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Spirituality and the Successful Aging of Older Latinos

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Human Development and Family Studies

by

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ABSTRACT

This study investigated hypothesized relationships between older Latino's level of spirituality or religiosity and their experiences of well-being and lack of depression, after controlling for their age, health, economic strain, and level of education. Sixty Latinos between the ages of 50 and 84 participated in the study. The data were collected in the preferred language of the participant (English or Spanish), using a face-to-face interview and a self-report questionnaire. Four research questions were evaluated using hierarchical multiple regression (HMR). Both religiosity and spirituality predicted well-being; however, increases in well-being were associated with *lower* levels of religiosity and *higher* levels of spirituality. The other major finding of this study was that economic strain overshadowed all other variables in predicting depression. Thus, two factors predicted the psychological health of Latino elders: economic strain predicted depression, and spiritual health (religion and spirituality) predicted well-being. Neither of these factors (financial health; spiritual health) has been included as dimensions of health in traditional models of successful aging. The findings of this study provide initial insights that can help professionals and community leaders meet the needs of the growing numbers of older Latinos. Several ideas for implementing the findings are presented, including institutional collaboration among medical, academic and faith-based communities for the most effective and efficient delivery of successful aging interventions and programming.

DEDICATION

In loving memory of my Dad
September 6, 1913 - December 8, 2009

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INTRODUCTION

When a major tsunami devastated parts of Asia in December of 2004, the United States stepped up efforts to help countries improve their communications and early warning systems. Today, an equivalent effort needs to be undertaken to prepare for the silver tsunami – the leading edge of the baby boom – that is about to overwhelm our national health care system (Alliance for Aging Research, 2006).

The Alliance for Aging Research (AAR, 2006) reports that when the baby boomers start turning 65 in 2011, 10,000 people will turn 65 every day – and continue to do so for the next 20 years. By 2030, almost one out of every five Americans – some 72 million people- will be 65 years or older. These older adults will be living longer as life expectancy is increasing. A significant proportion of those 65+ will suffer from health problems and 81-90% will have at least one chronic disease, such as cardiovascular disease, cancer, hypertension, neurological disease such as Alzheimer's, heart disease, diabetes, depression, etc. The majority of those over 65 will suffer multiple chronic conditions, robbing them of quality of life and further inflating a huge and unsustainable bill for medical care (AAR, 2006)

Now that the boomers are beginning to retire, the U.S. can expect major changes in not only the economy, but in the health care system as well. Patients 65 and older visit a doctor six to seven times per year, on average, compared to four times a year by those under 65 (Association of American Medical colleges, 1999), placing a strain on the already expensive health care system and driving up costs. In 2007, the United States spent $2.2 trillion on health care (Centers for Medicare and Medicaid Services, 2010).

As America grays, her population is also becoming far more ethnically diverse. Although minority groups currently account for one-third of this nation's population, they will become the majority by 2042. Latinos, currently the largest and fastest growing minority group in the U.S., will make up 30% of the U.S. population by mid-century (U.S. Census Bureau, 2008). In 2050, Latinos are expected to constitute 17.5% of the 65+ population, or approximately 15 million persons out of a total of 80 to 90 million older adults, 21 million of whom will be 85 years of age or older (US Census Bureau, 2008).

More than 80% of health care spending is for people with chronic conditions. By the time the "age wave" of the baby boom starts to pass the 85-year-old marker in 2030, health care spending is expected to reach $16 trillion (AAR, 2006), or approximately 114% of today's total annual gross national product. The future health care needs of minority aged, especially Latino elders, may be even more costly than predicted. A national study found that Latino American elders, when compared with their African American and Caucasian Americans counterparts, were the most severely impaired, both functionally and cognitively, and had more depressive symptoms (Gutheil and Heyman, 2006; Mui, Choi & Monk, 1998).

AAR (2006) reports that the single greatest issue that will affect the quality of life of all older adults– majority and minority - is the high probability (81-90%) of older individuals having at least one chronic disease. Professionals struggling to avert potential economic and social devastation are searching for ways to accommodate the demands of this age wave on an already overburdened health care system. One factor in this race against time is the hope that medical research breakthroughs and new technologies can remake the experience of chronic disease- and remake it quickly (AAR, 2006). The United States could save $26 billion per year if currently healthy older people were able to remain fully independent over the course of a single year, or if the use of

existing or new drugs/compounds for Alzheimer's prevention could result in a delay of onset of between two and five years (AAR, 2006).

One promising approach to reducing future health care costs involves the concept of integrated care. Integrated care involves coordinated, multidisciplinary approaches to treating the whole person. In other words, integrated care treats the psychosocial and physical needs of the whole person and promotes wellness. Therefore, it is not surprising that there is a medical cost offset with integrated care. Studies show that an average of 6.4 psychotherapy sessions reduced medical costs by 62.5%, making integrated care less costly, more effective, more efficient and producing higher satisfaction for both patient and physician (Cummins, 2006; Hirth,Baskins & Deever-Bumba, 2009; Leutz, 1999) Adding a component of spirituality and successful aging to integrated care could be another very effective way to reduce health care costs.

Although aging is commonly associated with gradual physical and cognitive decline, there is a difference between normal aging and illness. Schroots (1996) calls this the third great unresolved issue of gerontological theory. Typical or normal changes in the individual need to be distinguished from those that are atypical, abnormal or pathological.

Because the boundaries between normal and atypical aging are often indistinct, Busse and Pfeiffer (1996) offered a conceptual distinction described as primary and secondary aging. Primary aging refers to changes intrinsic to the aging process that are ultimately irreversible. Secondary aging refers to changes caused by illnesses that are correlated with age but may be reversible or preventable.

In a similar manner, within the category of "normal aging" Rowe and Kahn (1987; 1998) distinguished usual aging from successful aging. Usual aging refers to aging in which external factors heighten the effects of internal aging processes, resulting in

normal decrements in functioning. Successful aging refers to aging in which the external factors have a neutral role or counteract the effect of internal aging processes, resulting in minimal decrements in functioning. Normal age-related decline takes its toll in terms of reduced stamina, gradual decline in intellectual functioning and the emergence of chronic illness. But there is a difference between the severity of losses associated with normal aging and those that are due to physical pathology (Hill, 2005; Beekman, Deeg, Van Tilberg, Smit, Hooijer, & Van Tilberg 1995; Rowe and Kahn, 1998).

Successful aging is the term commonly used to describe people who make lifestyle choices and freely engage in behaviors in adulthood that facilitate well-being, even in the presence of normal age-related decline. People, to some extent, are in charge of, and responsible for, their own quality of life and their own happiness and well-being in old age (Hill, 2005) One of the most famous phrases in the United States declaration of independence, considered by some as the most influential phrase in the English language (Lucas, 1989) is “life, liberty and the pursuit of happiness.” Implicit in the term “successful aging” is the free pursuit of happiness and well-being. Unfortunately, minority groups often do not have equal access to the resources necessary to secure their optimal health and well-being.

Forty years ago, the U.S. Senate Special Committee on Aging (1971) reported that, when compared to the Caucasian American aged, minority aged were less educated, had less income, suffered more from illnesses and early death, had poorer quality housing, fewer choices of where to live and work, and a less satisfying quality of life. Dowd and Benston (1978) suggested the concept of “double jeopardy,” to explain these deficits in minority aging.

The concept of double jeopardy is based on the idea that the negative effects of aging are compounded by minority status. Dowd and Benston (1978) analyzed data from

a large survey of African American, Mexican-origin Latino American, and Caucasian American adults (45-54, 55-64 and 65-74 years old) who lived in Los Angeles County. The three groups were compared on total family income, self-assessed health and two measures of life satisfaction (optimism and tranquility). The average health scores of African Americans and Mexican-origin Latino Americans declined (13% and 19% respectively) across the age groups, whereas the decline for whites was only 9%. This study clearly supported the double jeopardy hypothesis as an accurate characterization of minority aging on the selected variables of health and income.

Double jeopardy appears to continue to have an influence on minority populations today. External factors such as education, income and poverty have a powerful influence on the trajectory of their aging. In the Latino community, poverty is associated with lack of insurance and less access to medical care (HealthReform.gov, 2010)). Latinos also have language barriers and cultural norms that reduce their use of health care systems. Cultural practices, such as relying on folk wisdom and herbal remedies rather than formal health care systems, present additional barriers (Lujan and Campbell, 2006; Trotter, 2001).

However, cultural differences also provide some protective factors. Latinos tend to be more religious than other ethnic groups, with the exception of African-Americans (Berkman and D'Ambruso, 2006). Religion can be a powerful source of comfort in difficult situations, but it also can have both positive and negative effects on the use of health care (Hill, Burdette, Angel & Angel, 2006; Levin & Markides, 1985; Lujan & Campbell, 2006; Taylor, Chatters, & Levin, 2004).

On the negative side, in the Latino culture, traditional religion and folk medicine coexist as a single interacting system. The use of folk healing, or Curanderismo, is not declining, and must be taken into consideration as a reality in any attempt to produce a

healthier Latino population (Lujan and Campbell, 2006; Trotter, 2001). On the positive side, a growing number of studies indicate that religion exerts a beneficial effect on health and well-being in life (Taylor, Chatters, and Levin, 2004), especially in minority groups. However, almost all of the work has been done with older African Americans; much less is known about aging Mexican-origin Americans and other Latino populations (Krause, 2010).

Average life expectancy (ALE) is one of the most fundamental indicators of health and well-being. Hill (2005) used longevity data to clearly illustrate that the economically advantaged (those living with more resources in urban areas) versus the disadvantaged (those in rural areas) can be distinguished by ALE, favoring those with more resources and better living conditions. Hill notes that this also is true for those with more years of formal schooling. He anticipates that education and other demographic characteristics will become stronger predictors of optimal versus deficit aging in the 21st century, having profound impact on the way that normal aging is viewed both within and across social and cultural groups (Hill, 2005).

Using statistics from the National Center for Health Statistics (2004), Hill (2005) charted life expectancy from birth for Caucasian American and African American males and females over a 50 year period from 1950 to 2000. His analysis revealed that race affected ALE, with African American males experiencing a shorter ALE than Caucasian American females, by nearly 10 years. Hill concluded that although race is the observable marker of this distinction, a deeper inspection reveals that African Americans in the United States, even in the present generation, tend to be poorer, less educated, and have less access to health care than Caucasian Americans, and according to the statistics, advancing generations have not been able to narrow the ALE gap for gender and race (Hill, 2005).

Likewise, U.S. Census data over the years repeatedly have shown Latino Americans to have demographic characteristics, in terms of poverty (De La Rosa, 2000), years of formal schooling (De La Rosa, 2000), and access to health care (Weinck,Zuvekas and Cohen, 2000), roughly comparable to, or more unfavorable than African Americans . For example, more than 1 in 3 Latinos, compared to 1 in 8 whites and 1 in 5 African Americans, lacks health insurance (HealthReform.gov, 2010; Shi, 2000). About 30% of Latinos and 20% of African Americans lack a usual source of health care, compared with less than 16% for Caucasian Americans (USDHHS, 2000). In addition, half of Latinos and a quarter of African Americans compared to 1 in 5 Whites do not have a regular doctor (HealthReform.gov, 2010; Weinick, Zuvekas and Cohen, 2000).

These factors influence the pattern of chronic illness in the Latino community. For example, Latino and Vietnamese women contract cervical cancer at twice the rate of Caucasian American women, and 14% of Latino Americans suffer from adult onset diabetes compared to 8% of the Caucasian American population (Mead,Cartwright-Smith, Jones, Ramos,Siegal, and Woods., 2008). Although African Americans have the highest rates of new HIV infections at seven times the rate of Caucasian Americans, Latinos also have high rates of new HIV infections, at two-and-a-half times the rate of Caucasian Americans.

Cultural issues related to communication with health care providers contribute to the problem. The U.S. Dept. of Health and Human Services reports that Asian American, African Americans and Latinos all reported having poorer communication with their doctors than Caucasian Americans, with the gap increasing over time with Asian Americans. Poor communication with doctors leads to a host of problems, including less access to preventative care and higher rates of re-hospitalization (USDHHS, 2010).

Chronic disease contributes to increased depression, already one of the most prevalent chronic disorders experienced by aging adults, affecting nearly 20% of the aging population (National Alliance on Mental Illness, 2003; Blazer, 2002). Using data from Latino epidemiological studies, Black, Goodwin and Markides (1998) found that among older Mexican-origin Latino Americans, the total number of chronic medical conditions and the presence of functional impairment are strong predictors of depressive symptoms, but the most noteworthy finding was that the particular constellation of chronic medical conditions leading to depression in Latinos was very different from those associated with depressive symptoms in Caucasian American and African Americans.

This cluster in Latinos included diabetes, stroke with residual speech problems, arthritis, cancer, urinary and bowel incontinence, kidney disease, and stomach ulcers. This cluster was substantially different from the cluster of conditions found predictive among older Caucasian Americans, which included arthritis, lung disease, stroke, cancer, and peripheral atherosclerosis, whereas cardiac disease, diabetes, and other conditions were not as predictive (Pennix, Beekman, Ormel.,1996). The cluster of conditions that were predictive among older African Americans included kidney disease, vision problems, and circulation problems in arms and legs, whereas heart disease, hypertension, diabetes, arthritis, lung disease, stomach problems, and hearing problems were not predictive (Bazargan and Hamm-Baugh, 1995). Certain of these conditions, such as lung disease, were not reported at all by the older Mexican-origin Latino Americans (Black et al.., 1998).

Religious belief systems provide comfort to many older adults who are struggling with poverty, chronic disease and disability by providing meaning and an accompanying relief from feelings of anxiety and depression (Christensen, 2008). In addition, many religious traditions offer hope of life after death, which can be particularly comforting as

one's death draws near (Koenig, George, Titus, 2004; Steinitz, 1980). Generally, researchers have found that religious activity and/or spiritual beliefs positively influence the well-being of older adults (McFadden, 1995).

Religion and spirituality are particularly important in the Latino community. For the immigrants, " it is a religious exodus to come to America and see what God will provide for them…The first place they seek is the church for the first word of encouragement…" Their needs are often provided by faith-based community development centers, many of them offshoots of churches, such as the Templo Calvario Community Development Corporation (TCCDC) in Santa Ana, California (Hoffman, 2006). Latinos coming to this country turn to faith-based organizations for help with their basic needs, food and clothing, and to find solace, peace and love. For the Latino, faith is integrated into the fabric of their lives and their families…one is the extension of the other (Hoffman, 2006).

When the MacArthur Foundation Study was initiated in 1984, a "new gerontology" emerged based on "all" aspects of aging: biological, psychological and social, overcoming the "old gerontology's" preoccupation with disability, disease, and a serious underestimation of psychosocial factors (Rowe and Kahn, 1998). More research needs to be done with minority populations to extend the relevance of this model of successful aging to all races and ethnicities, including sensitivity to the importance of, and different meanings of, religion and spirituality in their lives and in their health and well-being.

Decades of new data, evidence and experiments demonstrate that there is a missing factor in Rowe and Kahn's model of successful aging. The multifaceted aging process consists not only of interdependent biological, psychological, social processes, but also the *spiritual* processes that are a central factor in the lives of many minority

groups, especially Latinos and African Americans (Crowther, Parker, Achenbaum, Larimore & Koenig, 2002). Promising new multidisciplinary models of health promotion incorporating spirituality into successful aging interventions are ideally suited for Latino American, African American and Caucasian American elderly groups (Parker, Bellis, Bishop, Harper, Allman, Moore,Thompson, 2002; White, Drechsel and Johnson, 2006).

As with every minority group, Latinos have unique characteristics, such as a strong religious/spiritual culture, that influences their aging process. But minority aging has been characterized by many as a case of double jeopardy, based on the double disadvantage of age and racial discrimination (Kart and Kinney, 2001; Dowd and Bengtson, 1978; U.S. Senate Special Committee on Aging, 1971; Jackson, 1970). Double jeopardy is a limiting factor in Latino's access to education, income and other resources that promote successful aging. The poverty rate of Latino Americans 65 and older is currently 20% compared to 7% for non-Latino Americans (USCB, 2007).

Because the poverty rate of Latino elders is relatively high, and economic factors are known to impact average life expectancy, depression, and well-being, economic strain is used as a control variable in the examination of influences that might impact Latino elders' successful aging. However, the single greatest issue that affects quality of life for all adults at age 65 and over, even more than economic strain, is their high probability of chronic disease (AAR, 2006). Latinos, as a minority group, have a much higher rate of certain chronic diseases, such as cancer and diabetes, compared to Caucasian Americans (USDHHS, 2010). Lower levels of education, economic strain, and chronic health conditions interfere with successful aging by increasing levels of depression and reducing perceived well-being. The question raised in this study is whether religiosity and spirituality contribute to successful aging in the Latino community,

by reducing the negative impact of low education, economic strain, and poor health on the outcome variables of well-being and depression.

