AN EXPLORATORY ANALYSIS OF LEISURE ACTIVITIES AND EMOTIONAL HEALTH AMONG OLDER MEXICAN-AMERICANS

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DEDICATION

This work is dedicated to my son, Caden Snowden. Caden: You are my greatest blessing. I love you.

This work is also dedicated to my family and friends who have provided invaluable support and love. My Mother: Your love and strength encourages and amazes me. My Father: You are my very best teacher. My siblings: Thank you for your love and patience. My dear friends who have supported me and created such wonderful memories in the process: DJ, FC, IR, MH, NB, and NH. My mentor, Dr. Angelica Herrera: You inspire me and motivate me. Thank you for believing in me.

This thesis would not have been possible without all of you.
I can do all things through Christ, who strengthens me.

- Philippians 4:13
ABSTRACT OF THE THESIS

An Exploratory Analysis of Leisure Activities and Emotional Health among Older Mexican-Americans

by

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Aging and ethnic minority populations within the United States are growing significantly. By the year 2030 Mexican-Americans will be the largest ethnic minority group among those aged 65 and older. Within this population, women will outnumber men. With older Mexican-American women suffering from high rates of depression, it is imperative to study potential modifying factors on emotional health—such as leisure activities—that can be used to improve quality of life. The following study is a mixed methods, secondary analysis. The two data sets employed were the Women’s Health Initiative/Successful Aging (WHI/SA) study, and a qualitative study. The purpose of this study was to gain a better understanding of the potential relationship between leisure activities and emotional health among older Mexican-American women. In doing so, the leisure activity patterns and preferences of the women were identified.

The WHI/SA study included a matched sample of older Latina and Caucasian women and examined the frequency of participating in 16 common leisure activities and depressive symptom severity scores (assessed using the Center for Epidemiological Studies Depression Scale). The qualitative study provided data concerning the specific leisure activity preferences of a group of older Mexican-Americans and the perceived benefits from engaging in the activities. The WHI/SA study specifically addressed the following questions: (1) What leisure activities do older Latinas (mostly Mexican-Americans) engage in most frequently? (2) How does participation in these leisure activities differ from that of Caucasians? Similarly, the qualitative study offered an answer to the following question: What leisure activities do older Mexican-American women prefer? While the patterns and preferences for leisure activities vary in the literature, the hypothesis was that there was an association between leisure activities and positive emotional health (i.e. fewer depressive symptoms). Those with better emotional health will also report a better quality of life.

Results from the WHI/SA study showed that Latinas (M = 1.29, SD = 2.33) were more inclined to assume caregiving responsibilities than Caucasian women (M = 0.62, SD = 1.67; p ≤ .05) and more likely to visit family members (M = 3.68, SD = 3.69) than the sample of Caucasian women (M = 2.85, SD = 3.03). Compared to Caucasian women, who scored an average of 5.26 (SD = 5.67), Latinas reported significantly higher levels of depressive symptoms (M = 7.56, SD = 7.05; p ≤ .05). Overall, more frequent participation in organized social activities was associated with lower levels of depressive symptoms for both Latina (ρ = -.23, p ≤ 0.05) and Caucasian women (ρ = -.22, p ≤ 0.05). Once adjustments for physical functioning and other covariates were made (e.g. age, education, income, etc.), there was no significant correlation found between depressive symptoms and leisure activity participation.
As for the qualitative study, the female participants revealed some of the major components that effect quality of life and health related quality of life in older age. The major components were found to be participation in leisure activities (that gave way to social interactions), and emotional health. Social leisure activities were noted as those with the greatest influence on emotional health. Volunteering, caregiving, music, and dance were named some of the most important and preferred leisure activities among the women. Engaging in these activities was described as a buffer, or coping mechanism, for many negative feelings (i.e. loneliness, depression) that could negatively impact emotional health.

With older ethnic minority adults, it is important to add to the traditional way of studying aging, designing programs and, establishing treatment standards. Future studies and public health interventions among older Mexican-American women may consider culturally preferred leisure activities. Engaging in such leisure activities can potentially benefit their overall health and well-being.
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CHAPTER 1

BACKGROUND

The world’s population is growing older and more diverse. There has been
tremendous growth of older adults, age 65 and older, in the United States alone. Currently, in
the United States, 37.9 million Americans are 65 and over, with women outnumbering men
by nearly 4 million (Administration on Aging [AoA], 2009a, 2009b). Future growth of older
Americans, aged 65 and older, is projected to be approximately 72.1 million in the year 2030
(AoA, 2009a, 2009b). By the year 2050, it is estimated that older adults will comprise 20%
(88.5 million) of the total population (U.S. Census Bureau, 2008a).

Ethnic minorities will account for 54% of the total population in 2050 (U.S. Census
Bureau, 2008a). Of these, Hispanics will be the largest group in the U.S. by the year 2030.
Mexican-Americans, Puerto Ricans, Cubans, Salvadorians, and Dominicans are the largest
subgroups of Hispanics. Accounting for 64% of the Hispanic-origin people, Mexican-
Americans already comprise the largest subgroup (AoA, 2010; U.S. Census Bureau, 2008a).

Moreover, Mexican-Americans will also become the largest ethnic minority group
among those aged 65 and older by 2030 (Angel & Angel, 2009). It is increasingly important
for researchers to gain a better perspective on the health and aging process of older Mexican-
Americans, a population at greater risk for negative health outcomes (Angel, Angel, & Hill,
2008; Bassford, 1995; Gonzalez et al., 2009).

Research in aging has attempted to move beyond the limited view of chronological
age and losses, to explore elements that can positively enhance the lives of older adults
(Rowe & Kahn, 1998). This research shift is likely the result of older adults living longer and
more active lives (Rowe & Kahn, 1998). Public health efforts are not solely focused on
longer life spans, but also on quality of life during aging (Drewnowski & Evans, 2001). For
example, the Healthy People, 2000 report looked at increasing the life expectancy, whereas
the Healthy People, 2010 report added a focus on quality of life (QOL) and overall wellbeing
(Drewnowski & Evans, 2001; U.S. Department of Health and Human Services, 2000). QOL
is also represented by qualifiers such as active, healthy, or ‘successful’ aging. QOL is a very
broad term that is used to describe the well-being of a person (i.e. physical, mental, and emotional health). QOL considers many different contexts, such as social environmental, economic, and health (Mooney, 2006). In older age, QOL is often used interchangeably with the term health-related quality of life (HRQOL). HRQOL is a more specific term than QOL that generally comprises mental and physical health domains (Mooney, 2006). Just as QOL, HRQOL has both objective and subjective measures of health (Masel, Graham, Reistetter, Markides, & Ottenbacher, 2009; Rejeski & Mihalko, 2001; Rowe & Kahn, 1987). One way to study the QOL/HRQOL of older adults is by examining the elements that positively enhance life during aging. These elements may be diet, physical activity, and/or social interactions. Examining such elements may help to establish medical treatment standards and practices for older adults (Mooney, 2006).

