesis are the correlations between overall religiosity and life satisfaction as well as with psychological well-being. These correlations suggest that although for the overall sample religiosity is positively correlated with life satisfaction and not significantly correlated with well-being, sex and ethnic differences were found such that religiosity was associated with both outcomes for females as well as Anglo elders, and associated with the outcome life satisfaction for men and Hispanic elders.

Also of interest are correlations with variables in the full sample which show associations with life satisfaction, and these were the following variables: prayer and meditation, hopefulness, health, income level and income satisfaction. Psychological well being indicated a positive correlation with health, income level and income satisfaction. Additional areas of interest for the male sample showed a significant association between prayer and the following variables: life satisfaction, well being and health. For Anglos in the sample, prayer indicated a significant association to well being and life satisfaction. Health had a significant correlation to well being and life satisfaction for Anglos and Hispanics. For Anglos education correlated more strongly than income with life satisfaction although both were significant. For Hispanics income level and income satisfaction were associated with life satisfaction although for Anglos there were no associations between these variables.

Multiple regressions: Predictions of life satisfaction and wellbeing

To examine that hypothesis that the primary predictor of life satisfaction and psychological wellbeing is church attendance, two multiple regression analyses were conducted in which church attendance and prayer, meditation and reading holy writ were both entered as a block. For life satisfaction, although the equation was not significant, $F(2,139)= 2.32, p = .10$, the variable of prayer, meditation and reading holy writ, $t = 2.03, p < .05, \beta = .18$, contributed to the prediction of life satisfaction after accounting for the influence of church attendance, $t = .04, p = .97, \beta = .00$. Neither variable made a unique contribution to the prediction of psychological well-being (omnibus $F(2,139)= 1.47, p = .23$). Thus, this hypothesis was not supported, but rather frequency of prayer and meditation appeared to be a stronger predictor of life satisfaction.

To examine the hypothesis that hopefulness (i.e., All in life turns out well”) would predict life satisfaction and psychological well-being above and beyond the contributions of religiosity, two multiple regression analyses were conducted in which overall religiosity and hopefulness were both entered as a block. Neither equation was statistically significant; that is, neither religiosity nor hopefulness account for variance in life satisfaction or psychological-wellbeing.

To test the hypothesis that church attendance and prayer, meditation, and holy writ would be a stronger predictor of life satisfaction for Hispanic women, despite their lower incomes and health, four regression equations were computed in which life satisfaction was predicted by church attendance and prayer after

controlling for the effects of income and health. Specifically, equations were calculated separately for Hispanic women ($F(4, 51) = .82, p = .52$), Hispanic men ($F(4, 15) = 2.74, p = .07$), Anglo women ($F(4, 26) = 3.15, p < .05$), and Anglo men ($F(4, 8) = 6.07, p < .05$). Standardized beta weights for each equation are presented in Table 6. Although findings did not support my hypotheses, findings showed that, for Hispanic men, prayer and meditation predicted life satisfaction beyond the contribution of health, income level and church attendance. Moreover, health was a unique predictor for both Anglo women and men.

Table 6. Regression analyses predicting life satisfaction reported by sex and ethnicity

Measures	Hispanic		Hispanic		Anglo		Anglo	
	Women		Men		Women		Men	
	β	t	β	t	β	t	β	t
Health	.17	1.20	.08	.3	.53	3.15	.88	4.09
Income level	.08	.59	.23	1.03	-.03	-.17	.39	1.79
Church attendance	.06	.45	-.15	-.70	.33	1.86	.27	1.31
Prayer, meditation	.04	.30	.54	2.39*	.12	.67	.07	.36

Chapter 5

DISCUSSION

For the general sample, correlations suggested that although religiosity is positively correlated with life satisfaction, religiosity did not significantly correlate with well-being. Sex and ethnic differences were found such that religiosity was associated with both outcomes for females as well as Anglo elders, and associated with the outcome life satisfaction for men and Hispanic elders.