Statement of the Problem

The prestigious MacArthur Study was conducted by an interdisciplinary team of top leaders in the fields of biology, neuroscience, neuropsychology, epidemiology, sociology, genetics, psychology, neurology, physiology and geriatric medicine. Their goal was to discover what would enable more men and women to age successfully (Rowe and Kahn, 1998). This interdisciplinary approach has generated a wealth of information about aging processes, but only a limited number of studies have examined spirituality as a predictor of successful aging, and none of these studies has directly examined spirituality and religiosity in conjunction with health, economic strain and education of Latino elders.

Most of the successful aging research to date has been conducted with Caucasians, at a time when the United States is becoming more racially and ethnically diverse. Although minority groups currently account for one-third of the nation's population, they will be the majority by 2042. Latinos are currently the largest and fastest growing minority group in the U.S., and will constitute 30% of the U.S. population by mid-century (US Census Bureau, 2008). Research on the successful aging of this population is urgently needed.

Purpose of the Study

This study is based on secondary data collected for a research project funded by the Sanford Center for Aging at the University of Nevada, Reno: "Psychosocial Factors contributing to the Health and Successful Aging of Latino Elders." The larger study evaluated the types of issues that concern older Latinos and how they cope with the aging process. This thesis investigates hypothesized relationships between older adults'

self-report of their level of spirituality or religiosity and their experiences of well-being and lack of depression, after controlling for their health, economic strain, and level of education.

Theoretical Perspective

Birren and Bengston (1988), in *Emergent Theories of Aging,* said that the field of psycho-gerontology is data-rich but theory poor. Schroots (1996) saw two main trends in theorizing to correct these deficiencies: Gerodynamics/Branching theory, where mathematical model building is used to quantify psychological theories of aging (Van Geert, 1994), and Gerotranscendence, which connects spirituality to models of successful aging.

This current study is based on this second main trend, using Tornstam's (1989) theory of gerotranscendence, which was developed within a phenomenological meta-perspective, in which concepts and connections take their form from the way old people themselves structure and discern reality, instead of the traditional gerontological paradigm in which researchers define concepts and theories and treat the elderly as research objects in their studies (Tornstam, 2005). Lars Tornstam (1989) suggested that human aging, the very process of living into old age, encompasses a general potential towards "gerotranscendence." That is a shift in meta-perspective from a materialistic and rational paradigm to a more cosmic and transcendent one, normally followed by an increase in life satisfaction (Shroots, 1996).

Schroots (1995b) describes gerotranscendence as reminding one of Erikson's (1950) classical lifespan stage theory (Shroots, 1996), based on the epigenetic principle which identifies eight separate stages of development spanning from birth to a final eighth stage commencing at about 65 years old (ego integrity vs. despair) (Brown and Lowis, 2003). However, Erikson himself, when he arrived at his 84th year, having lived

through all the life stages, stated that the outcome of stage eight: "…is not predetermined or foreclosed by the way life has been lived up to that point" (Erikson, Erikson, and Kivnick, 1986). It was not surprising, then, that as he entered his ninth decade, Erik Erikson explored the possibility of a ninth stage of life (Brown and Lowis, 2003). Before his death in 1994, Erikson published together with his wife Joan *The Life Cycle Completed* (Erikson and Erikson, 1987). Based on conversations Erik had with his wife, and his personal correspondence in his remaining years (Erikson, 1995), Erikson's wife and collaborator, Joan Erikson, published a posthumous, extended version of Erikson's earlier work entitled *The Life Cycle Completed, Extended Version with New Chapters on the Ninth Stage of Development, by Joan M. Erikson* (Erikson and Erikson, 1998), with a final stage that Joan Erikson called gerotranscendence (Erikson, 1997).

Brown and Lowis (2003) state that in outlining the potential for further psychosocial development beyond the eighth stage, Joan Erikson drew extensively on the work of Tornstam (1989; 1992; 1996). Tornstam's theory differs from her husband Erik Erikson's, in that it portrays development as looking beyond oneself and one's experience (Brown and Lowis, 2003). Tornstam (1989) believed that the effects of transcendence on the personality are often misinterpreted as "negative" disengagement, but when the observational paradigm changes, then the picture also changes to "positive" disengagement (Brown and Lowis, 2003). Tornstam (1989; 1992) believed that the individual on the path to gerotranscendence looks forward and outward beyond the self, which can involve a decline in self-centeredness, an increase in the amount of time spent in quiet reflection, a move beyond the fear of death (instead of just acceptance of its inevitability), a redefinition of time, space and objects, and a "cosmic level unity with the spirit of the universe" (Tornstam, 2005). In other words, gerotranscendance is a spiritual process that involves freely chosen positive withdrawal

in contrast to negative withdrawal as suggested by disengagement theory (Brown and Lowis, 2003; Cumming, Dean, Newell,and McCaffrey,1960).

The present study connects Tornstam's (2005) theory of gerotranscendence to the Latino elders empirical research data through Sulmasy's (2002) Biopsychosocial-Spiritual (BPSS) model, an expansion of George Engel's (1977) alternative vision for health care described as the biopsychosocial (BPS) model. If spirituality is a dimension of successful aging, as predicted by gerotrancendance theory, then it supports a greater use of Sulmasy's (2002) BioPsychoSocialSpiritual (BPSS) model of aging in future research.

Summary

The aim of this study is to examine the relationship, if any, among an older Latino's religiosity and spirituality and their level of well-being and to determine whether their religiosity and/or spirituality acts as a buffer against depression. Spirituality has rarely been studied as a predictor variable of successful aging, and it has not been directly measured along with health, economic strain and education, among Latino elders. The present study examined whether or not there is a relationship between spirituality or religiosity and psychological well-being and depression over and above the impact of health, economic strain and education.

Definition of Terms

1. *African Americans*. Persons having origins in any of the racial groups of Africa.
2. *Average Life Expectancy (ALE).* Actuarial average age that an individual might live given typical social conditions at a particular time.
3. *Caucasian American.* A person of primarily European ancestry (Bonnet, 2000).

4. *Depression.* A person's self-reported scores using the 12-item version of the Center for Epidemiologic Studies Depression Scale (Radloff, 1977). Items assess how many days the participants experienced symptoms of depression in the previous week.
5. *Education.* The total number of years of education an individual has completed.
6. *Economic strain.* An individual's report of strain or stress related to finances (O'Neill, Sorhaindo, Xiao and Garman, 2005).
7. *Health.* An individual's self-report of their physical health, as measured by rating from 1 (strongly disagree) to 6 (strongly agree) a single item of the questionnaire: I consider myself…as healthy as most other people my age.
8. *Hispanic.* – A person of Mexican, Puerto Rican, Cuban, Central or South America or other Spanish culture or origin, regardless of race (Federal Register, 1978)
9. *Latino*. Persons of Latin American origin or descent living in the United States, who are viewed as a separate racial group, irrespective of language, race, or culture (Hayes-Bautista and Chapa, 1987).
10. *Maximum Life Span (MLS)*. The fixed chronological age that marks the number of years that a member of any given species is "biologically" capable of living; at present, this is approximately 125 years for human beings (Hill, 2005).
11. *Older Adult*. A person 65 years of age or older.
12. *Optimal Life Potential (OLP).* The number of years that an individual, on average, should be able to live in the absence of disease, negative social conditions such as poverty or poor health care, or other external factors that could potentially shorten life; at present the OLP, as a demographic phenomenon, has been estimated at 85 years of age (Harman, 1998; Hill, 2005).

13. *Religion.* A formal system of worship or belief in the sacred; one of the ways – the more formal way – of a person's search for ultimate meaning in life (Association of American Medical Colleges,1999; Puchalski, 2006)
14. *Spirituality*. A person's search for ultimate meaning in life through relationships with God or family, and as expressed in nature, rationalism, humanism, and the arts (AAMC,1999; Puchalski, 2006)
15. *Successful agers*. A category of persons that have positive lifestyle choices and behaviors, happiness, fulfillment, and good health in old and very old age. (Rowe and Kahn, 1987; Hill, 2005).
16. *Successful aging.* A term popularized by Rowe and Kahn (1998) to describe older individuals who are able to live beyond Average Life Expectancy (ALE) and experience quality aging into the seventh and eighth decades of life (Rowe and Kahn, 1987; Hill, 2005)
17. *Well-Being.* A set of core constructs or dimensions associated with a state of psychological health and comfort: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth (Ryff, 1989)

Chapter 2

LITERATURE REVIEW

This chapter reviews the literature related to the influence of spirituality and religiosity on successful aging, with an emphasis on the outcome variables: well being and depression in older Latinos. The chapter starts with an overview of demographic changes that have prompted an increased interest in research on successful aging and the Latino population and concludes with a review of the literature on the influence of the predictor variables (health, economic strain, education, religiosity and spirituality) on well-being and depression in older adults.

Demographic Change

There are rapid and dramatic population changes taking place in the United States that have prompted an increase in aging research. One of the most important is the aging of the baby boomers, who are swelling the ranks of older adults, at the same time that people are living longer and fertility rates have declined. The result is that the population is growing older. This is a concern because today's older Americans are very different from their predecessors: they live longer, have lower rates of disability, higher rates of chronic disease, achieve higher levels of education, and are more affluent (Christensen, 2008; Hill, 2005; U.S. Census Bureau, 2005).

Currently, the 85+ age group is the fastest growing segment of the U.S. population and by 2030, almost one out of every five Americans will be over the age of 65 (National Institute on Aging, 2006). This is a concern, because there are fewer younger adults who are available to support the aging population. Although older adults are healthier and live longer than their predecessors, their longevity is associated with increases in chronic disease.

Currently, a significant proportion of those 65+ suffer from health problems: 81-90% have at least one chronic disease and the majority of older adults suffer multiple chronic conditions (AAR, 2006).

Another significant and different issue facing the baby boom generation as it grows older is its ethnic diversity. By midcentury, minority groups will constitute more than 50% of the U.S. population (U.S. Census Bureau, 2008). One significant issue that arises when minority populations become the majority is that most of what we know about aging in general, and successful aging in particular, is based on studies done with middle-class Caucasian-Americans. Therefore, more research will need to be done to discover how pathways to successful aging may differ among the different ethnic groups in the new majority.

Currently, Latinos are the largest and fastest growing minority group in the U.S. By mid-century, they will make up 30% of the entire U.S. population and 17.5% of those who are 65 and older. This translates to approximately 15 million persons out of a total of 80 to 90 million older adults by the year 2050 (U.S. Census Bureau, 2008).

These shifts in demographics will affect systems that provide services to older adults. Future health care costs of minority aged, especially Latino elders, may be even more costly than those predicted for the general population. A large national study found that Latino elders, when compared with their African American and Caucasian-American counterparts, were the most severely impaired, both functionally and cognitively, and they had more depressive symptoms (Gutheil and Heyman, 2006; Mui, Choi and Monk, 1998). Research is needed to get ahead of the wave of changes that are coming, especially in regard to protective factors within Latino culture that can promote healthy and successful aging.

The term “Latino” is generic for Latino/Latina, and refers to people in the U.S. who originated from Latin America. This definition excludes persons of Spanish, Portugese, Cape Verdean, or Filipino origin but includes non-Hispanic Latin Americans such as Brazilians and Guyanese. There is a lot of diversity within the Latino community, depending on the Latinos' country of origin, so Hayes-Bautista (1987) proposes using a national origin modifier, e.g. "Mexican-origin Latino" to identify a particular group. Spanish is not always the native language (e.g. Brazilians use Portuguese), and the customs and cultural values differ (e.g. Puerto Rican origin and Cuban origin compared to Mexican origin). Therefore, Latino is the preferred term (not Hispanic). Although the term Hispanic is commonly used to refer to this population, it is less precise and has been the subject of criticism (Hayes-Bautista, 1987). For this reason, the term "Latino" rather than Hispanic is used in this paper. The term "Hispanic" was first used in the 1980 census to describe a residual category of the population that did not fit one of the four racial groups then listed in the census. The category “Hispanic” is defined by the census as: "A person of Mexican, Puerto Rican, Cuban, Central or South America or other Spanish culture or origin, regardless of race" (Federal Register, 1978).

Theories of Successful Aging

Gerontologists have used a number of theories to guide research and practice related to the issues of aging. These theories have evolved over time in response to changes in the characteristics of the aging population. There are biological, psychological, social science perspectives on aging that have resulted in a progression of conceptual frameworks, starting in the early 1960s (e.g., disengagement theory, activity theory, continuity theory, and the life course perspective), and criteria for successful aging have followed these shifts in theory.

Disengagement theory (Cumming and Henry, 1961) postulated that society places limits on the social roles of the elderly, and that it is appropriate for older individuals to gradually withdraw or disengage from these roles. This perspective on aging has shifted with increases in the longevity and better health of succeeding cohorts of elders.

Activity theory (Lemon, Bengtson, and Peterson, 1972) proposed that people age successfully when they stay active and fully engaged in their social roles (the more roles the better). This view has been challenged by observations that healthy individuals have different preferences for social contact, and that social interactions can be draining as well as enriching.

Continuity theory (Atchley, 1972) proposed that people age successfully when they maintain their previous habits, preferences, relationships and lifestyles well into old age. Results from major longitudinal studies support continuity theory, in that mid-life characteristics have been found to be strong predictors of late-life outcomes.

Finally, the lifecourse perspective (Baltes, 1987) focuses on variations in normative aging that are both inter-individual (e.g., ethnic differences) and intra-individual (e.g., young-old versus old-old).

Currently, two new models are emerging in the literature on successful aging. The first involves “strengths of aging” or “gerotranscendence” approaches that focus on the possibilities and growth potential of aging individuals (Sullivan and Fisher,1994; Tornstam,1997). Presented as an alternative to the loss/deficit focus so often emphasized in models of aging, these theories emphasize concepts like self-actualization and incorporate elements from both activity theory emphasing action, and continuity theory focusing on development. The second model extends the strengths of aging approach, focusing on optimal outcomes among impaired and institutionalized

individuals (making the most of a difficult situation, maximizing autonomy, and finding satisfaction and meaning in life among those who are functionally dependent) (Bearon, 1996).

Research based on theories of gerotranscendance includes a combination of qualitative and quantitative methodologies which take place at the intersection of the sciences and the humanities (Denzin and Lincoln, 1994). Newer forms of qualitative aging research have emerged in response to omissions in existing quantitative research (i.e., the experiences of growing old and being old, from the perspective of the aging themselves) (Schroots, 1996;Tornstam, 2005). Increasingly, life stories (e.g. letters, diaries, autobiographies, interviews) are being used in aging research (Birren, Kenyon, Ruth, Schroots, and Svensson, 1996).

The general theme that emerges from theory development is a growing awareness of the complexity and heterogeneity of the aging population and the need to move past identifying variables associated with successful aging to examining the mechanisms and processes that produce variability in outcomes. In 1990, Baltes and Baltes introduced a model of successful aging that centers on adaptive processes that they conceptualize as selective optimization with compensation (SOC). As a general model, SOC has been used to explain developmental continuity and change across different periods of the life course, using different levels of analysis (individual, group), and across different domains of functioning (e.g., social, cognitive, physical). According to Baltes and Baltes (1990), SOC processes are universal, but how they are expressed varies by temporal and cultural context, the domain of functioning, and level of analysis. Therefore, the mechanisms by which these processes work will vary for different domains of functioning, and across different groups of individuals.

Despite this theoretical work on successful aging, no culturally relevant theoretical framework exists to organize research involving minority groups (Torres, 1999; 2003). Therefore, there is little understanding of which aspects of successful aging are culture-specific and which are general to all cultures.

Models of Successful Aging

Successful aging is the term commonly used to describe people who make lifestyle choices and freely engage in behaviors in adulthood that facilitate well-being, even in the presence of normal age-related decline (Hill, 2005). Although the National Institute of Aging (Depp & Dilip, 2009), the World Health Organization (2002) and the White House Commission on Aging (1996) have all emphasized that healthy aging goes beyond avoidance of disease and disability, there is no consensus on what this means (Bowling, 2007; Christensen, 2008; (Hilton, Gonzalez, Anngela-Cole, Maitoza and Saleh, 2010). In their original model, Rowe and Kahn (1987) defined successful aging as the avoidance of disease and disability, later expanding the definition to include the maintenance of physical and cognitive function and engagement in social and productive activities (Rowe and Kahn,1998).

According to Bowling (2007), there are currently three competing models of successful aging that dominate the literature: 1) biomedical, 2) psychosocial and 3) process models. Biomedical models use Rowe and Kahn's approach to define successful aging in terms of longevity, mental and physical health, and active functioning. Psychosocial models emphasize psychological and social well-being and functioning. Process models try to understand the pathways to aging well, such as the Selective Optimization and Compensation (SOC) model proposed by Baltes and Baltes (Hilton et al.., 2010; Bowling, 2007).