Emotional health is one dimension of HRQOL that is important to explore in a population with disproportionate rates of depressive disorders (Aranda, Lee, & Wilson, 2001; Raji, Reyes-Ortiz, Kuo, Markides, & Ottenbacher, 2007). Emotional health and mental health are generally cited together in the literature due to research showing a correlation between the two (Black, Markides, & Miller, 1998; Raji, Ostir, Markides, & Goodwin, 2002; Raji et al., 2007). Depression is a common chronic condition that can greatly impact emotional health. Depression is often debilitating and characterized by changes in mood, self-attitude, physical well-being, and cognitive functioning (American Psychiatric Association, 2000). The severity, frequency, and duration of symptoms that characterize depression vary among individuals (National Institute of Neurological Disorders, National Institute of Mental Health, & National Institute of Aging [NIND, NIMH, & NIA], 2001). There are several forms of depression. Major depressive disorder and dysthymic disorder are the two most common forms of depression. Reducing the risk of depressive disorders and promoting overall mental health are often the targets in interventions for older adults (Blazer, 2002). Such interventions are important for populations such as older Mexican-American women who suffer from significantly higher rates of depression and other chronic disease, compared to non-Hispanic women (Aranda et al., 2001; Espino, Moreno, & Talamantes, 1993; González, Haan, & Hinton, 2001; Mier et al., 2008; Pratt & Brody, 2008; Raji et al., 2007; Stern et al., 1981). According to the CDC (2009c), approximately 7 million Americans age 65 and older suffer from some form of depression. National, community, and primary care studies have
produced various rates for depression among older Hispanics (Lewis-Fernandez, Das, Alfonso, Weissman, & Olfson, 2005). One of the larger studies, The Hispanic Health and Nutrition Examination Survey (Hispanic HANES), conducted between 1982 and 1984, estimated a 1-year prevalence of major depression in Mexican-Americans, ages 20 to 74, at 2.8% (Oquendo et al., 2001).

Given the data on depression among older Mexican-Americans, public health efforts should consider modifiable strategies to improve their emotional health, reduce the risk of depression, and improve overall quality of life. In order to create programs that are appropriate for this population, however, one must consider culture. Culture can include the patterns of behaviors, beliefs, and other traits that are transmitted from one person to another (Jamison, 2010). Culture is thought to play a major role in the social networks and leisure activities one would engage in. In addition, recent literature has suggested that extended social networks and leisure activities may promote emotional health benefits in older adults (Garcia-Martin, Gomez-Jacinto & Martimportugues-Goyenechea, 2004; Karp et al., 2006; Kim & Pai, 2010; Ribas & Lam, 2010; Wang, Karp, Winblad, & Fratiglioni, 2002). Much of this research, however, is limited to Caucasians. With the remarkable growth of older Mexican-American women, in particular, this research would be beneficial to explore ways they can continue to enjoy life in later years with better health and a more positive quality of life.

**Present Study**

The main objective of this mixed methods secondary data analysis was to gain a better understanding of the potential relationship between leisure activities and emotional health among older Mexican-American women. In doing this, the leisure activity preferences and benefits of older Mexican-American women were explored. Although one of the data sets compared the preferences and benefits of leisure activities to a Caucasian sample, and the other data set included older Mexican-American men, the goals of this study remained the same. Collectively, the two studies examined leisure activity patterns and preferences in conjunction with potential emotional health benefits in older Mexican-American women. While one study provides objective quantifiable data, the other offers subjective data with a rich social context.
Two data sets were employed: The Women’s Health Initiative/Successful Aging (WHI/SA) Study and a qualitative study with older adults of Mexican origin. Synthesizing quantitative and qualitative research may be one way to explore the health, opinions, behaviors, and social contexts of older Mexican-Americans. The quantitative data from the WHI/SA study examined how patterns of participation in leisure activities among older Latinas differed from Caucasians, as well as if there was a relationship between leisure activity types and depressive symptom severity among these two groups of women. The qualitative study, with a majority of female participants, was conducted to not only verify the leisure activity preferences among older Mexican-American women, but also to better understand how this group perceived their health and the potential benefits of leisure activities to emotional health.

There were specific research questions answered by each of the studies. Collectively, the quantitative and qualitative studies examined the leisure activity preferences, as well as potential emotional health benefits, in a predominately older, female, Mexican-American sample. The WHI/SA study specifically addressed the following questions: (1) What leisure activities do older Latinas (mostly Mexican-Americans) engage in most frequently? (2) How does participation in these leisure activities differ from those of Caucasians? (3) What are the potential benefits of leisure activities to emotional health (specifically, depressive symptoms)?

Similarly, the qualitative study offered answers to the following questions: (1) What leisure activities do older Mexican-American women prefer? (2) What are the potential benefits of leisure activities to emotional health? While the patterns and preferences of leisure activities vary in the literature, the hypothesis was that there was an association between engaging in leisure activities and positive emotional health (i.e. fewer depressive symptoms). Those with better emotional health will report a better quality of life.

**DEFINITION OF TERMS**

*Activities of Daily Living (ADL).* ADLs are basic competency skills that are used to measure the health status, quality of life, and disability of older adults (Garber et al., 2010; Laplante, 2010; Spector & Fleishman, 1998). There are six basic ADLs: eating, bathing, dressing, toileting, transferring (walking), and continence.
**Instrumental Activities of Daily Living (IADL).** IADLs are a complementary index to the ADL index (Laplante, 2010). There are eight instrumental activities of daily living: using the telephone, grocery shopping, preparing meals, housekeeping, laundering, using transportation, taking medications, and managing finances (Lawton & Brody, 1969). IADLs are also used as measures of functional ability and rehabilitation (Demers, Desrosiers, Nikolova, Robichaud, & Bravo, 2010).

**Quality of Life (QOL).** In older age, QOL is often used interchangeably with the term health-related quality of life (HRQOL). For the purposes of this study, QOL will be used.

**Social Support.** Social support is a resource that takes on many forms that include emotional, instrumental, and financial support (Anderson, 2007; Berkman, 1984). Social support has been found to be a strong mediator in the well-being of older adults by buffering the effects of negative emotions, including depression and loneliness (Bisconti & Bergeman, 1999; Winningham & Pike, 2007).

**Leisure Activities.** The purpose, type, and category of leisure activities vary greatly. A few categories for leisure activities are: stimulating, passive, physical, and social (Akbaraly et al., 2009). Leisure activities can also include formal and irregular employment, caregiving, volunteering, and informal social assistance (Hinterlong, 2006).

**Mexican-Americans.** The term Mexican-American is generally used to describe a person of Mexican-origin who resides in the United States. Mexican-Americans are one of the subgroups of Hispanics or Latinos. The terms “Hispanic” and “Latino” are used interchangeably in the literature. This lack of clear distinction should be noted and as suggested in the literature, ethnic qualifiers (i.e. Mexican-Americans) are used when available (Aranda & Knight, 1997; Bassford, 1995).
CHAPTER 2

LITERATURE REVIEW

Older Mexican-Americans have distinct health profiles, which can be characterized as a conglomeration of physical disability, mental health (e.g. depression), quality of life, and social relationships. Engaging in leisure activities may afford direct and indirect benefits to older adults in all of these domains. The central focus of this study, however, is to explore the potential avenues through which leisure activities act upon on Mexican-Americans’ emotional health depressive burden and improve their overall quality-of-life on specific tenets depression and quality of life. Theories around successful aging and quality of life provide an ideal backdrop from which to understand the relevance of each to quality of life, how these constructs intersect, and present the rationale for studying specific gaps in the research literature for this rapidly growing older adult population of Mexican Americans.