Males were less religious, less hopeful and reported less income satisfaction. For Hispanic men, prayer and meditation predicted life satisfaction beyond the contribution of health, income level and church attendance.

Ethnic differences were found for frequency of church attendance, frequency of prayer and meditation, income and education such that Hispanic elders reported more frequent church attendance, but less prayer and meditation. Moreover, they tended to have lower incomes and less education. For Anglos in the sample, prayer had a significant association with well-being and life satisfaction. Health showed a significant correlation with well-being and life satisfaction for both Anglos and Hispanics.

In relation to education, for Anglos education correlated more strongly than income with life satisfaction although both were significant. For Hispanics income level and income satisfaction were associated with life satisfaction; however, for Anglos there were no associations between these variables.

Limitations of the Study

Variables that add complexities to a study such as age, sex, education, ethnicity, socioeconomic status, and changing health status may all have an important role in the association between religion and well-being. This study did not control for all of these factors and failure to control for these and other changing factors can lead to biases not noted in the study. Multivariate methods allow assessment of the strength of the association between religious variables and well-being and life satisfaction outcomes while controlling for the effects of other variables. However, use of these methods requires complete presentation of the results, including the coefficients and corresponding confidence intervals for all the variables in the statistical model. Further analysis may require control for increasing age or changes in health condition as these influence functional capacity in the elderly.

In some cases of research where a positive association has been noted between church attendance and health, it is posited that often those individuals with poorer health are less likely to go to church due to poor health, and not because they are less religious. Also, as observed in my literature review, religious groups differ in risk behaviors such as smoking and alcohol consumption, and these behavioral values may influence life satisfaction and well-being in ethnic groups in different ways.

Oftentimes published work on religion and health lacks consistency. Even well-conducted studies often yield varying results. For example, while Idler and Kasl (1987) found some effects of religious attendance on functional capacity in the elderly, measures of "religious involvement", an index of the "private, reflective" aspects of religion, were not associated with any health outcome. Inconsistencies also arise from studies that are not based on large epidemiological samples. To some degree, lack of consistency is characteristic of a new and evolving field and may be the product of differences in study design, definitions of religious behaviors and belief variables, and outcome variables. The absence of specific definitions of religious activity is an important problem, since many studies define these activities differently. Another new prominent and developing subject, spirituality, is also experiencing similar issues in relation to definition and measurement. Published research would be substantially improved with better definitions of these terms and more clearly defined and more recently developed instruments in the field of religiosity. As was observed in this research, outdated colloquialisms utilized in instruments were difficult for elders to understand. This lack of clear understanding may affect respondent responses. In the absence of clear and consistent findings, future support and future funding for research in this field may be lacking.

Conclusion

The findings of this study reported for a sample of convenience of 142 adults support the prediction that life satisfaction would be higher if religiosity

were high. For a sample of 142 individuals, these findings were limited, but meaningful. Bias may exist in this group as there was nonrandom assignment and by virtue of the involvement of a number of respondents from a higher income retirement community. With potential higher socioeconomic status, this group may have higher life satisfaction scores than the general population. Readers are encouraged to make appropriate discounts and/or other adjustments. In this case, random sampling and a larger sample size are recommended for future research, as well as continued focus on specifying and clearly defining variables. Larger sample sizes will allow more complex analyses of the data.

Implications for Future Research

The conceptualization and measurement of religion, religiosity, and religious involvement have been important issues in sociology and psychology for more than 35 years (Levin et al, 1995). Religion is a complex and multidimensional aspect of human life comprising behaviors, attitudes, beliefs, experiences, and values. However, few researchers in medicine, health behavior and health education, or gerontology have capitalized on these developments (Ellison & Levin, 1998), although the field is growing. There are also a limited number of reliable instruments that can be accommodated in surveys or research. Frequent attendees may be healthier or have higher well-being by virtue of some or all of the mechanisms discussed earlier, and perhaps others as well. Individuals may benefit from positive health behaviors and low-stress lifestyles, more extensive social ties, including church-based support networks, as well as