Critics such as Sadler and Biggs (2006) contend that the three competing models of successful aging represent the conceptualizations of mid-life academics and not of older adults themselves, and that they are not culturally sensitive. Bowling and Iliffer (2006), in their comprehensive review of the successful aging literature agree. For example, Laditka (Laditka, Corwin, Laditka, Liu,Tseng,Wu, Beard, Sharkey, & Ivey, 2009) reported that when older adults were asked about their ideas of successful aging, they tended to include characteristics from all three models, but that they also add indicators that were in none of the models, including financial security, spirituality, positive attitude, having a sense of humor, appreciating what you have, quality of life, giving back, and lifelong learning (Bowling et al.. 2006; Hilton et al.. 2010; Hilton, Kopera-Frye and Krave, 2009, Reichstadt, Depp, Palinkas, Folsom & Jeste, 2007).

Another criticism of academic models of successful aging is that they place the responsibility for healthy aging on the older adult without considering structural inequalities that limit opportunities for some groups (Hilton et al.., 2010; James, Besen, Matz-Costa & Pitt-Catsouphes, 2010). Yet another criticism is that models of successful aging have built-in biases. For example, Dillaway and Byrnes, (2009) argued that Rowe and Kahn's biomedical model is exclusionary and biased toward male, Caucasian, well-educated, and relatively-affluent young–olds (60-69), and that there are multiple pathways to successful aging that still need to be explored. In another study, Young, Frick and Phelan, (2009) emphasized the idea of multiple pathways by noting that even frail older adults can experience happiness and well-being by compensating for physical losses with psychological and social resources

In light of all this, a strategy endorsed by many researchers today is to use a broadened definition of successful aging that includes lay views, allows for a multi-

disciplinary perspective, and facilitates comparisons with other studies (Hilton, 2010; Young, Frick and Phelan, 2009; Bowling, 2007). These researchers conceptualize successful aging as a multidimensional construct rather than a unidimensional outcome (Hilton et al., 2010)

Hilton (Hilton et al., 2010), who collected the data for this project, conceptualizes successful aging as a set of multidimensional processes. These multidimensional processes contribute to perceived well-being and quality of life in the later years, even in the face of inevitable losses over time, given that resources – including religiosity or spirituality - can be used to maintain a positive attitude and create meaning and purpose in life that result in a sense of well-being and happiness (Hilton et al.., 2010). This advanced multidisciplinary model is similar in many ways to Engle's (1977) Biopsychosocial (BPS) model in which illness and health are products of biological, psychological and social factors, and included among the social factors are spiritual and cultural domains.

The fields of gerontology (Sulmasy, 2002), medicine (Puchalski, 2006), end-of-life or palliative medical care (Beng, 2010), public health (Crowther, et al., 2002) and counseling (CAMH, 2005) are increasingly relying on the Biopsychosocial-Spiritual (BPSS) model to guide research and practice. This shift elevates spiritual and religious factors from domains subsumed under social factors, as was the case in the Biopsychosocial model, to independent, full-fledged factors or components of equal rank with biological, psychological and social factors in the determination of healthy or successful aging.

In their original model, Rowe and Kahn (1987) defined successful aging as the avoidance of disease and disability, later expanding the definition to include the

maintenance of physical and cognitive function and engagement in social and productive activities (Rowe and Kahn,1998). Crowther and colleagues (2002) criticism was that Rowe and Kahn's work did not endorse the growing body of research examining the relationship between spirituality and health outcomes. Crowther and colleagues thus introduced "positive spirituality" into the Rowe and Kahn model, in essence transforming it to a biopsychosocial-spiritual (BPSS) model (Crowther et al.., 2002)

This study uses a combination of a biopsychosocial-spiritual model of successful aging and Young's biopsychosocial definition (Young et al., 2009), adding the phrase "and/or spiritual or religious resources" to Young's definition to define successful aging as:

> *A state wherein an individual is able to invoke adaptive psychological, social mechanisms, and/or spiritual or religious resources to compensate for physiological limitations to achieve a sense of well-being, high self-assessed quality of life, and a sense of personal fulfillment even in the context of illness and disability.*

Predictors of Successful Aging

The biopsychosocial-spiritual (BPSS) model of successful aging addresses five dimensions of health: physical, cognitive, psychological, social, and spiritual. All five dimensions are addressed in the larger study, but this study was limited to the dimensions of physical, psychological and spiritual health due to restrictions in the number of predictor variables that could be included in the analyses, based on the size of the sample.

Physical Health

The National Center for Health Statistics (2006) reported that among the most frequently occurring chronic health conditions among the elderly in 2000 to 2001 were: hypertension (49%); arthritic symptoms (36%); any type of heart disease (31%); any type of cancer (20%); sinusitis (15%); and diabetes (15%).

Most of the older adults have at least one chronic health condition; many have multiple conditions (AAR, 2006). More than 29% of 65 to 74 year olds and 50% of those 75 years and older need to limit their activities in some way because of chronic conditions, and approximately 50% of very old adults (those over age 85) have symptoms of dementia (Administration on Aging, 2004; Christensen, 2008).

In spite of increases in chronic conditions in later life, the majority of older adults consider themselves to be healthy and their self reports are consistent with data collected from medical staff (Wolinsky & Johnson, 1992). However, this finding varies by ethnicity. Nearly 60% of Caucasian Americans rated their health as excellent or good versus 34% of older Latinos and 44% of African Americans (CDC, 2008). The disparities among ethnic groups are even greater at younger ages, but differences between younger respondents on two measures of life satisfaction narrowed and almost entirely disappeared with age in what has been called the leveling function of age Dowd & Bengston, 1978). Among minority aged (African American and Mexican American) age influenced self-assessment of health, reducing racial and ethnic differences that existed in mid-life (Dowd & Bengston, 1978). Kent (1971a, 1971b) and Kent and Hirsch (1969) considered age to be a mediator of racial and social differences, meaning that problems faced by old people are seen as very similar regardless of age or ethnic background

(Kart & Kinney, 2001). This leveling of health disparities with age needs to be investigated as, in a sense, it represents a trajectory of successful aging for minorities.

There are many factors that promote normal aging and good health. This would include lifestyle factors that promote physical health at any age. Koenig (2001) found a plausible mechanism by which physical health may be affected by religious beliefs and practices. Koenig suggests that religious beliefs and practices improve coping, reduce stress, prevent or facilitate the resolution of depression, promote healthy behaviors, and prevent alcohol and drug abuse.

Psychological Health

Although there are many variables associated with psychological health, two indicators of psychological health are widely used in the literature on successful aging. These two indicators (well-being and depression) provide a summary or global picture of psychological health.

Well-being. There is some debate in the literature about whether certain variables are indicators of psychological health in the context of successful aging. For example, life satisfaction has been used as an indicator of successful aging, in spite of heavy criticism in the field. Using the terms life satisfaction, well-being, and successful aging interchangeably has created even more confusion (Fisher, 1992, 1995).

In the 1950's and 1960's, early conceptualizations of successful aging were formulated and measures were developed. Among these various formulations, life satisfaction became the most frequently investigated dimension of successful aging in the gerontological literature (Maddox and Wiley, 1976; Ryff, 1982). The life satisfaction index (LSI) was commonly used to differentiate persons who were aging successfully

from those who were not (Ryff, 1989). However, over time, an abundance of empirical work elaborated on, and differentiated, the concept of life satisfaction far beyond its original definition (Ryff, 1982).

Fisher (1995) evaluated the overlap and distinctions between the concepts of life satisfaction and successful aging using content analysis of taped interviews with older adults, and found that elders' reports of life satisfaction mainly emphasized *present circumstances* and having adequate resources (health, finances) to meet the basic needs of daily life. In contrast, concepts of successful aging seemed to reflect *future action* and a desire to meet higher order needs (sense of purpose, meaning, and engaging in life). The older adults' comments were consistent with four of Ryff's (Ryff,1989; Ryff and Keyes, 1995) five dimensions of well-being, which suggests that well-being is an indicator of successful aging, and that life satisfaction may be a predictor of both well-being and successful aging. Most of the older adults identified life satisfaction as *leading to* successful aging, or as a *step toward* meeting higher developmental needs. Fisher (1995) concluded that life satisfaction is a precursor of successful aging.

According to Ryff (1982) prominent indicators of growing old successfully include social activity, health, marital status and socioeconomic status, although, even in combination, these variables leave the greatest proportion of variance in subjective well-being unexplained. The current study explores whether at least some of this large proportion of "variance in subjective well-being that is unexplained" might be due to spirituality or religiosity.

Depression. Depression is widely used as an indicator of psychological health in studies of successful aging in the older population because it negatively affects physical,

mental and social functioning. Low scores on measures of depressive symptoms are an indicator of healthy psychological functioning. Depression in the elderly is difficult to disentangle from the many other disorders that affect the elderly, and its symptom profile is somewhat different from that in younger adults. Many older adults and their families do not recognize the symptoms of depression, are not aware of it as a medical condition, do not know how it is treated, and may even mistake symptoms of depression as signs of dementia (Christensen, 2008; NAMI, 2003).

Minor depression is considered a subsyndromal form of depression. This means that people can be depressed without reaching the clinical criteria for a diagnosis. Minor depression is more frequent among the elderly than major depression, with 8% to 20% of older community residents displaying sub-clinical symptoms (Alexopoulos, 2005; Gallow and Lebowitz, 1999). This is a concern because researchers (Unutzer, Patrick, Simon, Grembowski,Walker,Rutter, Katon ,1997) have demonstrated that subsyndromal depression can be as disabling as major depression.

Using data from the Grant study, researchers followed two cohorts of adolescent boys for 60 years or until death, and learned that depression was an important predictor of poor aging (defined as dissatisfaction with living and being bedridden) The reverse was also true. Men who experienced little depression in early and middle adulthood had better functioning in later life (Christensen, 2008; Valliant and Mukamal, 2001).

In another study, Strawbridge, Wallager and Cohen (2002) found a significant relationship between low levels of depression and self-rated successful aging as defined using Rowe and Kahn's (1987) criteria (i.e., absence of disability and disease, maintaining physical and mental functioning, and active engagement in life). No studies

were found that addressed whether religiosity or spirituality influenced depression in older adults.

Spiritual Health

The importance of both religion and spirituality is being widely discussed in both the lay population and the research community. For example, a 2006 Gallup poll reported that 72% of Americans are certain that there is a God, and have no doubts that there is a God, and another 14% believe that God probably exists and have only a few doubts. Even the field of psychiatry has moved from a definition of religion as an "illusion" (Freud, 1927) to presenting "religious or spiritual problem" as a diagnosis in the Diagnostic and Statistical Manual of Mental Disorders – DSM-IV (1994; 2000). Finally, national surveys consistently show that the vast majority of older Americans, in particular, ethnic and minority elders, report a religious or spiritual component to their lives. (Princeton Religious Research Center, 1987; 1994; Crowther et al., 2002). Two variables are commonly used to assess spiritual health: religiosity and spirituality.

Religiosity. Religiosity refers to the degree to which one believes in and is involved in religion, such as attending church, volunteering for the church, giving donations to the church, believing in the values, morals and doctrine of a religion (Online Dictionary of the Social Sciences, 2010). People may or may not express their spirituality through formal religious practices.

Religiosity is considered a psychosocial construct. Sherrill (1993) notes that psychosocial variables have a strong influence on physical and mental health, particularly among the frail and old, and asks why one psychosocial variable – religion – has been taboo in gerontology for so long. On one side of the argument, researchers

note a long historical tradition that argues for the benefits of religion, dating from antiquity, and on the opposite side of the argument are those who view religion as inherently damaging to mental health (Ellis, 1980; Sherrill et al.., 1993)

Levin and Chatters (2008) provide a summary of the history of gerontological research on religion and health. Early work was noted as sporadic and not well received (in the 1970's). Work became more systematic in the 1980's and by the mid 1990's (after Sherrill et al.. raised the issue), the influence of religion on health had gained institutional recognition and support, including funding from the National Institute of Health. Since 2000, an emphasis on longitudinal research, sophisticated methodologies and creative assessments has integrated religion into mainstream gerontological research. Findings have implicated religious constructs as determinants of numerous psychosocial, health and well-being outcomes (Levin & Chatters, 2008).

In one large national health study, 14,475 American men and women were examined for frequency of attendance at religious services, history of hypertension treatment, and blood pressure. After controlling for sociodemographic and health variables, researchers concluded that compared with never attending, attendance at religious services weekly or more was associated with lower adjusted hypertension and blood pressure, with no significant effect of gender or age (Gillum & Ingram, 2006).

In another large study, Hill and colleagues investigated whether religious attendance was associated with slower rates of cognitive decline among older Latinos. Earlier research had shown that social engagement reduced the probability of decline, but Hill and his colleagues wanted to know if church attendance was a unique form of social engagement that may influence cognitive functioning over and above other aspects of social engagement. Studies also had shown that sensory impairments or

functional disabilities may limit routine activities, including church attendance, so these were controlled in Hill's (et al., 2006) study.

Hill (et al., 2006) used data from the Hispanic Established Populations for the Epidemiologic Studies of the Elderly survey which studied a sample of 3,050 Mexican-origin Latino men and women aged 65 and older, residing in the Southwestern United States (University of Texas at San Antonio School of Medicine, 1993-2011). The Mini-Mental State Exam was used to assess cognitive decline over 8 years, controlling for sociodemographic characteristics, drinking, smoking, depression, chronic conditions, and sensory impairments (Hill et al., 2006).The researchers found that respondents who attended religious services exhibited slower rates of decline than those who did not attend services.

Levin & Markides (1988) study 18 years earlier of middle-aged and older Latino-Americans and the relationship between religious attendance and psychological well-being addressed previous work which had suggested that religious attendance, especially among older adults might represent a proxy for health. But Levin and Markides' findings at that time provided only mixed confirmation of this, and only in older men. In women, religious attendance did appear to have a substantive independent effect on well-being. The associations remained significant in women, despite controlling for age, marital status, social class, and either of two indicators of health status.

Hill and colleagues (2006) speculated that various aspects of religious involvement may buffer against hippocampal atrophy, cognitive decline, and progression of Alzheimer disease, as well as maintenance of dense neocortical synapses in the brain over and above other forms of social engagement. Thus, the social engagement of religious attendance appeared to be different from other forms of social engagement. It

was concluded that it may be important for physicians to consider barriers to religious attendance when treating elderly patients, as opposed to other forms of social engagement for which no such significant and conclusive results had been obtained to date (Hill et al.., 2006).

Spirituality. Spirituality refers to an ultimate reality or transcendent dimension of the world and the deepest values and meanings by which people live (Wikipedia, 2010). In 1999, a more specific and inclusive definition of spirituality was developed by consensus during a conference of clinicians, medical educators, and chaplains (AAMC, 1999). According to this definition, spirituality is a person's search for ultimate meaning in life through participation in religion, as well as through relationships with God or family, and is expressed in nature, rationalism, humanism, and the arts. Thus, spirituality includes a personal expression of spirituality as well as a relational one to others (Puchalski, 2006).

In his BioPsychoSocialSpiritual model of the relationship of spirituality, religion and health, Koenig (2001) hypothesizes that spirituality and religion positively impact mental health, lessening or averting depression and its adverse effects on the physical, mental and social functioning of the elderly. Findings from his research indicate that religious beliefs and practices were associated with improved coping, reduced stress, and in some cases, prevented or facilitated the resolution of depression (Koenig, 2001; Koenig, McCullough and Larson, 2001)

In another study, Koenig, George, & Titus (2004) examined the effect of spirituality on the psychological functioning and physical health of 838 medically hospitalized elderly individuals. The study examined five different dimensions of religion, as distinct from spirituality, and measured four dimensions of spirituality. The

researchers learned that depressive symptoms were significantly and negatively related to daily spiritual experiences, and that both religiosity and spirituality were associated with fewer depressive symptoms and better physical health (Christensen, 2008).

Following Koenig's lead (Koenig et al.., 2004), Ardelt & Koenig (2006) compared a relatively healthy group of 103 individuals aged 61 to 98 years old with a group of 19 hospice patients 61 years and older. They found that purpose in life had a direct and positive influence on subjective well-being, and that spirituality had an indirect and positive influence through purpose in life.

Education. The educational level of the older population, in general, is increasing, but there is a wide disparity among the races. Between 1970 and 2003, the percentage of the elderly who had completed high school rose from 28% to 71%, but the percentage who completed high school varied by ethnicity: 76% of Caucasian Americans, 70% of Asian Americans and Pacific Islanders, 52% of African Americans, and 36% of Latinos completed high school (U.S. Census Bureau, 2005). Hayward et al.. (2005) found a strong relationship between economic factors, such as education, and the health and well-being of individuals. Gonzalez, Hilton, & Valencia-Castro.(2009) also found a powerful association of educational attainment and happiness in the small sample of Latino Elders who answered the Latino Elders Aging Gracefully questionnaire.

Economic strain. Using the Center for Epidemiologic Studies Depression Scale (CES-D)scale and hierarchical multiple regression, Krause (1997) examined the relationship between economic strain and depression, finding that older adults who experienced economic strain tended to report more somatic symptoms and depressed affect compared to older individuals who did not encounter economic strain in the past year. In another study, Tsai (2005) assessed the relationship between older adults'

economic strain, chronic pain (studying 235 elderly individuals with arthritis), stress and depression. Tsai (2005) found that older adults who experienced economic strain were more depressed.