QUALITY OF LIFE: ACTIVE, HEALTHY, & SUCCESSFUL

Quality of life in older age is often represented by qualifiers such as active, healthy, or successful aging. In general, HRQOL typically comprises domains such as psychological health (e.g., subjective well-being), physical health (e.g., self-rated health, disease-specific), and social relationships and networks (Fayers & Machin, 2007). HRQOL has both objective and subjective measures that help shift thinking from losses in the aging process toward the diversity and unique circumstances, and values of older persons and their health (Masel et al., 2009; Rejeski & Mihalko, 2001; Rowe & Kahn, 1987). For example, in older adults, QOL is often conceptualized and measured by social contacts, dependency, health, material circumstances, and social comparisons (Netuveli & Blane, 2008). Bayliss, Ellis, and Steiner (2005) illustrate this by examining the potential constructs underlying a self-report assessment of multimorbidity. These potential constructs include biopsychosocial characteristics such as perceived physical limitations, social support, and mood. The team conducted a cross sectional telephone survey with just over 350 members, aged 65 and older, of a not-for-profit health management organization (HMO). Participants were diagnosed with
diabetes, depression, and/or osteoporosis—at a minimum. Disease burden was assessed by rating each condition the participants listed on a five-point scale. A score of “1” indicated that the condition did “not at all” interfere with daily activities. A score of “5” indicated that the condition interfered “a lot” with daily activities. The total score from this assessment reflected the level of morbidity. Additionally, respondents answered a short depression screen and measure of health status. Both scales were previously validated. Bayliss et al. (2005) concluded that while self-reported disease burden may present some recall bias, it does have an advantage in that it incorporates biopsychosocial constructs (e.g. self-esteem, perceived social support, etc.) that capture measures of morbidity other administrative data-based measures do not. It was also confirmed that self-reports of morbidity are strong predictors and greatly associated with quality of life outcomes (Bayliss et al., 2005; Byles, D’Este, Parkinson, O’Connell, & Treloar, 2005; Selim et al., 2004).

As previously mentioned, “successful aging” is another frequently used term in quality of life research (Netuveli & Blane, 2008; Rowe & Kahn, 1987). Theories on QOL and successful aging tend to have overlapping constructs. Rowe and Kahn (1987, 1997) explain how successful aging adds to this traditional way of studying aging by not only examining disability and disease, but also levels of cognitive and physical functioning, as well as social engagement (Depp, Vahia, & Jeste, 2010). Subsequent aging research has also proposed that modifying effects (or extrinsic variables), such as physical activity, leisure activity, and psychosocial factors should be incorporated into the study of successful aging; thus, providing a multi-dimensional view (Bortz, 2002; Carr, Gibson, & Robinson, 2001).

The constructs, measures, and predictors of quality of life or successful aging are generally highly individualistic, yet often lack a cultural context. It is important to consider the cultural context of such constructs, measures, and predictors (Angel, 2009; Depp, Glatt, & Jeste, 2007; Depp & Jeste, 2006; Kaufman, 1986; Netuveli & Blane, 2008; Young, Frick, & Phelan, 2009). Adding a cultural domain to such theories helps develop a working framework to study aging among ethnic minorities, such as Mexican-Americans. Mexican-Americans experience unique social and cultural influences (Markides & Black, 1996) that can greatly affect their overall health and quality of life. These influences include, but are not limited to, family networks and access to care. An interesting concept to consider when looking at cultural factors related to healthy aging is the “Hispanic Mortality Paradox”
(Gonzalez et al., 2009; Morales, Lara, Kington, Valdez, & Escarce, 2002). The Hispanic Mortality Paradox explains that despite increased risk of morbidity and mortality, Mexican-Americans have better health outcomes than non-Hispanic whites. Despite significant economic and social disadvantages, Mexican-born immigrants have better mental health profiles than U.S.-born Mexican-Americans (Escobar, Hoyos Nervi, & Gara, 2000; Markides & Eschbach, 2005).

Aside from the Hispanic Mortality Paradox, some studies show that foreign-born, less acculturated immigrants may engage in healthier behaviors, such as healthy eating (Ayala, Baquero, & Klinger, 2008; Bermudez, Falcon, Tucker, 2000; Gregory-Mercado et al., 2006; Marks, Garcia, & Solis, 1990). In contrast, a recent study of Mexican-American immigrant elderly found that their overall health improved with higher acculturation (Gonzalez et al., 2009). That is, those who were more acculturated had better self-rated health and fewer medical illnesses. Hence, acculturation is not always a straightforward, unidirectional predictor of HRQOL and is associated with positive and negative health effects (Bassford, 1995).

Although few qualitative studies have been conducted to examine successful aging, Von Faber et al. (2001) employed a mixed-method study to gain further insight of successful aging from the perspective of older adults. The qualitative portion of this study drew upon in-depth interviews from 27 participants. The study was conducted in the Netherlands and all participants were aged 85 and older. Data from the interviews reflected that most older persons viewed successful aging as an adaptation, rather than a state of being. In addition, participants revealed that while they recognized the physical and psychocognitive functioning aspects of aging, they valued well-being and social functioning far more (Von Faber et. al, 2001). Interestingly, the quantitative data from this study reflected that only 10% of (58/599) participants were classified as “successfully aging” based on optimal scores for physical, social, and psychocognitive functioning and on feelings of well-being using validated quantitative instruments. This study revealed the importance of examining aspects beyond those that can be measured, such as character, social contacts, and coping mechanisms to determine what defines the quality of life for an older adult.

Similarly, Strawbridge, Wallhagen, and Cohen (2002) studied a sample of 867 participants from the Alameda County Study, a larger longitudinal study (n = 6,928) of
health and functioning that took place in 1965. Researchers assessed two different definitions of successful aging in predicting well-being. The first definition was self-rating (qualitative). The second definition was Rowe and Kahn’s criteria of absence of disease/disability/risk factors, maintain physical and mental functioning, and active engagement with life (quantitative) (Depp & Jeste, 2006). Self-rating resulted in 50.3% of the sample rating themselves as successfully aging. In comparison, 18.8% of the sample was classified as successfully aging according to Rowe and Kahn’s criteria. Strawbridge et al. (2002) found that absence of chronic conditions and maintaining functioning were measures that contributed to this sharp contrast. Many participants with chronic conditions and functional difficulties rated themselves as successfully aging, although none of these participants could be classified as such according to the criteria of Rowe and Kahn. The results of this study stress the importance of conducting more in-depth qualitative research to better understand how older adults define successful aging and what they need and want to improve their quality of life as they age. Additional research urges the same by showing how some older adults rate themselves as aging successfully despite not meeting the research-defined criteria and most often due to physical disabilities (Depp, Vahia et al., 2010; Montross et al., 2006). The research reports that psychological constructs such as positive attitude and adaptation, emotional security and stability, health and wellness, and engagement/stimulation are most often the factors that older adults consider when subjectively rating their health and success in aging (Andrews, Clark, & Luszcz, 2002; Phelan, Anderson, Lacroix, & Larson, 2004; Reichstadt, Depp, Palinkas, Folsom, & Jeste, 2007).