high self-esteem and/or confidence, effective coping strategies, positive emotions, healthy beliefs, and so on (Levin, 1998). Because these functions of religion are rarely measured directly, there is no way to see which, if any, of these mechanisms might account for the widely observed salutary effect of religious attendance on health (Levin, 1998). The analyses of existing secondary data can proceed only with the available religious indicators; these, in turn influence the construction of hypotheses and the discussion of findings. As behavioral religious indicators become more well established as predictors of health and well-being outcomes, investigators need to plan new data collection efforts to include not only the tried and true religious indicators among their instruments, but also richer functional items that might specify aspects of religion-health connection more accurately (Levin, 1998).

A new and growing area is research into the physiology of the brain in relation to the field of psycho-neuro-immunology. In particular, studies on the parietal lobe of the brain, because of its compatibility with religion and spirituality, are finding interesting results. Research into the changes in the parietal lobe during meditation/prayer/deep contemplation is being conducted by the University of Pennsylvania's Center for Spirituality and the Mind. As new scientific technologies emerge with the ability to better map the physiology of the brain, this may lead to greater insight into how religion, the mind and health are interconnected.

Science will dissect and compartmentalize this topic because that is what science does. However, ultimately, religion and its multiple complex constructs' effect on well-being and life satisfaction may prove to have an elusive explanation.

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APPENDIX A
INFORMED CONSENT FORM (SOCIAL BEHAVIORAL)
MINIMAL RISK
ARIZONA STATE UNIVERSITY

Study: The Influence of Religiosity (beliefs and behaviors) on Psychological Well Being and Life Satisfaction in an elderly population.

INTRODUCTION

The purposes of this form are to provide you (as a prospective research study participant) information that may affect your decision as to whether or not to participate in this research and to record the consent of those who agree to be involved in the study.

RESEARCHERS

Dr. Elsie Moore, ASU Professor, Mary Lou Fulton Teacher's College and Inez Moreno-Weinert, graduate student, Lifespan Developmental Psychology, ASU, have invited your participation in a research study.

STUDY PURPOSE

The purpose of the research is to determine whether religiosity (religious beliefs and behaviors, including church attendance, reading holy writ, and prayer) influences psychological well being and life satisfaction in an elderly population.

DESCRIPTION OF RESEARCH STUDY

If you decide to participate, then you will join a study involving research of elder individuals, who will be asked to fill out a 4 page questionnaire on their religious beliefs and behaviors, as well as a personal evaluation of their well being and life satisfaction.

If you say YES, then your participation will last for 20-30 minutes either with the researcher individually or with the researcher in a group community location. You will be asked to answer questions on a 4 page questionnaire. Approximately 150 subjects residing in Arizona will be participating in this study.

RISKS

There are no known risks from taking part in this study, but in any research, there is some possibility that you may be subject to risks that have not yet been identified.

BENEFITS

Although there may be no direct benefits to you, the possible benefit of your participation is in adding to the body of research literature in the field of religiosity and well being.

CONFIDENTIALITY

All information obtained in this study is strictly confidential. The results of this research study may be used in reports, presentations, and publications, but the researchers will not identify you personally. In order to maintain confidentiality of your records, no identifiers will be asked of you, such as name or address. All questionnaires will be identified numerically by area (i.e. questionnaires #1-75 are for central Arizona residents, questionnaires #76-125 are for southern Arizona residents and questionnaires #126-200 are for eastern Az. residents.

WITHDRAWAL PRIVILEGE

Participation in this study is completely voluntary. It is ok for you to say 'no'. Even if you say 'yes' now, you are free to say 'no' later, and withdraw from the study at any time.

Your decision will not affect your relationship with Arizona State University or otherwise cause a loss of benefits to which you might otherwise be entitled.

COSTS AND PAYMENTS

The researchers want your decision about participating in the study to be absolutely voluntary. There is no payment for your participation in the study.