Although no studies have examined the relationship of economic strain and depression in older Latinos, it is clear that Latinos are more at risk of economic strain than most other minority groups. In terms of poverty (De La Rosa, 2000), years of formal schooling (De La Rosa, 2000), and access to health care (Weinck, Zuvekas & Cohen, 2000), Latinos are comparable to, or even more disadvantaged than African Americans. The poverty rates for Latinos are 21.5% compared to 24.5% for African Americans . The United States Conference of Catholic Bishops Comparing insurance coverage of racial and ethnic minorities shows that Latinos were most likely to be uninsured (35.4%), followed by American Indians (27.3%), African Americans (25.6%), Asians (21.2%), and Caucasian Americans (13%) (Monheit & Vistnes, 2000; Shi, 2000). In addition, only half of Latinos and a quarter of African Americans have a regular doctor.

Successful Aging of Latinos

Latinos face greater challenges in the aging process than most other majority and minority groups. Latinos not only experience “double jeopardy” – the double challenge of racism and agism faced by people from minority backgrounds (Dowd & Bengston, 1978), but “triple jeopardy”, due to socioeconomic struggles associated with growing old in a second homeland (Norman, 1985). However, as advisor to Mexican President Vicente Fox and founder of the Center for U.S.-Mexico studies Dr. Juan Hernadez states, the first place that Mexican-origin Latino immigrants seek is the church for their first word of encouragement, their first embrace, and the place to continue seeking God (Hoffman, 2006) and it thus appears, and is the object of investigation of

this research, that Latinos confront and often triumph over these psychosocial risk factors through their religious and spiritual beliefs,

Latino spirituality. According to Hoffman (2006), the wave of spirituality that Latinos have brought to the United States is their major contribution to this country (Hoffman, 2006). Besides bringing their culture to America, Latino Americans have brought their religion, which is overwhelmingly Christian, and predominantly Catholic (Hoffman, 2006). Dr. Juan Hernadez, founder of the Center for US - Mexico Studies at the University of Texas, and an advisor to Mexican President Vicente Fox, says that for the immigrants, "it is a religious exodus to come to America and see what God will provide for them…The first place they seek is the church for the first word of encouragement…"

Pastor Danny DeLeon of Templo Calvario says that for the Latino, "their faith is involved in their life and their families. One is the extension of the other" (Hoffman, 2006). That extension of faith is evident at all levels across the country, from migrant farm workers in Florida, California, Arkansas and Iowa, to the urban Latino enclaves in places like Houston, New York and Los Angeles (Hoffman, 2006).

Dr. Jesse Miranda, a professor at Vanguard University and leader of the National Evangelical Hispanic Association says that Latinos bring a more practical, experiential faith with them, less doctrinal and intellectual, moving away from the European Christian emphasis on private religiosity towards more public and communal religiosity, and the moral and social values Latinos bring to America "is already a major contribution, resulting in a wave of spirituality in the U.S., of neighbors helping neighbors…"(Hoffman, 2006).

Health promotion for Latinos. Thus, incorporating the dimension of spiritual health into models of successful aging should be even more effective with older Latinos than in the general population. In particular, multidisciplinary models of health promotion incorporating spirituality into successful aging interventions with Latino Americans have the potential to "remake the experience of chronic disease- and remake it quickly" (AAR, 2006) for all Americans – majority and minority - through collaboration of the health care industry and religious organizations to use the spiritual dimension of people "to help bridge the gap between our medical discoveries and how we live" (Parker, et al.., 2002).

Cohen and Koenig (2003) reported "As far as effects of religiosity at baseline predicting future well-being [of Latinos], Markides' (1983) study is perhaps the best prospective evidence." Markides and colleagues studied the relationship between church attendance and life satisfaction of Mexican-origin-Americans and Caucasian-Americans from Texas over a four-year period. Church attendance at Time One was correlated with life satisfaction at Time Two, after controlling for sex, age, marital status, and education. This was true for both ethnic groups.

Prior to this study, only limited confirmation for the hypothesis was found in gerontology and epidemiology, suggesting that religious attendance among older adults might simply serve as a proxy for health or mobility. However, Markides (1983) study showed that religious attendance had a substantive independent effect on well-being, remaining significant in women after controlling for health status, age, education, and social status. Hill's (2006) study also confirmed the importance of religious attendance, associating lack of cognitive decline with the religious attendance, of middle-aged and older Latino's.

Physical Health. The World Health Organization (WHO) reports that chronic diseases are the major cause of death and disability worldwide, and in the United States in 2002, chronic disease accounted for 88% of all deaths (2,120,000), 38% of which (805,600 deaths) were from cardiovascular disease alone (WHO, 2002). But these figures represent the general population. What about the more intensive needs of at-risk minorities, such as Latino elders, who may need to use health care systems even more intensively than African, Asian or Caucasian Americans?

Unfortunately, older Latino elders express confusion (Meir et al.., 1996) and distrust (Hauser et al.., 1997) of health care systems. They tend to rely on family for help in making medical decisions (Morrison, Zayas, Mulvihill, Baskin, & Meier, 1998), without expressing their preferences or concerns (Gutheil & Heyman, 2006). In light of this dilemma, research casts some light on how interventions to promote successful aging for this uniquely at-risk ethnic group might be designed.

White, Drechsel and Johnson (2006) report that many of the chronic health conditions that older adults are at risk for can be prevented or better managed by participation in health and wellness programming held in a setting of maximum social support, the most ideal of which they report is a faith community setting. Lay people, many of whom are parish nurses (salient for the predominantly Catholic Latino community) and members of the individual religious community, offer programs including 30-40 minutes of exercise, health education and devotional time focused on promoting physical, spiritual and emotional health (White et al.., 2006).

Depression. Latinos are at greater risk for depression than other minority groups (Choi & McDougall, 2009). Babyak and colleagues (2000) studied 133 elderly patients with major depression, assigning some to an exercise test group, and the others to a

control group with medication (sertraline) or a control group which combined exercise and medication. In a 10 month follow-up, 90% of the exercise group had fully recovered with less than 5% relapse compared with 50% full recovery in the medications control group which experienced a 40% incidence of relapse and the combination exercise and medications control group doing only slightly better in both areas than the medications only group. Exercise was thus far more effective than medications for full recovery from depression, as well as for far smaller number of relapses. As this and other studies have shown, getting up and moving around, and exercising is undoubtedly another vital key to well-being in aging, such that any successful aging intervention that combined the two (religiosity/spirituality and exercise) would be that much more effective.

This finding raises an important question. If Latino elders are more at risk for depression than other groups (Choi & McDougall, 2009), and exercise could be of great benefit (Babyak et al., 2000), but Latinos are confused by (Meier et al.., 1996) and distrust (Hauser et al.., 1997) the medical system, how could this exercise-infused intervention be delivered? Again, faith-based organizations are a natural gathering place and safe environment for the promotion and delivery of health-related interventions and programming.

Future Directions

The successes of psychosocial interventions, such as those reported earlier, that include a religious/spiritual dimension provide a stark contrast to the unsuccessful results of psychosocial interventions alone. The most striking example is the Multiple Risk Factor Intervention Trial (MRFIT). Begun in 1971, ending in 1981 and costing $180 million (in 1980 dollars), the MRFIT study was probably the most intensive and expensive clinical trial ever developed to educate people and get them to change their behavior, in an attempt to

reduce the death rate from coronary heart disease.

Men at highest risk were identified using high serum cholesterol levels, cigarette smoking, and high blood pressure as determinants. The sample was selected from 361,662 men in 20 cities who were put through three intensive screening examinations, after which 6,428 men were selected and randomly assigned to intervention in MRFIT clinics, while another 6,438 men, chosen at random, were sent back to their own physicians with a report of their risk factors.

The participants were highly motivated, highly informed, and willing to stop smoking, change their diet, take medication for high blood pressure, willing to come to clinic once or twice a week during the early phases of the trial, bring family members when requested, and continue participation for 6 to 8 years. They were urged not to enter the trial if they had any reservations whatsoever, plus staff psychologists rejected some volunteers because they thought they might not be good participants. Each clinic in the trial had a large staff of specially trained counselors who worked closely with each participant for the entire period. After 6 years, however, 65% of the participants in the MRFIT groups were still smoking, only half of the participants with hypertension had their blood pressure under control, and few of the participants had changed their diets. The men in the experimental group had almost identical statistics as those in the control group (Multiple Risk Factor Intervention Trial Research Group,1982; Syme, 2003)

Studies by White (et al., 2006) and Babyak (et al., 2000), and others that incorporate the BPSS model, offer an alternative approach to traditional health care interventions. Fortunately, there is growing institutional support for the inclusion of spirituality into healthcare (Puchalski, 2006).

Many professional organizations, such as the American College of Physicians, the American Medical Association, and the American Nursing College also recognize that spiritual care is an important element of the ethical obligation healthcare professionals have to attend to all dimensions of a patient's suffering and to be present fully to their patients in a compassionate way (American Medical Association Council on Ethical and Judicial Affairs, 2001; American Nursing Association, 2000; Lo, Quill and Tulsky, 1999).

There have also been significant changes in medical school education with regard to spirituality and health. More than 70% of medical schools now teach courses on spirituality and health, many of them required (Puchalski and Larson, 1998; Puchalski, 2006). The Association of American Medical Colleges has published guidelines for these courses (AAMC, 1999). One of the learning objectives is that all students will know how to take a spiritual history.

Furthermore, courses on spirituality have been added to residency programs, specifically in psychiatry, internal medicine, and family practice. In all these courses, there is a requirement that residents learn how to complete a spiritual assessment (Puchalski, Larson & Lu, 2001). Ehman and colleagues (1999) reported that 85% of patients noted that their trust in their physician increases if the physician addresses their spiritual concerns, and 95% of patients for whom spirituality is important want their doctor to be sensitive to their spiritual needs and to integrate it in their treatment, and 50% of the patients for whom spirituality is not important feel that physicians should address patients' spiritual issues in the case of serious and chronic illness.

Summary

The literature cited above suggests that successful aging is a vital research area in gerontology, as the elderly population continues to grow and diversify. The research cited in this chapter supports using well-being and depression as criterion measures of the psychological dimension of successful aging and the use of health, education, economic strain, religiosity, and spirituality as predictors of these outcomes. The literature also suggests that spirituality and religiosity are understudied but important predictors of successful aging (Christensen, 2008). No research to date has explored the contribution of spirituality and religion to the psychological well-being and lack of depressive symptoms among Latino elders.

Chapter 3

METHODS

This study uses secondary data that was collected for a research project entitled: "*Psychosocial Factors Contributing to the Health and Successful Aging of Latino Elders,*" funded by the Sanford Center for Aging at the University of Nevada, Reno. The goal of the larger study was to evaluate the types of aging issues that concerned older Latinos and how they coped with the aging process (Hilton, Gonzalez, Anngela-Cole, Maitoza & Saleh, 2010). The goal of this smaller study is to isolate the influence of spirituality or religiosity on the well-being of Latino elders over and above other major biopsychosocial factors, i.e., health, economic strain and educational attainment.

This chapter describes the data collection procedures, participants, measures and analyses. The assumptions and limitations of the study are also addressed.

Purpose of the Study

The purpose of this study is to focus on hypothesized positive relationships between older adult's self-report of their level of spirituality or religiosity and their experiences of well-being and lack of depression. The research hypotheses that will be used to guide the study are:

1. There is a significant positive relationship between Latino elder's *spirituality* and their well-being, over and above health, education and economic strain.
2. There is a significant positive relationship between Latino elder's *religiosity* and their well-being, over and above health, education and economic strain.
3. There is a significant negative relationship between Latino elder's *spirituality* and their symptoms of depression, over and above health, education and economic strain.

4. There is a significant negative relationship between Latino elder's *religiosity* and their symptoms of depression, over and above health, education and economic strain.

Data Collection

The larger study conducted by Dr. Hilton used a quantitative, correlational design with face-to-face interviews and a self-administered questionnaire. This thesis study uses secondary data from the larger study to answer the research questions listed above.

Sampling

Participants for the larger study were recruited in three Western states (Nevada, Arizona and California) by bilingual (Spanish/English) Latina graduate research assistants, using snowball sampling techniques. Various strategies and attempts to recruit participants in Nevada were initially unsuccessful, mainly due to fears of repercussions and lack of trust of outsiders and institutions in Nevada's Latino community. Latina research assistants eventually went to their home communities to do the recruiting (Battle Mountain, NV, Los Angeles, CA and Tucson, AZ).

The research assistants asked friends, family and acquaintances in their communities to distribute a flyer describing the study and offering a $35 gift card for participating in the one-and-a-half to two-hour interview. Those who expressed interest were asked to contact one of the research assistants, who then screened the individuals for eligibility. There were four criteria for participation. An individual had to be 1) a self-identified Latina/Latino, 2) who spoke and understood either Spanish or English, 3) 50 years of age or older, and 4) rational and coherent in answering questions during the screening process. Sixty participants met the criteria for the study, and were interviewed.

The data were collected in the preferred language of the participant (English or Spanish), using a face-to-face interview and a self-report questionnaire, in a place convenient to the respondent, usually their home. The questionnaire had been pilot-tested with four older adults in the Latino community, with minor adjustments made to the form based on their feedback. The questionnaire subsequently was translated into Spanish and back-translated to English to check for fidelity. This self-report written questionnaire was used to collect the data during the face-to-face interview.

Institutional Review Board (IRB) protocol was maintained throughout the study, and because there was low risk to the respondents, only an information sheet rather than an Informed Consent form was required. Informed consent was explained to the respondents, they were told they could take breaks if they became tired, and they could ask the research assistant for help in reading or filling out a form. Participants were told that they could terminate the interview for any reason, and that they would still get the gift card. No one asked to terminate the interview.

At the conclusion of the interview, the participants were given the gift card and the questionnaires were checked for accuracy and to reconcile any missed responses. Participants were asked if they would like a summary of the findings and any respondent who so requested was asked for their contact information.

Measures

The 20-page questionnaire included sections on background characteristics, medical conditions, health behaviors, global health, doctor/staff cultural competency, life satisfaction, well-being, depression, social engagement, successful aging, religion and spirituality, concluding with a global, open-ended “Is there anything else you want to tell us about aging in the Latino community?” Successful aging was measured with an 18-item questionnaire and one open-ended question, used to capture the participants’ views

of successful aging in their own words. Sections of the questionnaire that will be used for this study include the demographic questions, 18-item well-being scale, the 12 item depression scale, the single-item economic strain question, the single item educational level question and the 15-item health problems index. The dependent variables for this study are well-being and depression. The independent variables are: age and education (measured in years), health, economic strain, spirituality and religiosity.

Well-Being. Overall well-being was evaluated using Ryff's (1989) 18 item Well-being scale. The measure includes 6 subscales that evaluate: *self-acceptance* (3 items), *positive relations with others* (3 items), *autonomy* (3 items), *environmental mastery* (3 items), *purpose in life* (3 items) and *personal growth* (3 items). For example, one of the *purpose in life* items asks the respondent to describe how strongly they agree or disagree with the statement: "I live life one day at a time and don't really think about the future." The measure is scored using a six-point Likert-type scale (1=strongly agree to 6=strongly disagree), with higher scores indicating a greater sense of well-being. According to Ryff (Ryff and Keyes, 1995, p. 724), the six-factor scale is joined by a single higher order factor, that they called *well-being*. Therefore the overall well-being score will be used in this study. Chronbach's reliability coefficient for this scale is reported to be .85 (Ryff, 1989).

Depression. Depression was evaluated using a short self-report scale that was designed to measure depressive symptoms in the general population: the 12-item version of the Center for Epidemiologic Studies Depression Scale (CES-D). Each item asks how many days the participant experienced a particular symptom of depression in the previous week, with the respondent able to make 1 of 8 possible choices (from 0 – 7 days) for each of the 12 items. Chronbach's reliability coefficient for this scale is reported to be.93. (Radloff, 1977)

Health. The respondents' health was measured by global self-assessment, using a single item which stated "I consider myself as healthy as most other people my age…," rated on a scale of 1 to 6, with 1 indicating strong disagreement and 6 indicating strong agreement.

Economic strain. Any financial difficulties that the participants were having were evaluated using a one-item measure of *economic strain* (Hilton & Devall, 1997). The economic strain item asked Latino elders how many days in the past week they were: "worried that my income will not be enough to cover my future needs."

Spirituality was assessed using the 6-item Intrinsic Spirituality Scale (ISS), developed by Hodge (2003). The measure assesses the degree to which spirituality is a motivating influence in an individual's life. A brief introductory statement is used to explain that spirituality encompasses both theistic and non-theistic expressions of connectedness to an ultimate source of wisdom and comfort. Responses to the 6 items are summed and divided by 6, to produce a mean score. Hodge (2003) psychometrically evaluated the measure and found that it was both reliable (reliability coefficient = .80) and that it had concurrent validity.