Successful aging is also dependent on the social contexts in which the individual spends his/her life (Angel, Angel, & Hill, 2009). Social and economic factors have been suggested as strong determinants of health (Morales et al., 2002). It is important to recognize the economic and political contexts surrounding these individuals as well. In 2008, the poverty rate for older Hispanics was 19.3%, a figure twice that of older non-Hispanic adults (AoA, 2010). Likewise, access to preventive and acute care among older Hispanics is limited (Angel et al., 2009). In 2007, it was estimated that 7.5% of older Hispanic adults reported that they had no usual source of medical care (AoA, 2010). It is believed that Hispanics lack sufficient access to health care services due to financial, structural, and personal barriers to care (Morales et al., 2002). Examples of personal barriers to care include cultural and
linguistic factors. Medical providers who are unfamiliar with the Hispanic culture may have a more difficult time understanding the importance of family in making healthcare decisions (Gregory, 1978; Molina, Zambrana, & Aguirre-Molina, 1994). Additionally, poor patient-provider communication results from language barriers among Spanish-speaking patients and English-speaking providers (Morales, Cunningham, Brown, Liu, & Hays, 1999).

Finally, as previously touched upon, Mexican born adults facing greater acculturation stressors (due to legal status, language, or discrimination) are more likely to report being in poor or fair physical health and have greater depressive symptoms in the absence of social support (Finch, Kolody, & Vega, 2000; Finch & Vega, 2003). In fact, in 2008, non-institutionalized older Hispanics were less likely to rate their health as “excellent” or “very good” than were older Caucasians (AoA, 2010). With cultural challenges such as migration, acculturation, and discrimination, gerontological research among Mexican-Americans can be quite complicated. On the other hand, elements such as social engagement and leisure time activities can be protective and present new opportunities of study. That said; it is important to look at the possible modifying effects of emotional well-being that include cultural and social predictors within older Mexican-Americans.

**PHYSICAL HEALTH AND DISABILITY PROFILE**

This Hispanic ethnic group suffers disproportionately from various health conditions, such as increased risk for diabetes, obesity, and depression (Beard, Al Ghatrif, Samper-Ternent, Gerst, & Markides, 2009; Graham et al., 2007; Wu et al., 2003; Markides & Eschbach, 2005). Health problems can be amplified, comorbidities increased, and health related quality of life decreased in those individuals with chronic diseases (Angel et al., 2008; Graham et al., 2007; Markides & Eschbach, 2005; Ream & Richardson, 1996). Mortality rates are declining most among those aged 65 and over, while life expectancy is increasing most for those aged 75 and over (Crews & Zavotka, 2006; Harper & Crews, 2000). In the year 2000, the projected life expectancy at birth for Hispanic men was 75.9, while the life expectancy at birth for Hispanic women was 81.4 (Smith & Bradshaw, 2006). Still, epidemiological trends also indicate a greater number of older adults living with chronic disease, most with at least one chronic condition (Moussavi et al., 2007). In addition to one or more chronic diseases, nearly 40% of older adults reported some disability (AoA, 2009c).
Disabilities vary in severity and can include hearing, vision, self-care, and ambulation problems. There is a reported strong relationship between disability and reported health status (AoA, 2009c).

Older Hispanics have a higher incidence of certain chronic diseases—on average, two to three times more likely than Caucasians (Centers for Disease Control and Prevention [CDC], 2009a, 2009b). Diabetes, heart disease, and arthritis disproportionately affect Hispanic persons aged 65+. According to the results of the CDC National Health Interview Survey, 2008, among those aged 65 and older, 10.7% of Hispanics were diagnosed with diabetes, compared to 6.9% non-Hispanic Whites (AoA, 2010; CDC, 2008). Current estimates of diabetes among those in this category are 21% for Hispanics and 14.3% for non-Hispanic whites (AoA, 2009c). Additionally, older Hispanics are more likely to be hospitalized because of poor diabetes control (AoA, 2009c).

Black, Ray, & Markides (1999) stress that older Mexican-origin individuals also face a higher risk of suffering from additional health consequences due to diabetes. These consequences can include stroke, poor vision, foot problems, and increased risk for dementia and depression (Anderson, Freedland, Clouse, & Lustman, 2001; Craft, 2009; Luchsinger, Honig, Tang, & Devanand, 2008; Nathan, 1993; Zimmerman, Mast, Miles, & Markides, 2009). As a leading cause of disability in older adults, diabetes may also significantly impact activities of daily living and quality of life among older adults (Fried & Guralnik, 1997). There have been several longitudinal studies that show an association between diabetes and increased incidence of functional disability (De Grauw et al., 1999; Gregg et al., 2002; Wu et al., 2003). Two studies in particular found an increased risk of disability in activities of daily living (ADLs) and instrumental activities of daily living (IADLs) among older Mexican-origin adults with diabetes (Rodriguez-Saldana et al., 2002; Wu et al., 2003).

Using the data from the Hispanic Established Populations for Epidemiologic Studies of the Elderly (H-EPESE), Al Sinh et al. (2005) looked at the relationship between diabetes and incidence of lower body disability among older Mexican-Americans. This longitudinal study collected data over seven years from those 65 and older residing in Texas, New Mexico, Colorado, Arizona, and California. Self-reported physician diagnoses of diabetes, stroke, heart attack, hip fracture, arthritis, or cancer were measured. Disability was measured by limitations in activities of daily living, mobility tasks, and an 8 foot walk test. Depressive
symptoms were measured with the Center for Epidemiologic Studies Depression scale (CES-D). At the seven year follow-up, 48.7% of diabetic participants, who reported no disabilities at baseline, had developed limitation in one or more measures of lower body function. It was concluded that older Mexican-Americans who are diagnosed with diabetes are at a higher risk for developing lower body disability over time.

An increase in disability may also mean that additional care is needed from someone else. In 2008, the CDC National Health Interview Survey found that 9.2% of Hispanic persons aged 65+ needed help from other persons for personal care, whereas only 5.7% for non-Hispanic whites needed that extra help (CDC, 2008).

Physical health and disability is often associated with pain. As Weaver et al. (2009) point out, pain is a cause of suffering, disability, and poor quality of life. Pain is not well understood in older adults and is considered a normal part of aging (American Geriatrics Society, 2002; Gibson, 2007; Herr & Garand, 2001; Thomas, Peat, Harris, Wilkie, & Croft, 2004). Often underreported and undertreated, it is believed that pain trends will differ with a growing ethnic and racial older adult population (Weiner, 2006). The literature stresses that understanding the pain experiences and underlying predictors of pain in Mexican-Americans is important for building knowledge regarding health disparities among ethnic minorities (Green et al., 2003; Markides et al., 1996; Reyes-Gibby, Aday, & Cleeland, 2002; Reyes-Gibby, Aday, Todd, Cleeland, & Anderson, 2007; Weiner, 2006).

In summary, research has clearly indicated that Hispanics are disproportionately affected by chronic diseases, disability, and pain (Markides & Eschbach, 2005). Compared to non-Hispanic whites, Mexican-Americans have an elevated risk of diabetes and the complications associated with diabetes (Angel et al., 2008). Higher rates of chronic physical illnesses and conditions also reflect higher rates of disability and pain in older-age populations. Chronic illnesses have also been noted to be compounded by cognitive and emotional health problems (Acelajado & Oparil, 2009; Black, 1999; Carod-Artal & Egido, 2009; Volpato, Maraldi, & Fellin, 2009).