VOLUNTARY CONSENT

Any questions you have concerning the research study or your participation in the study, before or after your consent, will be answered by Inez Moreno-Weinert, graduate student, Arizona State University. Ms. Moreno-Weinert may be contacted at 480-363-6894 or at weinert@asu.edu or you may contact, Ms. Weinert's supervisor, Dr. Elsie Moore, at elsie.moore@asu.edu.

If you have questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk; you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at 480-965 6788.

This form explains the nature, demands, benefits and any risk of the project. By signing this form you agree knowingly to assume any risks involved. Remember, your participation is voluntary. You may choose not to participate or to withdraw your consent and discontinue participation at any time without penalty or loss of benefit. In signing this consent form, you are not waiving any legal claims, rights, or remedies. A copy of this consent form will be given (offered) to you. Your signature below indicates that you consent to participate in the above study.

Subject's Signature

Printed Name

Date

INVESTIGATOR'S STATEMENT

"I certify that I have explained to the above individual the nature and purpose, the Potential benefits and possible risks associated with participation in this research study, have answered any questions that have been raised, and have witnessed the above signature. These elements of Informed Consent conform to the Assurance given by Arizona State University to the Office for Human Research Protections to protect the rights of human subjects. I have provided (offered) the subject/participant a copy of this signed consent document."

Signature of Investigator_____

Date_____

APPENDIX B

QUESTIONNAIRE ON LIFE SATISFACTION, ELDER WELL BEING
AND RELIGIOSITY

Age: 65-70 _____ 71-75 _____ 76-80 _____ 81+ _____

Are you: Female _____ Male _____

Are you: Married _____ Divorced _____ Widowed _____
Single living alone _____ Single living with other _____

Household Income: Under \$10,000 _____ \$11-19,000 _____ \$20-
29,000 _____ \$30-49,000 _____ \$50,000+ _____

Satisfaction with Income: Very _____ Somewhat _____ Not at all _____

Ethnicity: Anglo _____ African American _____ Hispanic _____ Native
American _____ Asian _____ Other _____

Education:
K – 11th _____ High School Graduate _____ 4 year College _____ Beyond
4 yr college _____ No formal education _____

Type of Occupation Involved in Most of Life:

Religion practiced (if any): _____

How would you rate your Health today: Excellent _____ Good _____ Fair _____
Poor _____

Part I – The following questions are designed to measure Life Satisfaction
(Neugarten et al, 1961):

Agree Disagree Unsure

1. As I grow older, things seem better than I thought they would be:

2. I have gotten more of the breaks in life than most of the people I know:

3. This is the dreariest time of my life:

4. I am just as happy as when I was younger :____ _ ____
5. I am happier now than when I was younger: _____
6. My life could be happier than it is now: _____
7. These are the best years of my life: _____
8. Most of the things I do are boring or monotonous: _____
9. I expect some interesting and pleasant things to happen to me in the future: _____
10. The things I do are as interesting to me as they ever were: _____
11. I feel old and somewhat tired: _____
12. As I look back on my life, I did not get most of the important things I wanted: _____
13. I would not change my past life even if I could: _____
14. Compared to other people my age, I make a good appearance. _____
15. I have made plans for things I'll be doing in a month or a year from now. _____
16. When I think back over my life, I did not get most of the important things I wanted. _____
17. Compared to other people, I get down in the dumps too often. _____
18. I've gotten pretty much what I expected out of life. _____
19. In spite of what some people say, the lot of the average man is getting worse, not better. _____

Part II. The following questions are designed to measure well-being and happiness (Bradburn & Noll, 1969):

	Yes	No
During the past few weeks, did you feel:		
1. Particularly excited or interested in something?	___	___
2. Did you ever feel so restless, you couldn't sit long in a chair?	___	___
3. Proud because someone had complimented you on something you had done?	___	___
4. Very lonely or remote from people?	___	___
5. Pleased about having accomplished something?	___	___
6. Bored?	___	___
7. On top of the world?	___	___
8. Depressed or very unhappy?	___	___
9. That things were going your way?	___	___
10. Upset because someone criticized you?	___	___

Part III. The following questions are designed to measure Religious Beliefs (Paloutzian & Ellison, 1982; Ellison, 1982).