Religiosity. Religiosity was examined using 9 items from the Religious Orientation Scale (adapted from Allport & Ross, 1967; Gorsuch & McPherson, 1989; Trimble, 1997). The measure contains three subscales: I (Intrinsic), E_s (Extrinsic-Social) and E_p (Extrinsic-Personal). Each of the three subscales has 3 items. A six-point Likert-type scale is used for scoring, with higher scores indicating greater religiosity. Sample items include: "What religion offers me most is comfort when sorrows and misfortune strike," and "There are many more important things in my life than religion (reversed); 1 = strongly disagree to 6 = strongly agree. For the subscales used in the analyses for this

study, Chronbach's alphas for the measure were reported to be .83 for the intrinsic subscale, and .63-.64 for the extrinsic subscales.

Analysis of the Data

The data used for the thesis were screened for missing data (replaced with the series mean, where appropriate), outliers, and linearity and appropriate substitutions, deletions, and transformations will be made, where necessary. The characteristics of the sample were analyzed using descriptive statistics and then the research questions evaluated using hierarchical multiple regression (HMR). One HMR analysis examined the influence of the independent variables on well-being, and a second HMR analysis evaluated the effects of the variables on depression. In the HMR analyses, three independent variables (health, education and economic strain) were entered as a block, and then the variables of interest (spirituality and religiosity) entered as a second block. This strategy was utilized to isolate the significance of the influence of spirituality on the well-being or depression of Latino elders.

Assumptions of the Study

1. The self-reported measures employed in this study are valid and reliable when used with Latino elders.
2. The participants answered truthfully, and to the best of their ability.
3. The responses of the participants are reasonably representative of the Latino communities in which they live.

Limitations of the Study

1. The sample was collected in three Western states and may not be representative of older Latinos living in other parts of the country.

2. The participants were recruited using snowball sampling, and thus were not a representative sample of older Latino adults living in the three Western states.
3. The sample did not include elders living in institutions, or those who were cognitively impaired, so the sample is healthier and may be aging more successfully than the general Latino population.
4. The sample size is small (N= 60) and composed primarily of Latinos of Mexican origin, thus the findings of this study do not represent the range of diversity within the Latino population.
5. Literacy was an issue; in future studies, strategies and measures used in this study need to be adapted to accommodate the low literacy (in both English and Spanish) of many older Latinos

Chapter 4

RESULTS

The purpose of this study was to research relationships between older Latinos' self-report of spirituality or religiosity and their experiences of well-being and lack of depression (this study's working definition of successful aging). Hierarchical regression analysis was used to answer four research questions that addressed the contributions of religiosity and spirituality to the well-being and depression of Latino older adults.

Analysis of the Data

Prior to analysis, the data was screened for outliers and coding errors to make sure that the assumptions for multiple regression were met. Scatterplots and Pearson bivariate correlations were used to check for linearity and multicollinearity. Next, descriptive statistics were utilized to summarize the characteristics of the sample and their scores on the predictor and outcome variables. Finally, the multiple regressions were conducted using age, education, overall health and economic strain as block 1 and religiosity and spirituality as block 2, to predict well-being, and then depression.

Description of the Sample

Sixty participants met the criteria for the study, and were interviewed. The final sample included 22 males and 38 females. The mean age of the participants was 60.7 years, ranging from 50 to 84 years old. Years of education in the sample varied widely (0 years to 25 years) with a mean educational level of 9.47 years. The median monthly after-tax household income from all sources was $1500 – 2000, with a range of 'less than $500 a month' to 'over $7000 a month'. The ethnicity of the Latinos was mostly Mexican (48.3%), with another 20% Mexican origin American, 6.7% Spanish, 6.7% Salvadorian, and the remaining 15% from additional South American countries. Among the participants, 33.3% were retired, 8.3% were unemployed, 43.3% were

employed full time, and 18.3% were employed part-time.

Table 1: *Sample Characteristics (n=60)*

	Mean	*SD*	%
Age (*years)*	60.7	10.2	--
Education (*years)*	9.5	4.86	--
Income (*median monthly*)	$1500 - $2000	--	--
Employment			
Full time	--	--	43.3
Part time	--	--	15.0
Retired	--	--	33.3
Unemployed	--	--	8.3
Ethnicity			
Mexican	--	--	48.3
Mexican American	--	--	20.0
Salvadorian	--	--	6.7
Spanish	--	--	6.7
Other Latino	--	--	18.3

Although differences between women and men in regard to the predictor variables were not the focus of the study, descriptive statistics were run as background information. The women in the study accounted for approximately two-thirds of the sample (Table 2). They were slightly older than the men, and had similar levels of education and economic strain. Where the two genders differed was in their level of health. The women reported lower levels of overall health than the men. In regard to the

two variables of interest, Latino women and men reported similar levels of both religiosity and spirituality.

Table 2: *Means and Standard Deviations for Variables in the Study*

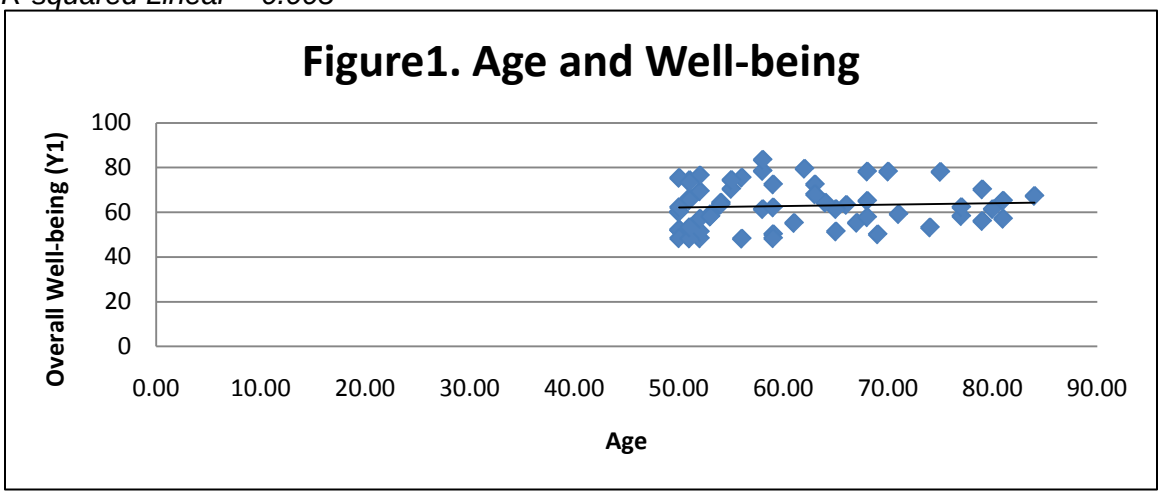
	Men (n= 22)		Women (n= 38)	
	Mean	*SD*	mean	*SD*
Age	58.9	*9.9*	61.7	*10.3*
Education	9.6	*3.9*	9.4	*5.4*
Health	4.3	*1.8*	3.6	*1.9*
Economic Strain	2.1	*2.4*	2.6	*2.5*
Religiosity	30.2	*9.1*	31.5	*6.3*
Spirituality	24.8	*7.1*	24.3	*6.5*
Well-being	64.3	*9.5*	61.9	*9.5*
Depression	6.5	*7.5*	18.7	*21.5*

Scatterplot Analyses: Well-Being

In building the linear regression models to test the research hypotheses for this study, the first step was to examine scatterplots of each of the 6 independent variables with each of the two dependent variables (well-being and depression). The first scatterplot (Figure 1) depicts the age of the individual plotted with that individual's overall well-being score, with each of the points representing a particular Latino elder. The points were quite scattered, and although there may or may not have been a linear relationship, there was definitely not a curvilinear pattern or exponential function. The line of best fit or trend line was plotted (Figure 1), showing a simple linear regression line fitted to this particular variable. The trend upward direction of the line indicated a weak

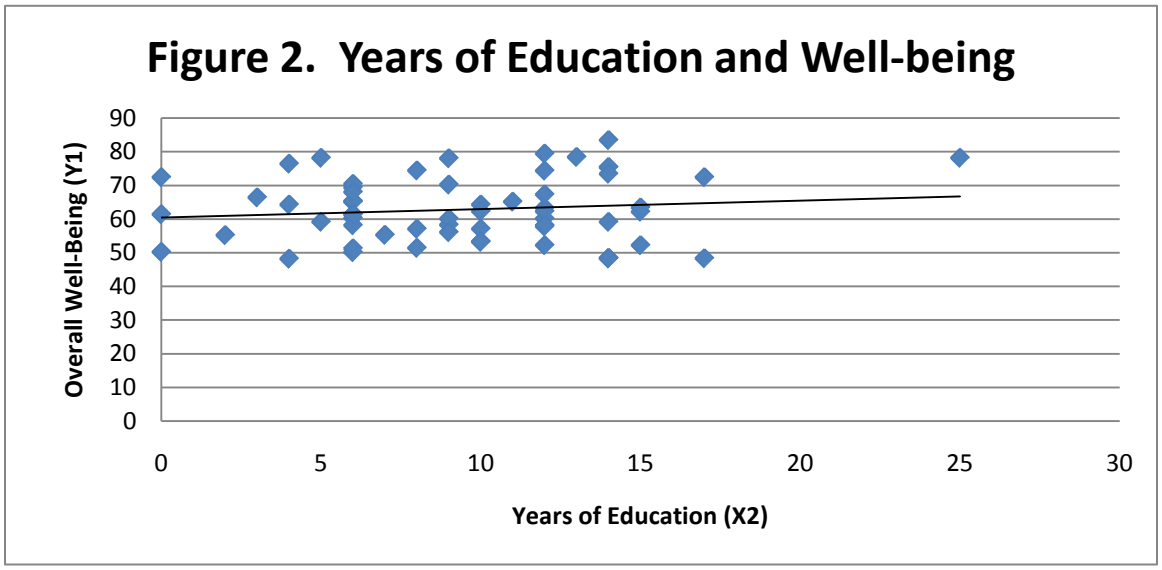
but positive relationship between age and well-being, with no outliers. The proportion of variance was then calculated, showing that the amount of variance in well-being accounted for by age was very small, as shown by an R^2 of .005.

R-squared Linear = 0.005



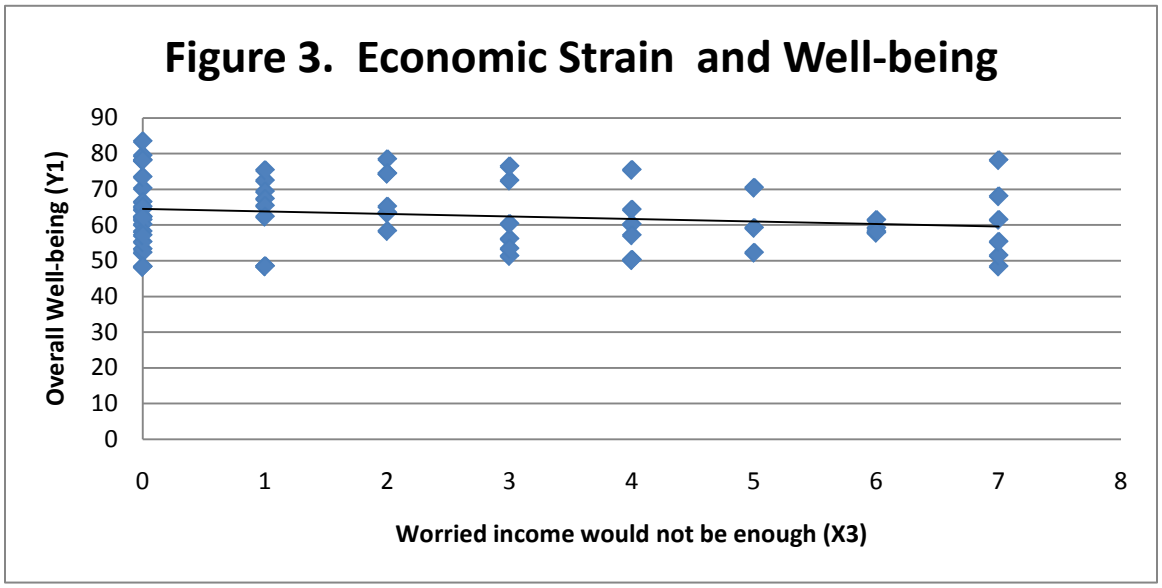
Next, years of education and well-being were plotted, as shown in Figure 2. Again, points were quite scattered with no curvilinear or exponential function. Similar to the variable of age, the trend line showed a very weak, positive, linear relationship, with possibly one outlier (the Latino elder with 25 years of education) to be considered. The proportion of variance accounted for by years of education was also very small, with R^2 = .016.

R-squared Linear = 0.016



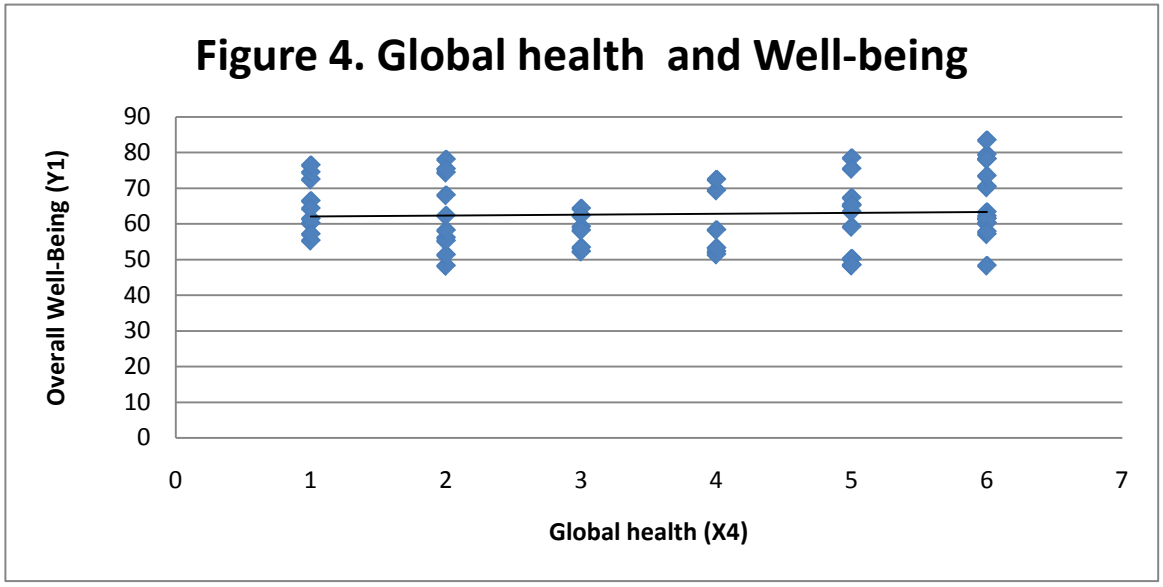
The third independent variable, economic strain, indicated how many days in the past week that respondents worried that their income would not be enough. Although it was not a strong relationship, the R^2 indicated that economic strain explained 3.2% of the variability in well-being, in a negative direction. In other words, as the strain of worry about whether one's income would be enough increased, well-being decreased.

R-squared Linear = 0.032



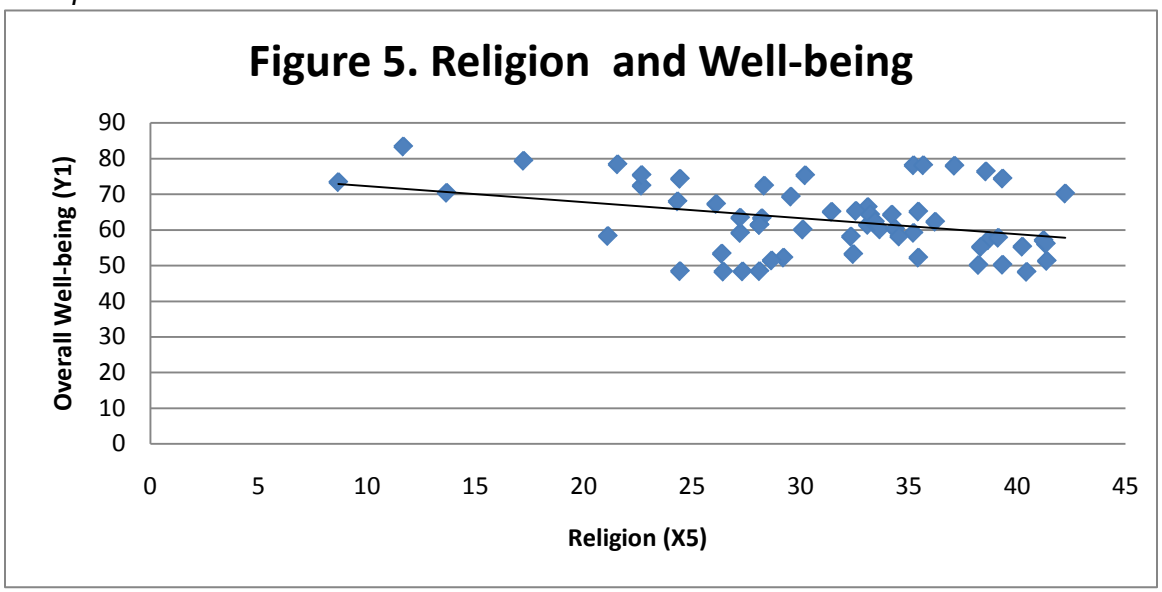
Global health was the fourth independent variable to be examined for its relationship to well-being. Although one might expect that good health would be a major predictor of well-being, the relationship of health with well-being measured in this dataset was very weak, with an R^2 of .002. There was no clear explanation for this.