MENTAL HEALTH PROFILE

Poor mental health, such as cognitive decline, can hasten death (Colton & Manderscheid, 2006) and may increase the risk for chronic health conditions (Caraci,
Copani, Nicoletti, & Drago, 2010; Heller et al., 2006). As people grow older, it is increasingly important to understand how cognitive health can change. Nguyen, Black, Ray, Espino, and Markides (2002) found an association between stroke, diabetes, and vision impairment, and, later, cognitive decline among older Mexican-Americans by examining scores from the Mini-Mental State Examination (MMSE), a commonly used tool to measure cognitive change in older adults, were examined over a five year period.

Optimal mental health also has been noted as being an important factor for lowering risk of disability and maintaining independence in activities of daily living and overall physical function (Gill, Williams, Richardson, Berkman, & Tinetti 1997; Greiner, Snowdon, & Schmitt, 1996; Moritz, Kasl, & Berkman, 1995; Raji et al., 2002). For example, Moritz et al. (1995) compared the odds of reported disability in ADLs from subjects with low cognitive ability to those with normal cognitive ability from the New Haven Established Populations for Epidemiological Study for the Elderly (EPESE). After the 3 year follow-up, those with low cognitive ability were 2.5 times more likely to report disability. Similarly, the Nun Study reported older women with low-normal cognitive function to have twice the risk of ADL disability at follow-up compared to those with high-normal cognition, as measured by the MMSE (Greiner, Snowdon, & Greiner, 1996).

In addition to investigating the effects of poor cognition on independence and disability, mental health research among older adults also looks at possible protective and risk factors, including biologic and social determinants of cognitive health (NIND/NIMH/NIA, 2001). For example, participation in social or leisure activities in old age has been linked to better maintenance of cognitive function (Daffner et al., 2006; Deary, Whalley, Batty, & Starr, 2006; Verghese et al., 2003). Perhaps among the most widely recognized studies of the elderly is the MacArthur Study of Successful Aging. In the MacArthur Study of Successful Aging, a cohort of older adults completed measures of cognitive performance at baseline and at the 7-year follow up. The population aged 70 and older who reported better cognitive function at follow up, were also those who claimed to have a high frequency of emotional support. The results indicated that greater emotional support from a network of social relationships was associated with better cognitive functioning, independent of other known risk factors for cognitive aging (such as
socioeconomic status, physical health, physical activity, and psychological factors) (Chodosh, Kado, Seeman, & Karlamangla, 2007).

An additional study, *Envejecer en Leganes*, examined the cognitive function and cognitive decline in a community of people over 65 (Zunzunegui, Alvarado, Ser, & Otero, 2003). This longitudinal study was carried out over four years and revealed that poor social networks and low levels of participation in social activities predicted the risk of cognitive decline in elderly individuals. Cognitive performance was measured during home interviews with the use of the Short Portable Mental Status Questionnaire, the Barcelona Test, and the Epidemiological Studies of the Elderly (EPESE) Short Story Recall test. Formal participation in social activities, such as church, greatly increased the social connections of individuals, while engaging the individual mentally, and maintaining cognitive abilities (Krause, 2006, 2009).

On the other hand, research has also shown that minority status is a risk factor for poorer cognitive function, especially among older populations (Rodgers, Ofstedal, & Herzog, 2003; Schwartz et al., 2004; Zsembik & Peek, 2001). There is some controversy to this finding, however. Masel and Peek (2009) analyzed data from the Health and Retirement Study and found that ethnicity did not greatly impact cognitive decline rates over time. The Health and Retirement Study was a national, longitudinal study that took place from 1996 to 2004. Data were collected every 2 years from adults 51 years and older. The two assessment tools that were utilized to measure cognitive function were the Telephone Interview of Cognitive Status and a word recall test. Among the sample of Whites (*n* = 5,918), Blacks (*n* = 1,324), and Hispanics (*n* = 702), demographic, social, and health-related variables were controlled for. Although slight variation in cognitive function was initially seen, over time the rate of cognitive decline was no different among ethnic groups.

Cognitive health research has also sought to examine the potential association between presence of depressive symptoms and subsequent cognitive function among older ethnic populations (Raji et al., 2007). Several studies have concluded that depressive symptoms are a risk factor for cognitive decline (Bassuk, Berkman, & Wypij, 1998; Geerlings et al., 2000; Yaffe et al., 1999). Unfortunately, most of the literature available is limited to non-Hispanic populations. A prospective cohort study of just over 1200 community-dwelling non-demented older adults concluded that, despite a baseline of high
depressive symptoms and low cognitive scores, there was no association between depressive symptoms and subsequent cognitive decline at follow-up (Ganguli, Du, Dodge, Ratcliff, & Chang, 2006). Conversely, Wilson et al. (2002) reported a 27% increase in annual cognitive decline for baseline depressive symptoms among a sample of persons 65 and older. Cognitive decline was assessed over a 7-year period and demographic and health factors were adjusted for. Mixed findings in these studies, composed primarily of white men and women, requires researchers to carefully look at potential ethnic differences in cognitive and emotional health.

**EMOTIONAL HEALTH PROFILE: DEPRESSION**

Depression is characterized by changes in self-attitude, cognitive functions, and energy level (American Psychiatric Association, 2000). The *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* indicates that major depressive disorder can occur as a single episode, or be recurrent (American Psychiatric Association, 2000). A single episode is characterized by at least five out of the nine symptoms that are listed in the *DSM-IV* being present during a 2 week-period. Depression is generally represented by a change in previous functioning and persistent feelings of sadness (American Psychiatric Association, 2000). Further, as Wells and colleagues (1989) point out, there is a strong association between depression and physical, social, and role functioning in older adults. Several studies also suggest that older adults with depression have higher rates of health care service use (than those who are not depressed) along with greater reported physical illness, pain, and mortality (Callahan, Hui, Nienaber, Musick, & Tierney, 1994; Parmelee, Katz, & Lawton, 1991; Roberts et al., 1997; Steiner & Marcopulous, 1991). Depressive symptoms are often used as a marker for successful aging, or quality of life, where fewer depressive symptoms translate to better aging (Baltes & Baltes, 1990; Garfein & Herzog, 1995; Havighurst, 1968; Strawbridge, Cohen, Shema, & Kaplan, 1996; Strawbridge et al., 2002).

Depressive symptoms are more common among Hispanics than other ethnic or racial groups, as suggested by population based studies (Frerichs, Aneshensel, & Clark, 1981). Older Hispanics bear notably higher rates of depression than non-Hispanic Whites (Brennan, Vega, Garcia, Abad, & Friedman, 2005). This significant ethnic difference has been well documented, with a 24-39% difference (Pratt & Brody, 2008; Raji et al., 2007). Rates are even higher in older Hispanic females (Aranda et al., 2001; Pratt & Brody, 2008; Raji et al.,
One study (González et al., 2001) estimated the prevalence of depression among older Mexican-Americans in urban and rural counties of the Central Valley of Northern California to be 25.4%. The prevalence of depression was even higher in the women of this population (32%).

Depression has been noted to predict increased incidence and severity for other serious health outcomes in older Mexican-Americans (Black, Markides, & Ray, 2003; Moussavi et al., 2007). For example, there have been several studies that suggest depression is associated with osteoporosis (Cizza, Ravn, Chrousos, & Gold, 2001; Tolea, Black, Carter-Pokras, Kling, 2007). Severity of depression was also associated with greater diabetes complications, anxiety, dysthymia, financial worries, social stress, and poorer quality of life (Ell et al., 2009).