	Agree	Disagree	Unsure
1. I find much satisfaction in private prayer with God	___	___	___
2. I believe that God loves me and cares about me	___	___	___
3. I believe that God is personal and interested in my daily situation	___	___	___
4. I have a personally and meaningful relationship with God	___	___	___
5. I get personal strength and support from my God	___	___	___
6. I believe that God is concerned about my problems	___	___	___
7. I have a personally satisfying relationship with God	___	___	___
8. My relationship with God helps me not to feel lonely	___	___	___
9. I feel most fulfilled when I am in close communion with God	___	___	___
10. My relationship with God contributes to my well being	___	___	___

Part IV. The following questions are designed to measure Organizational, Non-Organizational and Intrinsic Religious Behaviors: (Duke University Religion Index – DUREL, 1997).

1. How often do you attend church or other religious meetings?
 1. More than once a week _____
 2. Once a week _____
 3. A few times a month _____
 4. A few times a year _____
 5. Once a year or less _____
 6. Never _____
2. How often do you spend time in private religious activities, such as prayer, meditation, or Bible (or other holy writ) reading/study?
 1. More than once a day _____
 2. Daily _____
 3. Two or more times a week _____
 4. Once a week _____
 5. A few times a month _____
 6. Rarely or Never _____
3. In my life, I experience the presence of the Divine (i.e. God).
 1. Definitely true of me _____
 2. Tends to be true _____
 3. Unsure _____
 4. Tends *not* to be true _____
 5. Definitely *not* true _____
4. My religious beliefs are what really lie behind my whole approach to life.
 1. Definitely true of me _____
 2. Tends to be true _____
 3. Unsure _____
 4. Tends *not* to be true _____
 5. Definitely *not* true _____
5. I try hard to carry my religion over into all other dealings in life.
 1. Definitely true of me _____
 2. Tends to me true of me _____
 3. Unsure _____
 4. Tends *not* to be true _____
 5. Definitely *not* true _____

Researcher's additional questions:

1. If you answered 'Daily' or 'More than once a day' to question number 2, can you estimate the time spent in **daily prayer** or **contemplation**: (add all time together including time spent on short prayers for self or others)
_____minutes or _____ hours

2. I believe that although I may experience tremendous adversity or problems, God will take care of me and all will turn out well.

1. Definitely true of me _____(5)
2. Tends to be true of me _____(4)
3. Unsure_____ (3)
4. Tends *not* to be true of me _____(2)
5. Definitely *not* true of me _____(1)

PLEASE REVIEW ENTIRE QUESTIONNAIRE TO ASSURE ALL ITEMS WERE ANSWERED – Thank you for participating.

APPENDIX C
IRB APPROVAL

To: Elsie Moore
ID 1440

for From: Mark Rocas, Chair *SM*
Soc Beh IRB

Date: 04/08/2011

Committee Action: **Exemption Granted**

IRB Action Date: 04/08/2011

IRB Protocol #: 110406287

Study Title: The Influence of Religiosity (beliefs and behaviors) on Psychological Well Being and Life Satisfaction of Elderly Populations

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2).

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.

BIOGRAPHICAL SKETCH

Inez Moreno-Weinert is a native of Arizona, born in Morenci, Arizona, on October 30, 1953, to Antonio and Eulalia Moreno. She attended elementary and high school in Morenci. Upon graduating high school, Inez attended Eastern Arizona College. She graduated from Eastern in 1971 and attended Arizona State University for both her Bachelor of Science in Sociology and her Master of Counseling degrees, which she obtained respectively in 1975 and 1988. She enrolled in the Lifespan Developmental Psychology doctoral program in 2000. She is currently Director of the Financial Aid Office at South Mountain Community College, a Maricopa Community College. Inez is also the wife of Gabriel Weinert, and mother of Gabriel Esai Weinert and Mia Alejandra Weinert.