R-squared Linear = 0.002



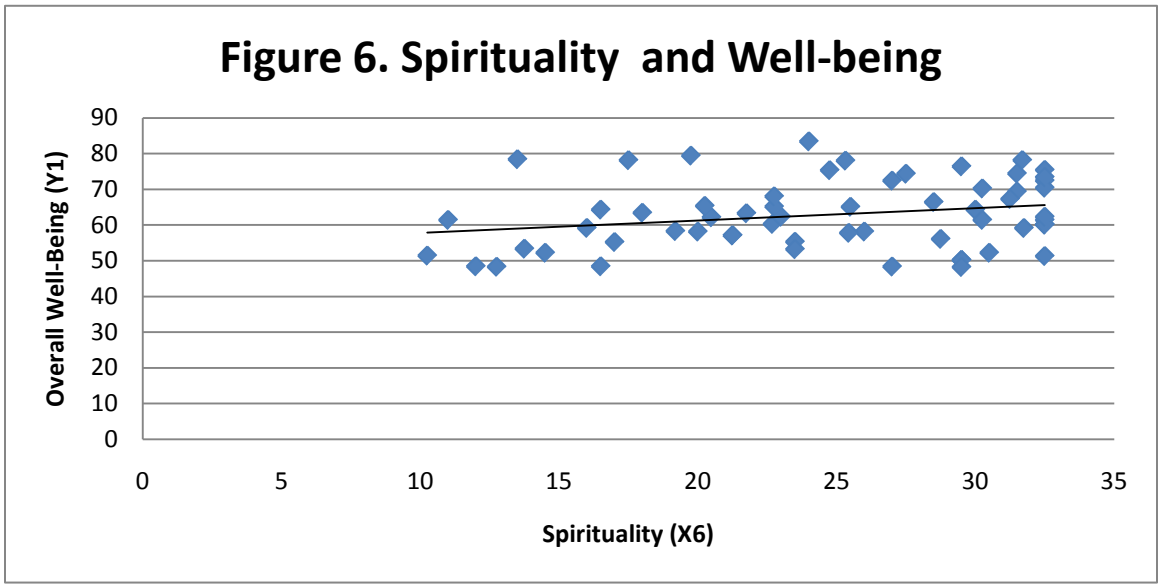
The fifth variable assessed was the impact of religion on well-being. The trend line in Figure 5 shows a negative linear relationship, with an R^2 of .123. This means that as the participant's religiosity increased, there was a decrease in their well-being. Although expectations were that religion would have a positive relationship with well-being, another explanation might be that religion becomes more important when well-being is threatened by adversity. In other words, those in the most difficult of situations may have turned to religion for material and emotional support that they would not have needed in better times, thus explaining the association of religion with lack of well-being.

R-squared Linear = 0.123



The final variable was influence of spirituality on the well-being of Latino elders. Figure 6 shows a positive trend line, accounting for 6% of the variability in Latinos' well-being, indicating that those who reported more spirituality also reported greater well-being, apparently conforming with one of the four hypotheses of this study that increased spirituality helps predict increased well-being.

R-squared Linear = 0.06

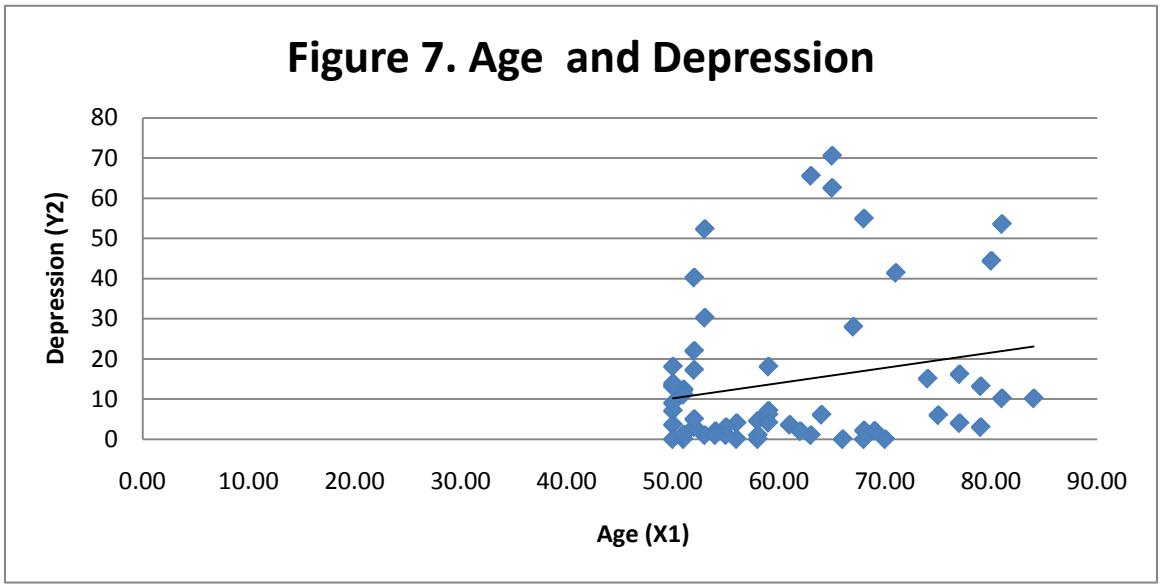


Thus, the scatterplots revealed that there was a linear relationship with each of the predictor variables and well-being, and that no transformation of the variables was necessary. Although the significance of the relationships was not clear, it was determined that linear regression would be an appropriate way to analyze the data.

Scatterplot Analyses: Depression

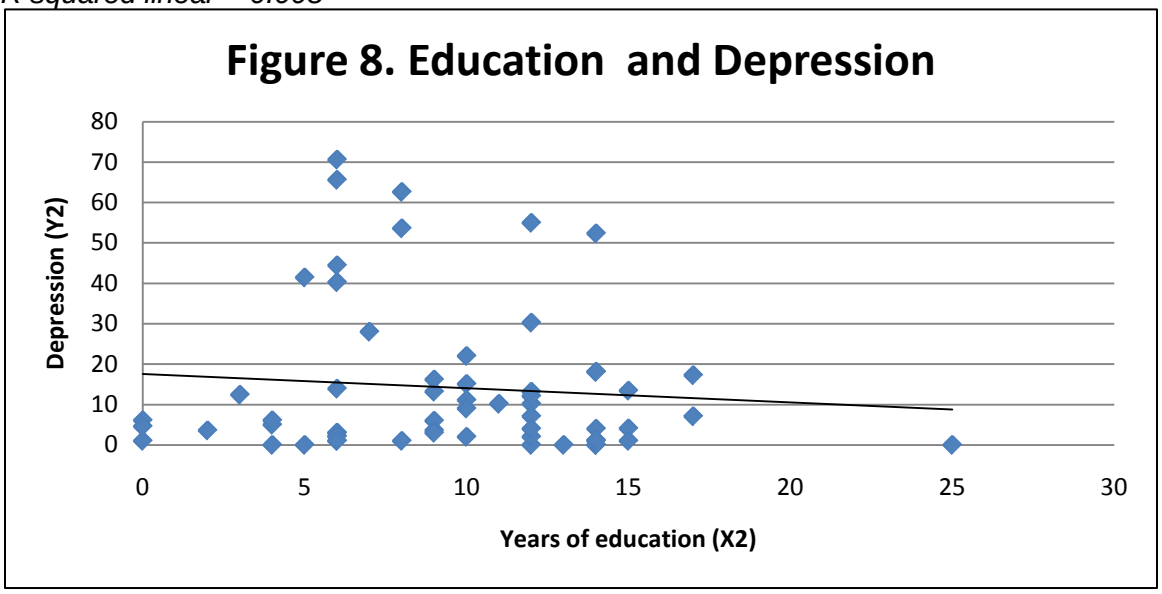
In the scatterplot of chronological age with depression in Figure 7, age positively correlated with depressive symptoms in Latinos, which is consistent with findings reported by Gutheil and Heyman (2006) and Mui, Choi and Monk (1998). In other words, depression increases with age. The R^2 indicated that age accounted for 4.4% of the variability in depression for Latino elders.

R squared linear = 0.044



The trend line in Figure 8 shows a weak negative linear relationship between education and depression, with an R^2 of .008. This indicated that as the participant's education increased, there was a decrease in depression.

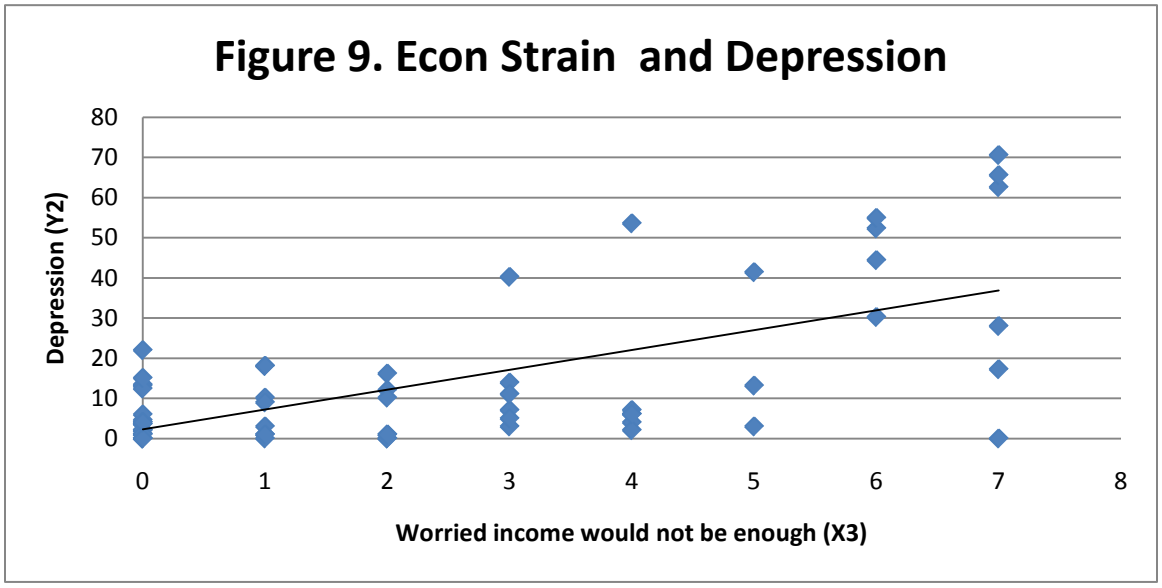
R squared linear = 0.008



Based on the scatterplots, the strongest association of any independent variable with the outcome variables was between economic strain and depression, accounting for 41.6%

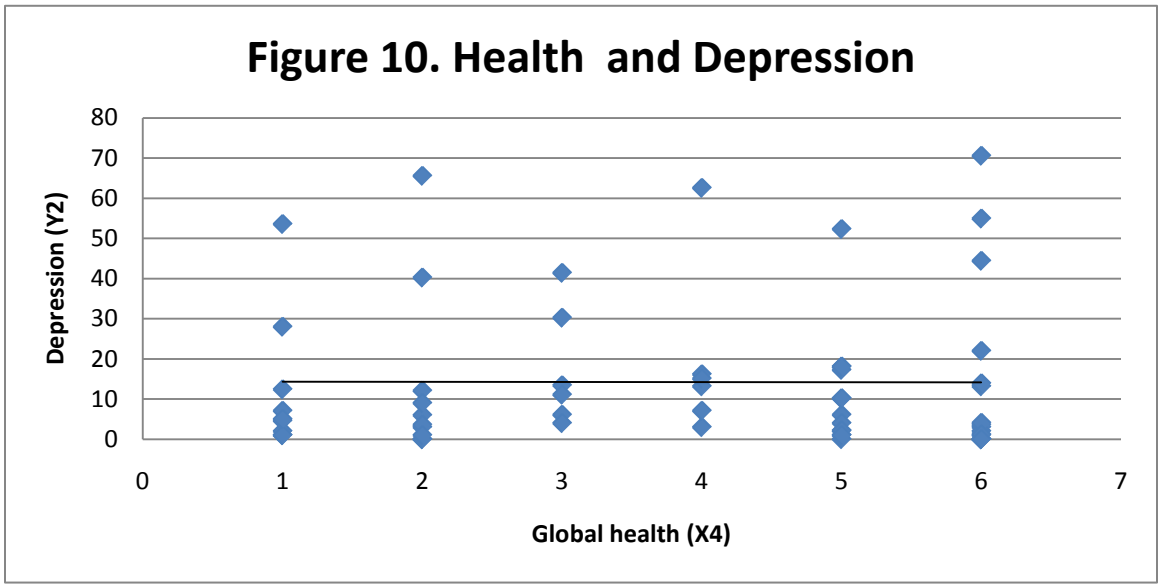
of the variance in that outcome. The more days in a week that a Latino elder worried if their income would be enough, the more substantially depressed they were.

R squared linear= 0.416



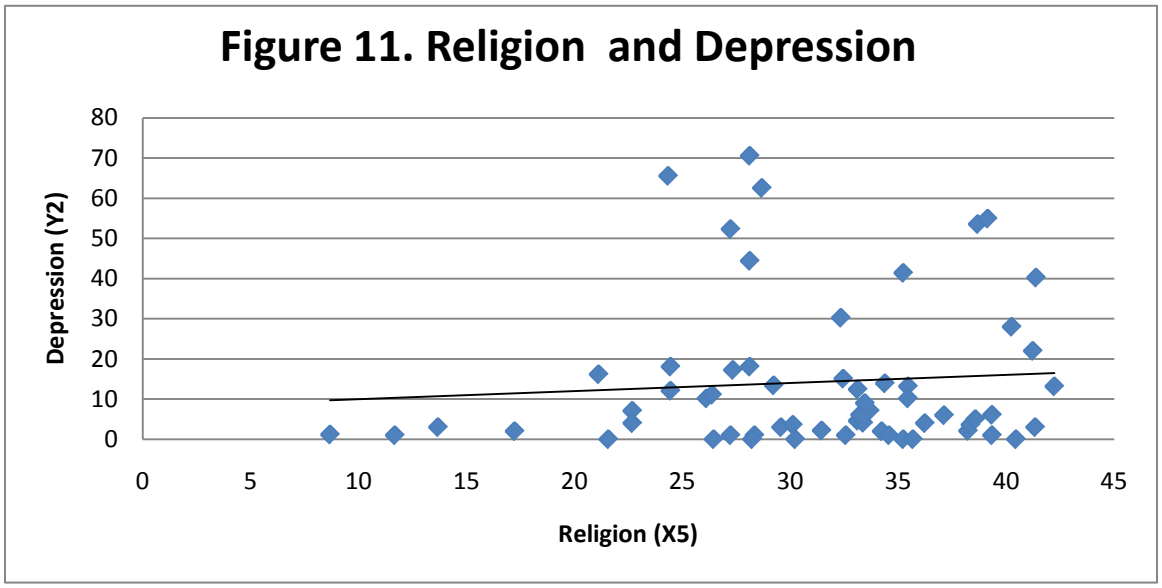
The weakest association between the predictor variables and the outcomes in this study was between health and depression. There appears to have been almost no relationship (122.5E-5 %) between self-perceived health and depression.