Often resulting in a decrease in quality of life, depression is comorbid with chronic medical conditions (Katon, 2003; Wells et al., 1989). Egede and Ellis (2010) performed a systematic literature review and found a relationship between depression and diabetes. These two highly prevalent diseases usually coexist when diabetic patients have poor metabolic control, higher complication rates, and insufficient healthcare. One study (Black, 1999) used data from the Hispanic Established Population for the Epidemiologic Study of the Elderly (H-EPESE) to assess the association between high levels of depressive symptoms among older Mexican-Americans and comorbid chronic health conditions, diabetic complications, functional disability, health service use, and medication use. The sample of 636 older Mexican-Americans with diabetes was compared to 2,196 older Mexican-Americans without diabetes; the majority (57%) of respondents was women between the ages of 65 and 74.

In the study depressive symptoms were measured with the Center for Epidemiologic Studies Depression (CES-D) scale. This 20-question scale asks about specific symptoms that were experienced in the past week. Respondents use a four-point scale to answer the questions. Chronic physical health conditions were assessed with questions regarding previous physical diagnosis. Participants were also asked to rate their health as poor, fair, good, or excellent. Diabetes-related complications were assessed with a series of questions about kidney, eye, and circulation problems. Functional disability was reported using a modified version of the Katz ADL scale (Katz, Ford, Moskowitz, Jackson, & Jaffe, 1963). Health service use was evaluated with a series of questions about physician visits and
hospitalizations. Results indicated that 31.1% of older diabetic Mexican-Americans reported high levels of depressive symptoms and the risk of comorbidities (i.e. functional disability, incontinence, vision impairment, poorer perceived health status) was significantly greater among those who were depressed, compared to those who were not. The risks of comorbid myocardial infarction, hypertension, arthritis, and angina were also higher among those with reported depressive symptoms. Additional research has also found that, in primary care practice, depression is one of the five most frequent disorders that goes unrecognized in elderly patients because it often coexists with a number of chronic diseases (Diminić-Lisica et al., 2010).

**LEISURE ACTIVITIES**

There is recent growth in the literature that suggests leisure activities offer important benefits on physical, mental, and emotional health. Examples of leisure activities are housework, listening to music, dancing, and doing puzzles (Chan, Chan, Mok, & Tse, 2009; Garcia-Martin et al., 2004; Karp et al., 2006). It is believed that leisure activities operate on variables such physical health risk factors, mental stimulation, and/or social isolation to improve overall health conditions (Chan et al., 2009; Crowe, Andel, Pedersen, Johansson, & Gatz, 2003; Garcia-Martin et al., 2004; Herzog, Franks, Markus, & Holmberg, 1998; Meeks, Looney, Van Haitsma, & Teri, 2008; Menec, 2003; Pressman et al., 2009; Wang, van Belle, Kukull, & Larson, 2006; Wilson et al., 2002). Leisure activities, such as community service, help older adults engage in productive activities and take on meaningful roles (Hinterlong, 2006). The Corporation for National and Community Service (2007) produced a report, *The Health Benefits of Volunteering*, which was praised by the Administration on Aging for highlighting the power of prevention and wellness for older Americans. This report analyzed 30 rigorous and longitudinal studies to assess the relationship between health and volunteering. After controlling for other factors, it was concluded that volunteering leads to improved physical and mental health. Lower rates of depression, fewer cardiovascular complications, and less decline in self-reported health status were all reported as well. The positive effect that volunteering has on the health of older adults was best seen in the 30-year study by Moen, Dempster-McClain, and Williams (1992). Approximately 313 women were interviewed regarding social engagement and volunteering activities (e.g. caregiving). The
effects of such activities were assessed using the concept of psychological well-being in later adulthood. There are five measures to examine using this assessment: mastery, self-esteem, depression, general life satisfaction, and role conflict. Those who volunteered in multiple social roles reported positive effects in all these areas over time.

The only type of leisure activity that has been studied among ethnic minorities is leisure time physical activity (Crespo, Smit, Andersen, Carter-Pokras, & Ainsworth, 2000). Regular physical activity is an important factor to prevent and treat chronic medical conditions (Nelson et al., 2007; Pedersen & Saltin, 2006; Sigal, Kenny, Wasserman, Castaneda-Sceppa, & White, 2006; Stenstrom & Minor, 2003), as well as depression (Larson et al., 2006; Street, James, & Cutt, 2007). Leisure-time physical activity is an opportunity for older adults to improve their cardiovascular health, alleviate depression, reduce the number of fall-related injuries and hip fractures, and lower all-cause mortality as compared to those who are more sedentary (Blair et al., 1989; Marcus et al., 1992; Mouton, Calmbach, Dhanda, Espino, & Hazuda, 2000). Older minorities are more prone to live a sedentary life (Mouton et al., 2000). Low levels of physical activity in older Mexican-Americans predicted a decline in cognition (based on the MMSE) over a 10 year span (Samper-Ternent, Al Snih, Raji, Markides, & Ottenbacher, 2008). It is reported that for those aged 65–74, only 27% of men and 19% of women engage in regular physical activity (Robinson, 2007). Ethnic minorities engage in even less leisure time physical activity than European Americans (Crespo, Keteyian, Heath, & Sempos, 1996; Crespo, et al., 2000). In fact, data from several leisure time physical activity surveillance systems have identified Hispanics and non-Hispanic blacks as being less active than the other racial/ethnic minority groups investigated. Moreover, the trends of inactivity were more pronounced for women for women minorities (CDC, 2000; Crespo et al., 2000; Macera et al., 2003; Marshall et al., 2007).

With Hispanic women consistently reporting the lowest leisure time physical activity across all ethnic groups in national studies, this poses a great concern. There are several proposed reasons for the ethnic differences in physical activity. Dergance, Mouton, Lichtenstein, and Hazula (2005) examined the role of potential mediators (e.g. perceived health control, presence of chronic diseases) to explain differences in leisure time physical activity between a sample of 394 older Mexican-Americans and 255 older European Americans. Subjects were those who participated in the baseline examination of the
community-based study, San Antonio Longitudinal Study of Aging (SALSA). Bilingual staff assessed activities such as housework, yard/lawn work, and organized recreational activities. A Spanish version of the Minnesota Leisure Time Physical Activity Questionnaire was developed and pilot tested for appropriate use with Mexican-Americans. Perceived health control, a psychosocial factor, was measured with the use of a three-item Likert scale that investigators developed. Presence of chronic diseases was self-reported based on physician diagnosis. In particular, depression was measured using the Geriatric Depression Scale. Among Mexican-Americans, the Spanish Geriatric Depression Scale has a sensitivity of .80 and a specificity of .61 (Espino, Bedolla, Perez, & Baker, 1996). Compared to the European American participants, the Mexican-American participants had lower scores on the perceived health control assessment and reported a greater number of chronic diseases/conditions (i.e. depression). Independent of sociodemographic characteristic comparisons, Mexican-Americans did in fact engage in less leisure time physical activity than European Americans. Specifically, Mexican-Americans expended almost 300 kilocalories per week less energy than European Americans did and this difference was most evident among the female participants. Ultimately what Dergance and colleagues (2005) concluded was that psychosocial resources and chronic diseases are mediators of leisure time physical activity and being female is positively associated with lower levels of leisure time physical activity, regardless of other covariates (Brownson et al., 2000). Given this data, interventions to increase leisure time physical activity among women should carefully consider several factors: self-esteem, lifestyle behaviors (i.e. smoker/non-smoker), diet, and depression. Although there may be others to consider, these factors, as discussed, are mediators of leisure time physical activity and if properly assessed can help promote a more active and healthy lifestyle among women.