R squared linear =1.225E-5



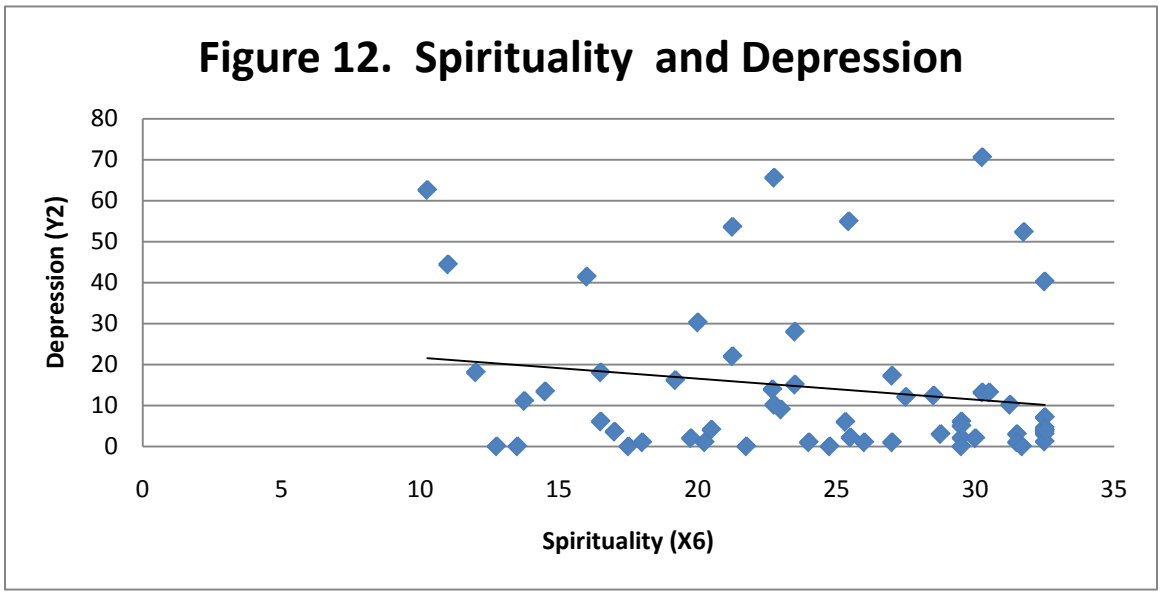
In the case of religion, Figure 11 shows shows a slight (0.6%) negative association between religion and depression, trending upward, such that the more religious Latino elder appears to be more depressed. As with religion and well-being, it may be that religion is an important resource for coping with adversity, rather than promotion of well-being (Keefe, Affleck, Lefebvre, Starr, Caldwell, and Tennen, 1997; Rippentrop, Altmaier, Chen, Found, and Keffala, 2005). On the other hand, researchers have found cases where a negative kind of religiosity (e.g self-righteousness, hypocrisy etc.) had sometimes been associated with adverse health symptoms including increased depression (Koenig, McCullough & Larson, 2001).

R squared linear = 0.006



The trend line in Figure 12 shows that depression decreases as spirituality increases, although the association is weak, accounting for only 3.4% of the variance. Again, all of the scatterplots for depression as the outcome variable were evaluated and it appeared that linear regression would be the most appropriate way to proceed. In summary, each independent variable appeared to have a linear relationship with the two outcome variables, well-being and depression.

R squared linear = 0.034



Correlations among the Variables

The next step was to run correlations among the variables to check for multicollinearity. Bivariate correlational analyses were run between the independent variables and well-being (Table 3), and then between the independent variables and depression (Table 4). In the analysis reported in Table 3, the only significant predictor of well being was religion, with a Pearson correlation coefficient of -.351, p=.006. In other words, as well-being decreased, religiosity increased, underscoring the association found earlier between religiosity and lack of well-being. The only other predictor variable that approached significance was spirituality, with a Pearson correlation coefficient of .244, *p*=.060. Each of the remaining predictors (age, education, health and economic strain) was not significantly correlated with well-being.

In contrast, the bivariate correlations between religion and spirituality and depression were not significant, indicating that they have no influence on the depression of older Latinos (Table 4). The only significant predictor of depression for this sample was economic strain, with a moderately strong correlation coefficient of .645, *p* <.000.

The direction of the relationship indicates that increases in economic strain are associated with increases in depression. The bivariate correlations also revealed that health, education and religion (but not spirituality) are significantly correlated and shared variance.

Table 3. *Correlations of the Independent Variables with Well-Being*

	1	2	3	4	5	6	7
1. Well-being	1.00						
2. Age	.069	1.00					
3. Econ Strain	-.179	.112	1.00				
4. Health	.049	.097	.043	1.00			
5. Education	.126	-.098	-.123	**.396***	1.00		
6. Religion	**-.351***	.212	.031	**-.375***	**-.345***	1.00	
7. Spirituality	.244	-.083	-.094	-.161	-.027	.112	1.00

* p<.01; **p<.001; *** p<.000

The problem seemed to be that some variables shared variance with other variables. Thus, in order to remove the possible effects of multicollinearity, several regression models were run, removing health, then education, and then health and education, to see which model produced the best fit for each of the two outcome variables.

Table 4. *Correlations of the Independent Variables with Depression*

	1	2	3	4	5	6	7
1. Depression	1.00						
2. Age	.209	1.00					
3. Econ Strain	**.645 ****	.112	1.00				
4. Health	-.003	.097	.043	1.00			
5. Education	-.092	-.098	-.123	**.396 ****	1.00		
6. Religion	.080	.212	.031	**-.375 ****	**-.345 ****	1.00	
7. Spirituality	-.184	-.083	-.094	-.161	-.027	.112	1.00

* p<.01; **p<.001; *** p<.000

Hypothesis Testing

The original plan was to use hierarchial (block) regression to examine the effects of the spirituality variables (religion and spirituality, block 2) on older Latino well-being and depression, after controlling for the participant's age, education, overall health, and economic strain (block 1). The first analysis (see Table 4) was used to predict well-being and the second (see Table 5) was used to predict depression. After testing for multicollinearity, the model for well-being was revised to include age and economic strain in block 1 and religion and spirituality in block 2. The original model for depression was retained.

Well-being. In Table 5, the R^2 (.263) indicates that 26% of the variance in overall well-being is accounted for by the combination of the 4 predictor variables. However, the Adjusted R^2 (.209) cuts the variance accounted for down to 21% by taking into

consideration the small number of observations and the relatively large number of predictor variables.

The F-statistic is an indicator of how well the model fits. The model without block 2 (religiosity and spirituality) was not significant (not a good fit). However, a significance level of .002 was reached when block 2 was added, producing a model with a good fit, and less than a 5% probability of a Type I error or a 5% false positive rate. This is a good, tight model. The standardized coefficient for religion (-.422, *p*=.001) versus spirituality (.293, *p* = .016), indicates that religiosity was a stronger predictor of well-being (explaining 42% of the variance in well-being) than spirituality (which only explained 29% of the variance in well-being).

Depression. The R^2 (.474) listed in Table 6 indicates that 47% of the variance in older Latinos' depression was accounted for by the six predictor variables in the analysis. The adjusted R (.411) reduces the variance accounted for to 41%, which is still a substantial amount of variance in depression that is accounted for by the variables. However, in this analysis, block 1 (age, education, health and economic strain) was highly significant (*p*=.000) and a good fit, but only one of standardized coefficient for the predictor variables, economic strain (.644, *p*=.000*)*, was significant. The model with block 2 (religiosity and spirituality) was still significant (*p*=.000), but these two variables did not add substantially to explained variance. R^2 only increased from .456 to .474 with the addition of block 2.

Results of hypothesis testing. Four research hypotheses were tested using the above analyses. Based on the findings reported above, Hypothesis 1 was supported, Hypothesis 2 was partially supported, and Hypotheses 3 and 4 were not supported.

Hypothesis 1: *There is a significant positive relationship between Latino elder's spirituality and their well-being, over and above age, health, education and economic*

strain. Hypothesis 1 was supported. The standardized beta coefficient for the contribution of spirituality to the well-being of older Latinos was both significant and positive, after controlling for age, health, education and economic strain (Table 5).

Hypothesis 2: *There is a significant positive relationship between Latino elder's religiosity and their well-being, over and above age, health, education and economic strain.* Hypothesis 2 was partially supported. The standardized beta coefficient indicates that religiosity did make a significant contribution to older Latino's well-being, after controlling for age, health, education and economic strain, but the relationship was negative rather than positive. In other words, as religiosity increased, well-being decreased. As noted earlier, it appears that religiosity becomes more important as older Latinos find themselves struggling with feelings of well-being. In contrast, spirituality (29%) is a weaker predictor of well-being in older Latinos than religiosity (42%), but it is positively associated with higher levels of well-being (Table 5).

TABLE 5. *Predictors of Well-Being of Latino Older Adults: Standardized Regression Coefficients, Adjusted R^2, and Significance of Change in R^2*

Predictors of Well-Being	***Step 1***	***Step 2***
Age	.091	.201
Economic Strain	-.189	-.161
Religion		-.422***
Spirituality		.293*
Multiple R^2	.040	.263
Adjusted R^2	-.006	.209
F value of change in R^2	1.193	4.896**

* $p<.05$; ** $p<.01$; *** $p<.001$; **** $p<.000$

Hypothesis 3: *There is a significant negative relationship between Latino elder's spirituality and their symptoms of depression, over and above age, health, education and economic strain.* Hypothesis 3 was not supported. The standardized beta coefficient for the contribution of spirituality to lowering the depression of older Latinos was not significant, Therefore spirituality did not contribute anything additional to the amount of variance explained by the variables in block 1 (Table 6).

Hypothesis 4: *There is a significant negative relationship between Latino elder's religiosity and their symptoms of depression, over and above age, health, education and economic strain.* Hypothesis 4 was not supported. The standardized beta coefficient for the contribution of religiosity to lowering the depression of older Latinos was not significant. Therefore, religiosity did not contribute anything additional to the amount of variance explained by the variables in block 1.

TABLE 6. *Predictors of Depression of Latino Older Adults: Standardized Regression Coefficients, Adjusted R^2, and Significance of Change in R^2*

Predictors of Depression	***Step 1***	***Step 2***
Age	.170	.154
Education	.042	.053
Health	-.097	-.115
Economic Strain	.644****	.639****
Religion		.028
Spirituality		-.135
Multiple R^2	.456	.474
Adjusted R^2	.414	.411
F value of change in R^2	10.898****	7.500****

* $p<.05$; ** $p<.01$; *** $p<.001$; **** $p<.000$

Summary of Findings

Religion and spirituality both predicted well-being, but they operated differently. Religiosity was the stronger of the two variables, and its contribution was not in the direction expected. Higher levels of religiosity were associated with lower levels of well-being. The influence of the other predictors (age, education, health, and economic strain) was very small and non-significant.

In contrast to what was expected, religiosity and spirituality did not serve as a buffer against depression. Furthermore, levels of depression were not associated with the age, education or overall health of older Latinos. Virtually all of the variance in the depression of the older Latinos in this study (41%) was accounted for by economic strain. Two of the research hypotheses were supported, or partially supported in the study; two were not supported by the findings.

Chapter 5

DISCUSSION

This chapter is divided into five sections: summary of the study, discussion of the findings, limitations, implications and recommendations for further research. The first section, summary of the study, reviews the statement of the problem, procedures used in conducting the research, and the research hypothesis tested. The second section, the discussion, highlights the major findings and possible interpretations of the study. The third section notes the study's limitations. The fourth section discusses the implications of the findings for professionals and the fifth section concludes with recommendations for future research.

Summary of the Study

I first became interested in the topic of this thesis between 2007 and 2009, during the last two years of my then 94 year old father's life, while he lived in my house and my wife and I were his primary caregivers. Two different hospice organizations assisted us through home visitations, the first one during the first year, and the second one during the final months of my father's life. Without my realizing it at the time, the first hospice organization followed the three-legged biopsychosocial (BPS) model of caregiving, with a strong emphasis on medications (the 'bio'-leg), but they also offered counseling (the 'psycho'-leg) and visits by helpers and volunteers (the 'social' leg). Ultimately, the results were unsatisfying and even agitating to my father, leading to increased medications and more doctor visits. For my father's second and final year, we found a second hospice organization, with professionals and volunteer staff that had an unmistakably different air about them. Somehow their approach soothed my father's

agitation and markedly improved his daily quality of life, while substantially decreasing his medications and doctor or hospital visits.

For the longest time, the staff and volunteers with the second hospice seemed uncertain or hesitant to discuss spirituality issues with our family. However, once they came to recognize our earnest desire to know how and why things were improving so that we could participate in the process, they revealed what I finally came to understand was the fourth or 'spiritual' leg of their model of caregiving that so clearly distinguished them from the first hospice organization. I later learned that the second hospice was grounded in the biopsychosocial-spiritual (BPSS) model of end of life care (Sulmasy, 2002). I realize now that this different approach to health care – the BPSS model - substantially contributed to not only the successful aging of my father in his last year of life – for he still had and they respected and encouraged his one last year of adult development (from age 95 to age 96) - but also to his successful dying as well. The experience with my father was so clear that I felt compelled, as a legacy to his life and death, to pass forward my experience for the benefit of others, while pursuing understanding of how and why these additional spiritual factors of successful aging and successful dying made such a clear difference in his quality of life.

Fortunately, I was able to find and use secondary data to answer my questions from a research project funded by the Sanford Center for Aging entitled: "*Psychosocial Factors Contributing to the Health and Successful Aging of Latino Elders.*" The purpose of the larger research project was to evaluate the types of aging issues that concerned older Latinos and how they coped with the aging process. The purpose of my study was to isolate the influence of spirituality or religiosity on the well-being of the elderly over

and above commonly accepted biopsychosocial factors such as age, health, education and economic strain.

Recruiting the sample for this data set was difficult. At the time, a series of high-profile ICE (U.S. Immigration & Customs Enforcement) raids in California, Arizona and Nevada were gaining national attention. In order to overcome fears of repercussions and lack of trust of outsiders and institutions, including universities, participants for the Latino Aging Gracefully Study had to be recruited from the home communities of the Latina research assistants, using snowball sampling techniques. The research assistants asked family and acquaintances in their communities (Battle Mountain, NV, Los Angeles, CA and Tucson, AZ) to distribute a flyer describing the study and offering a $35 gift card for participation. The data were collected in the preferred language of the participant (English or Spanish), using face-to-face interviews and/or a self-report questionnaire. Interviews lasted an average of 1.5 hours, usually in the participant's own home.

The sample used for the present study consisted of 60 older Latinos (38 women and 22 men), ages 50 to 84. Variables of interest were the effects of religiosity and spirituality on the well-being or the depression of the Latino elders, after controlling for their age, education, health or the economic strain they experienced. Hierarchical multiple regression analyses employing four research hypotheses were used to evaluate the influence of religiosity and spirituality on the Latino elders' well-being and depression. One of the hypotheses was supported: spirituality was confirmed to have had a significant and positive effect on the well-being of these Latino elders, just as it appeared to have had in the idiosyncratic case of my father. A second hypothesis was partially supported: religiosity had a significant effect on well-being, but the effect was

not in the direction predicted. The two remaining hypotheses were not supported. Religiosity and spirituality had no significant effect on the levels of depression in these older Latinos.

Discussion

The most surprising finding was not that spirituality had an effect on the well-being of the Latino elders, but that religion's effect was stronger and in an opposite direction. Furthermore, there was no correlation between religion and spirituality. In other words, religion and spirituality were separate constructs, measuring entirely different things. Both predicted well-being. However, increases in well-being were associated with lower levels of religiosity and higher levels of spirituality.

Given the reliance of older Latinos on the church for assistance with material and social needs, higher levels of religious involvement may have reflected their greater reliance on faith-based organizations when they were struggling. On the other hand, it also makes sense that having a sense of purpose and making meaning out of the challenges they were facing would contribute to their feelings of well-being. In other words, when older Latino's found a sense of meaning and purpose in what was happening to them, it allowed them to transcend their difficulties and report a greater sense of psychological well-being in spite of any external difficulties.

These speculations are supported in the literature. Researchers have reported that both religion and spirituality can be a way of dealing with emotional and physical pain (Keefe, Affleck, Lefebvre, Starr, Caldwell, & Tennen, 1997; Rippentrop, Altmaier, Chen, Found, and Keffala, 2005). Latino elders reported higher levels of religiosity (but not spirituality), when they perceived themselves to be in poorer physical health than

others their age ((Gonzalez, Hilton & Valencia-Castro, 2009). It appears that religion helps older adults cope with infirmity.

However, in their study of religion and health in Mexican-origin Americans, Levin and Markides (1985) found a significantly higher prevalence of hypertension among the very religious in the older generation, consistent with Kaplan's proposition that religious behavior may also be a risk factor for stress related illnesses (such as hypertension) owing to the tendency of certain religious traditions (for example, Calvinism) to generate "high levels of anxiety." (Kaplan, 1978). Levin and Markides also questioned whether a highly cohesive social structure (such as the religious institution) which promotes conformity to behavioral standards, may put one at risk for emotional problems stemming from guilt (such as depression), but noted that their results did not establish causality and suggested further study with more appropriate data. This Latino Elder study found no correlation between religiosity and depression. Spirituality, on the other hand, may give meaning and purpose to suffering, empowering the individual not just to cope, but to actually transcend their suffering , which Tornstam (2005) calls gerotranscendence.

Krause in his chapter on multidisciplinary theories of meaning in life in the *Handbook of Theories of Aging* (Bengston, Silverstein, Putney & Gans, 2009) notes that meaning in life is a complex, multidimensional construct comprising four factors: (a) having a clear set of values (b) a sense of purpose (c) goals for which to strive and (d) the ability to reconcile things that have happened in the past. Once a sense of meaning has been negotiated and is firmly in place, findings from research in biology and physiology help explain how spirituality affects health in later life. Scholars such as Frankl, Jung, Berger, and Maslow have argued that the ability to derive a sense of

meaning in life represents the high-water mark of human development. . “To live well means to live a life that has meaning” is the way this same idea is expressed in the 2010 autobiography of a 90 year old international spiritual and religious leader (Moon, 2009). “Discovering what matters: Balancing money, medicine and meaning” is the way this same idea is expressed by one health and life insurance corporate giant in their redefinition of what “the good life” means in the 21st century (Met Life, 2009)

So, although the search for a meaningful life has been the concern of philosophy and religion since humankind’s earliest recorded history, Krause points out that this not is merely an academic curiosity: research on meaning in life is important because it speaks directly to key issues that face the aging population. A growing number of studies suggest that people who have found a sense of meaning in life tend to enjoy better physical health, experience fewer symptoms of depression, tend to be happier and report higher levels of satisfaction with their lives (Bengston, Silverstein, Putney & Gans, 2009).

In one study, researchers evaluated the effectiveness of a psychosocial treatment teaching participants how to extract meaning and a sense of purpose by using their experience to help others on the survival of patients with metastatic breast cancer. The 1 year intervention consisted of weekly supportive group therapy with self-hypnosis for pain. Both the treatment (n = 50) and control groups (n = 36) had routine oncological care. At 10 year follow-up, only 3 of the patients were alive, and death records were obtained for the other 83. Survival from time of randomization and onset of intervention was double with a mean of 36.6 months in the intervention group compared with 18.9 months in the control group (Spiegel, Bloom, Kraemer & Gottheil, 1989). A similar finding occurred in a randomized clinical trial over an 11 year period for 227 breast cancer patients, in which the proportion surviving of the group receiving the psychological

intervention was substantially higher than the control group (Anderson,Yang, Farrar, Golden-Kreutz, Emery,Thornton,Young & Carson III 2008).

Thus, based on the literature and the findings in this study, it appears that Latinos turn to religion to cope with measurable external difficulties in terms of poor health, economic strain, advanced age, or lack of education. But they also continue their adult growth from that religious base to achieve Frankl, Jung, Berger, and Maslow's "high-water mark of adult development," deriving an internal spiritual sense of meaning and purpose of life positively associated with their increased feelings of well-being.

The other major finding of this study was more straightforward. The single item measuring economic strain overshadowed all other variables, predicting nearly half of the variance in depression. In essence, the only variable of significance in explaining depression in Latino elders was economic strain.

Looking again to the literature, Hilton and Frye (2009) examined dimensions of successful aging from the perspective of family caregivers. They found that economic strain was mentioned as an important issue for both the caregivers and their elderly care recipients. Following that, in a cross-cultural comparison of successful aging, Hilton and colleagues (2010) found that financial matters were again mentioned by the older adults from different cultures, and in different qualitative studies, as an important component of successful aging.

On the other hand, a growing number of studies suggest that people, in general, who have found a sense of meaning in life tend to experience fewer symptoms of depression (Bengston, Silverstein, Putney & Gans, 2009). This study found that the depression of Latino elders was not related to their spirituality or religiosity. One explanation might be that previous studies are based on community samples, consisting

predominantly of Caucasian Americans. Almost half of the sample for this study had Mexican citizenship, with no social security benefits. Their economic strain may reflect both poverty and economic uncertainty not present in the Caucasian American samples.

What these findings and the literature seem to suggest is that two unrelated but parallel factors predict the psychological health of Latino elders: economic strain predicts depression, and spiritual health (religion and spirituality) predicts well-being. Neither of these factors (financial health; spiritual health) has been included as dimensions of health in traditional models of successful aging. One reason why they have not been included is that most of the research on successful aging has been quantitative, resulting in criticisms that has been leveled against researchers for creating their own definitions of successful aging and imposing these definitions on the elderly (Bowling, 2007; Bowling & Iliffe, 2006). In qualitative studies, older adults consistently mention financial security and spirituality when asked to explain what successful aging means to them.

Concerning religion, Moberg (1996; 2001) traced religion in gerontology as historically moving from tolerant disdain, to benign neglect, to enlightened respect. But clearly, something more than respect is called for based on the findings of this study: the aging imperative demands collaborations between health care and religious institutions. Perhaps the perspectives of gerotranscendent elders, all in their 90s, could help: Erik Erikson from his personal correspondence and post-humous publication (Erikson, 1995; Erikson & Erikson1998), 95 year old American poet laureate Stanley Kunitz from his poetry (Kunitz, 2001), and inter-religious leader 90-year old Rev. Dr. Moon from his autobiography (Moon,2009). Dr. Moon summarizes the shared views of the three elderly men: “Humanity, through religion has followed the path of searching for internal truth, and through science has followed the path of seeking external truth….Eventually,

the way of religion and the way of science should be integrated and their problems resolved in one united undertaking; the two aspects of truth, internal and external, should develop in full consonance" (Holy Spirit Association for the Unification of World Christianity, 2006)

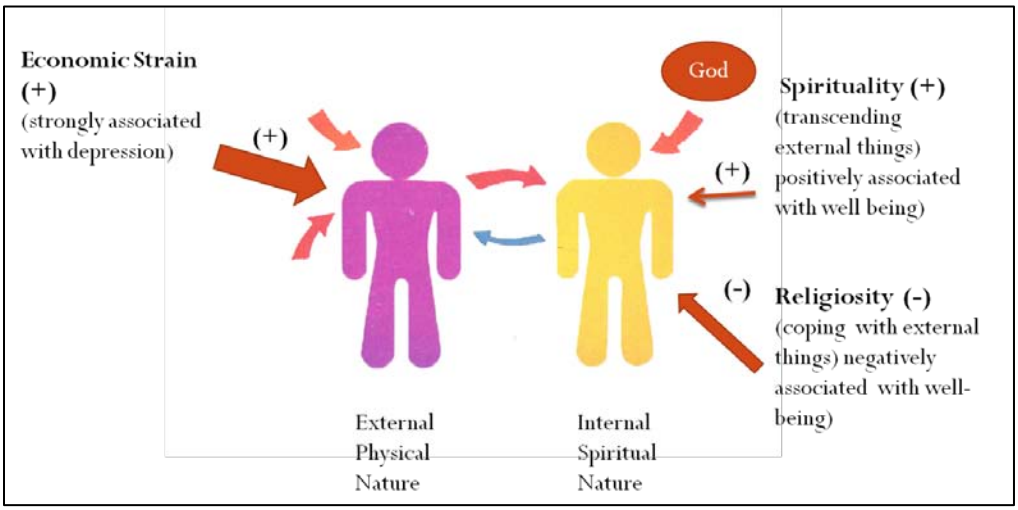


Figure 13. Graphic Representation of Key Findings

Limitations of the Study

This study provides an important first step in identifying the role of religiosity and spirituality in the successful aging of older Latinos. However, this is just a beginning, and there are several major issues that still need to be addressed. The findings of this study are not meant to be generalized to the larger population. Rather, they provide an initial step in helping to direct future studies on the topic.

The sample for this study was limited to 60 older Latinos, mainly of Mexican descent, who resided in one of three western states. Larger studies of older Latinos from other Latin American countries are still needed, so that within-group comparisons can be made. Non-random sampling was necessary because recruiting Latinos was not an easy

task, especially in communities where most of the Latinos are first generation residents. Latinos, in general, resist interacting with agencies and institutions, including universities. Immigration issues may play a part, especially for new immigrants, but low literacy is also a factor. Older adults, especially Latinos, have lower levels of literacy than the general population (Office of Minority Health, 2010).

It also should be noted that there may have been a sampling bias resulting in soliciting participants from the friends and associates of research assistants, and offering gift certificates as incentives for the interviews. The impact of the location from which participants were recruited was not examined in this study. Future research could examine the impact of sampling location on demographic and statistical results. The fact that relatively more independent Latinos were contacted and recruited, and non-coherent elders were excluded should be taken into account when interpreting these results, as it possibly distinguishes this sample from the majority of elderly Latino individuals in the United States, especially those home-bound elders, those in institutions or those who have experienced cognitive declines.

Nevertheless, this study provides an important first step in providing evidence-based information about the characteristics of successful aging in the older Latino community. The findings of the study can be used to encourage further research on the topic, and they provide some direction for the development of more culturally sensitive models and measures.

Implications

The findings of this study provide some initial insights that can help professionals and community leaders as they struggle to meet the needs of the growing numbers of

older Latinos. Several ideas for implementing the findings are presented in the context of the different settings where older Latinos are likely to be served.

Faith-based communities. Faith-based communities can use this information to learn about successful aging and its distinct spiritual, religious and financial components. Pastoral counseling, informed by this, can help people with purpose and meaning, which will promote well-being (spiritual component), or when people are struggling, help people with coping to promote well-being (religious component), or if people are experiencing severe economic strain to watch for and protect them from depression (financial component), especially their Latino elders, who when compared with other members of their congregation are more at risk for depressive symptoms (Gutheil & Heyman, 2006; Mui, Choi & Monk, 1998).

Faith-based organizations are trusted and may be the first line of support for Latino elders. Therefore, partnerships need to be developed between these organizations and other, less-trusted service providers, including health care or university institutions, remembering that when compared with their African American and Caucasian Americans counterparts, Latino elders were the most severely impaired, both functionally and cognitively (Gutheil & Heyman, 2006; Mui, Choi & Monk, 1998). Churches are natural gathering places for Latinos, and services and programming can be brought to them, requiring no extra effort on the part of the older adults. The setting is both comfortable and convenient for Latinos, who may have trust or transportation issues. Pastors with Latino members in their congregation should remember promising new multidisciplinary models of health promotion incorporating spirituality into successful aging interventions are ideally suited for Latino Americans (White et al.., 2006; Parker et al.., 2002) and that eventually, the way of religion and the way of science should be integrated and their problems resolved in one united undertaking (HSA-UWC, 2006).

Therapists and Counselors. Physical, occupational and speech therapists (as with M.D.'s) are often on the front line with direct contact with older adults. But all counselors, including family therapists and even marriage counselors, should know how to take a spiritual history. The present study underscores the importance of religion and spirituality for the well-being of the older adults they treat, especially Latino older adults. It is encouraging that 70% of medical schools now teach courses on spirituality and health and that taking a spiritual history is a main learning objective outlined by the Association of American Medical Colleges (AAMC,1999). Therapists and counselors need information and understanding about how the separate components of religiosity and spirituality can be used as a resource in their treatment, and know about collaborations between faith-based communities and therapists. Also, understanding the strong link between economic strain and depression provides therapists with an additional avenue to explore when treating their clients. Older Latinos may need more family support or referrals to community services, instead of, or in addition to, antidepressants.

Researchers: Need to expand their models, definitions and measures of successful aging to include economic strain, and separate constructs of spirituality and religiosity, especially suitable for special populations. Krause (2010) laments that there are not today the appropriate measuring instruments for Latinos, and is working on creating such.

Gerontologists. This study provides a new area of inquiry for gerontologists who have not considered the importance of financial well-being, as well as the parallel acting but separate constructs of religiosity and spirituality as external and internal dimensions of successful aging. Partnering with a family economist in designing programs, research

and practice would provide much needed expertise for addressing the financial issues and needs of older adults, especially those from minority groups. Similarly, partnering with religious and spiritual community leaders as well as health industry leaders in designing intervention collaborations with the faith-based community could dramatically multiply their effectiveness in promoting successful aging behaviors.

Policy-makers. Policy makers need to be made aware of the short-term and long-term costs and benefits of programs that are developed to support minority and mainstream older adults. Innovative statewide organizations dedicated to improving the quality of life for older adults can be of great help, if they are provided with needed evidence from the latest studies in concise form, to guide their thinking. One such innovative statewide organization sponsored this study: the Sanford Center for Aging.

The State of Nevada has the highest suicide rate in the nation, *double* the national average among older adults (65+) and *triple* the national average among the oldest adults (85+). Although it is one of the smallest states in the nation in terms of population, in a recent month, seven older adults committed suicide in their homes. From this perspective, promoting the well-being of older adults in Nevada and effectively addressing their high rates of depression is not merely an academic curiosity, but an urgent State imperative. Using the power, prestige and organizing powers of the State to convene assemblies of religious and public health leaders to promote public awareness and volunteer outreach campaigns, promotions and interventions could be extremely cost effective, which would appeal to legislators struggling with the state's budget issues. This study could be summarized in a fact sheet and distributed to key legislators in the upcoming legislative session to help support this effort.

Researchers have found that providing a conference on successful aging for religious organizations (which included academic, medical, state, and religious presenters) was well received by participants (Parker, et al.., 2002). A five-year impact summary of a similar program in the rural state of South Dakota (which spread to nearby States), demonstrates the effectiveness of this approach. The program was delivered by more than 800 parish nurses and volunteer faith-based community leaders in more than 150 churches, representing 11 different denominations. The program was implemented in 60 cities, and reached an estimated 1600 community members who averaged 67 years of age, with 33% who were 75 years or older (White, et al.., 2006).

Health care professionals. As noted earlier, the role of religion and spirituality in health care is receiving increased attention, but some practitioners feel awkward and are reluctant to bring up the subject, despite the fact that 85% of patients noted that their trust in their physician increases if the physician addresses their spiritual concerns, and 95% of patients, for whom spirituality is important, want their doctor to be sensitive to their spiritual needs and to integrate it into their treatment (Ehman et al..,1999). The American College of Physicians, the American Medical Association, and the American Nursing College recognize that spiritual care is an important element of the ethical obligation of healthcare professionals (American Medical Association Council on Ethical and Judicial Affairs, 2001; American Nursing Association, 2000; Lo, Quill and Tulsky, 1999). Courses on spirituality have been added to residency programs, specifically in psychiatry, internal medicine, and family practice, requiring residents to learn how to complete a spiritual assessment (Puchalski, Larson & Lu, 2001).

The findings of the thesis study underscore the importance of the integration of spirituality into health care services. Further research may be needed to help

practitioners find effective ways to incorporate spirituality into their interactions with clients. Health care professionals need to be sensitive to what successful aging means in general, and for special populations as Latinos in particular. Spiritual and religious components are an important part of what it means to be human.

Older Latinos. Older Latinos will benefit from the findings of this study if Latinos or the findings help stimulate more research on the specific needs of this growing population, and if they lead to more culturally appropriate services. Older Latinos have unique challenges and special strengths that need to be understood.

Recommendations

Additional studies of successful aging in older adults from minority groups need to be conducted, especially with Latinos. As noted earlier, the challenges of collecting data from older Latinos are likely to make such studies relatively rare until researchers discover ways to overcome Latinos' distrust of institutions (including universities) and the literacy issues that make them embarrassed to interact with professionals. In spite of the assurances provided by IRB protocols, Latinos fear getting themselves or others in trouble with immigration officials.

The only recruitment strategy that worked in this study was to have Latina research assistants contact known associates in their own home communities where they were known and trusted. Also, communities with established Latino communities, such as Tucson, Arizona, were more trusting, because Latinos held positions of leadership and authority in the community (e.g., principles of schools, representatives to the legislature). Communities with new populations of Latinos and illegal immigrants have ICE raids that are threatening and tensions will be high. Strategies that did not

work included recruiting through churches, social service agencies, Latino community centers, or Latino community events. According to one older Latino who did not participate in the study, the Latina graduate assistants were not trusted because they were 1) associated with an institution, 2) not known in the community and 3) young.

The measures and models used to guide research on successful aging need to be evaluated for cultural relevance and revised accordingly. Focus groups could be used prior to a study to help develop and revise appropriate questions, and after the study to help interpret the findings. The measures of religiosity and spirituality used in this study were not developed for use with minority groups. Researchers need to pay particular attention to how religiosity and spirituality are experienced, and the meaning that they have, in the lives of the different cultural groups. For example, religion is considered to be central to the cultures of both African Americans and Latinos, yet the expression and experience of religion in the two groups is likely be quite different, at least in some ways. There are no measures of religiosity or models of successful aging that have been designed to capture these differences. Ryff's (1982) measure of psychological well-being has rarely been used with Latino populations, and may also need to be adapted for use with minority groups.

Economic strain was a strong predictor of depression in this study, as it has been an important predictor in numerous other studies assessing different research topics and outcomes. The original 13-item Family Economic Strain Scale (Hilton & Devall, 1997) from which the global economic strain item originated was normed and intended for use with single-parent and two-parent families. Many of the questions refer to the care of children, making the measure inappropriate for older adults. The advantage of having a multi-item measure of economic strain is that the individual items provide more detailed

information about how economic strain influences the outcome variable. If financial health is added to current models as a dimension of successful aging, a reliable and culturally sensitive measure of economic strain for older adults will need to be developed.

Hilton (Hilton, Gonzalez, Angel-Cole, Maitoza & Saleh, 2010) provides convincing data to support adding not only spiritual health to models of successful aging, but financial health as well. She proposes a model that includes physical, functional, psychological, social, spiritual and financial health as domains of successful aging (Hilton, Kopera-Frye and Krave, 2009). The findings of this study support her proposition.

Conclusion

Projected increases in both the older population and the Latino population by the year 2050 underscore the need for more research on the aging of minority groups, especially Latinos. Future research needs to include qualitative studies, especially in the area of theory building and instrument development, so that cultural differences and similarities can be evaluated. The need for culturally specific programming and interventions is going to skyrocket in the near future, as the population continues to age and becomes more diverse. Therefore, research and theory need to be developed now, in order to guide evidence-based programming for older minority groups. Practitioners are going to need time to develop and evaluate the effectiveness of educational, prevention and intervention programming before the need for such programming becomes critical.

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