Leisure time physical activity is one category of leisure activities that females are shown to be less likely to engage in (Brownson et al., 2000 Cizza et al., 2001; Dergance et al., 2005). In a secondary analysis of the Third National Health and Nutrition Examination survey data, Crespo et al. (1996) reported that 46% of Mexican-American women performed no leisure physical activities. Of those who were active, gardening, yard work, and walking were the most frequently reported activities.
The type of leisure activities older adults engage in can vary greatly. It is important to examine the potential health benefits of leisure activities, other than just physical leisure activities. Glass, de Leon, Marottoli, & Berkman (1999) studied the impact of various types of leisure activities on the risk of mortality among elderly people. Participants from the New Haven site of the EPESE study included 1169 men and 1643 women, 65 years and older. Data were collected for 13 years and began in 1982. Face-to-face and telephone interviews were conducted by blinded, trained lay interviewers. The outcome measure was death and sociodemographics, social/productive/fitness activities, and health status measures. Those who participated in fewer productive activities were 34.7% more likely to die early than those who were most active in this category. Similarly, those who participated in fewer social activities were 20.3% more likely to die than those who were more socially active. Finally, individuals who engaged in fewer fitness activities were 18.8% more likely to die than those who participated in fitness activities more often. After controlling for potential confounders (i.e. older age, medical history of stroke/diabetes/smoking, functional disability, etc.) social activity was still strongly associated with survival. This study is of particular interest because it clearly demonstrates that activities, other than physical fitness activities, can be beneficial to overall health and survival. Leisure activities can provide social engagement that can promote self-efficacy, reinforce a sense of meaning and purpose in life, and have been linked to better health outcomes and survival (Adelmann, 1994; Berkman & Syme, 1979; Glass et al., 1999; House, Robbins, & Metzner, 1982; Kaplan et al., 1988; Mendes de Leon, Seeman, Baker, Richardson, & Tinetti, 1996; Phillips & King, 1988).

Leisure activities may also include civic engagement. Some examples include irregular paid work, volunteer work, caregiving, and informal social assistance to others (Hinterlong, 2006, 2008). Thoits and Hewitt (2001) concluded, after completion of a longitudinal study that examined volunteer work and personal well-being, that volunteer work enhances six aspects of personal well-being: happiness, life satisfaction, self-esteem, sense of control, physical health, and depression. Studies have shown a relationship between volunteering and reduced mortality (Musick, Herzog, & House, 1999), increased physical function (Lum & Lightfoot, 2005), increased levels of self-rated health (Morrow-Howell, Hinterlong, Rozario, & Tang, 2003), reduced depressive symptomology (Kim & Pai, 2010;

There are ethnic differences in volunteerism and benefits in older adults. While most formal volunteers are white, highly educated, and more affluent women (Hinterlong, 2006), older ethnic minorities tend to have other circumstances that influence the activities they participate in. Competing obligations and linguistic barriers can limit the scope of what activities are possible. However, it has been found that those with lower income and less education report greater benefit from volunteering (Martinez et al., 2006; Morrow-Howell, Hong, & Tang, 2009).

Overall leisure activity preferences, patterns, and benefits to older Latinos are not well known. Choice of leisure activities could be shaped by social and cultural forces. So while civic engagement may be successful in promoting emotional well-being and promoting a better quality of life, the exact mechanism of civic engagement is not fully understood, especially among older Mexican-Americans (Hinterlong, 2006; Musik & Wilson, 2003).

**SOCIAL RELATIONSHIPS AND LEISURE ACTIVITIES**

Leisure activities offer opportunities for older adults to become socially integrated, modify risk factors, and promote higher levels of functioning (Seeman et al., 1995). Social isolation has been established as a major risk factor for poor health and mortality by prospective, experimental, and quasi-experimental studies (House, Landis, & Umberson, 1988). Individuals who are more socially isolated tend to be less healthy with increased physical and psychological health problems (Kramer & Hogue, 2009). As the population ages, individuals may become less socially integrated due to the loss of loved ones. Social isolation can also be the result of older persons living alone, who are more likely to be female widows (Dean, Kolody, Wood, & Matt, 1992; Russell & Taylor, 2009; Victor, Scrambler, Bond, & Bowling, 2000). Feelings of loneliness can be overwhelming and difficult to cope with. Social support may help moderate or buffer these feelings, as well as impact negative health outcomes (Cohen, 2004; Falcon, Todorova, & Tucker, 2009; Kaplan, Cassel, & Gore, 1977). Social support is thought to increase the autonomy and control of the recipient through modes such as teaching, encouraging, and enabling (Rowe & Kahn, 1987). The emotional support, often provided by social support, has been found to reduce depressive
symptoms by increasing self-esteem (Pearlin, Lieberman, Menaghan, & Mullan, 1981). Social support can come from family, friends, or extended social networks that provide valuable resources for assistance and advice (Berkman, 1983; Kunitz, 2004). Social support can also vary in type, such as emotional, instrumental, and informational, and has been found to be an important determinant of successful aging (Evans, 2009; Rowe & Kahn, 1997; Strawbridge et al., 1996).

Social support is a major psychosocial factor that should specifically be examined in a population of Mexican-American older adults (Beyene, Becker, & Mayen, 2002). In fact, Russell and Taylor (2009) found that social support moderated the association between living alone and depression among older Hispanic adults. Poor social support is associated with an amplified possibility of experiencing depression and, further, cognitive-decline in non-demented older adults (Winningham & Pike, 2007). For example, for older Mexican-Americans and Mexican-origin adults, access to resources (i.e. economic and health services) can explain the degree to which this population feels a personal sense of control over health, in addition to their sense of subjective health (Angel et al., 2009). These are the types of resources that social support can help provide. Hence, the structure and function of individual’s social networks have been found to contribute significantly to well-being and quality of life, especially in later years of life (Fiori, Smith, & Antonucci, 2007).

One type of social activity that is often noted in the literature is that of church attendance, or religious involvement. Church-based social support was defined by Krause (2004) as, “emotional, tangible, informational, and spiritual assistance that is exchanged among people who worship together” (p. 1216). Glass et al. (1999) found that church attendance was the most common social activity among a sample of older American adults. With nearly 50% of the sample of 2,761 engaging in church attendance, it was concluded that such a social activity helped provide a sense of meaning and purpose in life among the participants, as evidenced in a lower risk of all-cause mortality.

The variety of social activities is abundant. Although social support has a strong association with better health, this literature review indicates that there is still a need for more cross-cultural studies to examine the effects of social networks and leisure activities on older ethnic minorities (Iecovich et al., 2004). Ethnic group and age differences in leisure activity patterns, preferences, and distinct benefits should be considered when designing health
interventions for older adults. The following study combines quantitative and qualitative data to examine these leisure activity patterns and preferences, as well as the potential benefits on the emotional health of older Mexican-American women.
CHAPTER 3

METHODS

This study draws on multiple sources, employing quantitative (cross-sectional) survey data from the WHI/SA study with older Latinas (the majority of whom are Mexican-American descent) and qualitative data from focus groups with older Mexican-Americans. The combination of these data allowed exploration of leisure activities older Mexican-Americans find most enjoyable, as well as the potential benefits to their health. Specifically, the mixed methods analyses provided a better understanding of the possible association between leisure activity participation and emotional health. The data were similar in their inclusion of predominantly older Mexican-American women. This study was approved by the Institutional Review Board of San Diego State University (#496055).

WOMEN’S HEALTH INITIATIVE/SUCCESSFUL AGING STUDY

The WHI Study, funded by the National Institutes of Health (NIH), is one of the largest, longitudinal, multi-site studies that examined morbidity and mortality among post-menopausal women. The female participants were followed for an average of seven years between 1994 and 2005. The San Diego clinical center of the WHI enrolled 6,427 women. Details of the WHI methodology are described elsewhere (Women’s Health Initiative Study Group, 1998). Following completion of the WHI study, the participants were invited to enroll in the Successful Aging study, either face-to-face at their final clinic visit or they were mailed the study information (questionnaire and consent included). Approximately 31% of the original sample, or 1,976 women, age ≥60, enrolled in the study. Those who were excluded from participating in the Successful Aging study had either not planned on residing in the San Diego area for at least three years, had a terminal medical condition with a less than three year survival rate, or had compounding conditions (such as substance use disorders). There was a difference between the women who responded to the study invitation and those who did not. Respondents were typically older (approximately 0.5 years), more likely to be married, more educated, and had a higher level of income. The Successful Aging
study was approved by the Institutional Review Board of the University of California, San Diego.

For the purpose of this secondary analysis, only participants who identified themselves as Latina (n = 113) or Caucasian (n = 1,690) were considered for the analysis. The majority (57%) of the Latina participants were Mexican-Americans. This sample of 1,803 participants was further matched into 113 Latino-Caucasian pairs. The 113 Latino-Caucasian pairs were matched by age, education, income, and marital status.

**Measures**

The demographic information collected from the participants included: age, educational attainment, preferred language (Spanish or English), income, marital status, and ethnicity (Latino or Caucasian).

Participants reported their frequency of engaging in 16 common activities. With no consistent definition of “leisure activities” in the literature and some activities reported to provide a variety of benefits, the 16 activities listed on the questionnaire were chosen to provide a more inclusive set of activities that may or may not be pleasurable with the potential to positively or negatively impact emotional health (Chan et al., 2009; Crespo et al., 2000; Garcia-Martin et al., 2004; Glass et al., 1999; Hinterlong, 2006; Meeks et al., 2008; Pressman et al., 2009; Wang et al., 2006). The activities listed included both individual and social activities, such as listening to the radio, writing, visiting with friends, and volunteering. A complete list of the activities can be found in Table 2 in Chapter 3: Results (p. 34). Frequency of participation in the activities was based on an average week. Participants reported how many days they engaged in the activities for at least half an hour. Individual scores ranged from 0–7 days per week for each activity.

Depressive symptom severity was the primary outcome and was assessed using the Center for Epidemiological Studies Depression scale (CES-D), a 20-item scale, which is a commonly used measure of depressive symptom severity in community samples (Moscicki, Locke, Rae, & Boyd, 1989; Radloff, 1977). The CES-D has been noted to be psychometrically valid among Latinos, with one report of Cronbach’s $\alpha = 0.89$ (Chung et al., 2003). Higher scores using this tool reflected greater depressive symptomatology.
Finally, because physical functioning is often linked to depressive symptoms (Craft, 2009; Knol et al., 2006; Luchsinger et al., 2008; Swartz, Stuss, Gao, & Black, 2008), the physical health composite of the Medical Outcomes Study 36-item Short Form (SF-36) was used to indicate the women’s functional status (Ware, Kosinski, & Keller, 1996). The physical health composite portion is comprised of 10-items. Scores range from 0 to 100 for these 10 items and higher scores reflected greater functioning (α = .93; Ware et al., 1996).

Data Analyses

The 113 Latino-Caucasian pairs were matched in order to help resolve some potential selection bias. Matching the pairs was achieved by using the Caliper method and propensity scores. With nearly 15 times more Caucasian women than Latinas, the Caliper method was useful in the matching process. The propensity scores were computed by running a logistic regression. Age, education, income, and marital status predicted ethnic group status (Rosenbaum & Rubin, 1985). Once the propensity scores were established, a caliper was used to find the closest matching scores between the two ethnic groups. The caliper is essentially a parameter, or range. Following this computation, the Latino sample was randomly ordered and each subject matched to a Caucasian subject by their Mahalanobis distance. The Mahalanobis distance, similar to that of a standard error, reflected the difference between propensity scores within a present caliper. Once the 113 matched pairs were established, descriptive statistics and Student t-tests were performed to provide a demographic profile of the study sample and demographic differences were compared in the variable means or proportions.

Second, differences in the frequencies of leisure activities for Latinas versus Caucasians were examined by comparing the mean differences using a paired Student’s t-test on the matched sample. Spearman correlations were then computed to investigate potential relationships between leisure activity type and the primary outcome: depressive symptoms. Pattern analyses revealed that 16.8% of the Latina and 23% of the Caucasian women had missing CES-D scores. To account for this, maximum likelihood estimation was used to minimize the differential effects in analyses of CES-D scores. The relationship between individual leisure activities and depressive symptoms for each ethnic group was analyzed by running multiple linear regressions. With this test, the primary independent variable was the
leisure activity, the dependent variable was depressive symptom burden, and demographic covariates were adjusted for (i.e. income, education, marital status, and physical functioning). These analyses allowed examination of ethnic-group differences in leisure activity participation among Latinas and Caucasian women. Moreover, the CES-D measure was used to explore the potential association between depressive symptom severity (as revealed by the CES-D scores) and leisure activity type and frequency of participation.

**Qualitative Study**

This study was conducted near the U.S.-Mexico border, an area with a large Mexican-American population. California is one of the top four states where Hispanic persons reside. In 2008, approximately 36.6% of California was comprised of Hispanic or Latino origin persons. In the same year, 30.9% of San Diego’s population was composed of Hispanic of Latino origin persons (U.S. Census Bureau, 2008b). In this study, there were 49 participants and the mean age was 70.5 ± 8.2. Participants for this study were recruited from the South Bay region of San Diego, an area that is populated by recent immigrants. Females accounted for nearly 78% of the study (n = 38). It is important to note that although the purpose of this study was to examine women’s emotional health issues, the qualitative study was comprised of both males and females. The number of males who attended the groups was few: 11 of 49 participants (22%). Gender differences were not a study objective and focus group questions did not probe for differences in perceptions by gender; nevertheless, males may have expressed differences in leisure activity preferences compared to the women. This study was approved by the Institutional Review Board of the University of California at San Diego.

**Sample Recruitment**

The participants were recruited through onsite referrals and outreach at social service organizations and senior recreation centers. There were three senior recreation centers; Casa Familiar, Inc., Norman Park Senior Center, Casa de Salud Senior Center, and one low-income housing complex, Villa Nueva. All locations are in the South Bay region of San Diego, CA. These four locations were chosen due to their geographic proximity (as no transportation was provided to/from the sessions) and population dynamics. The South Bay region is predominately Latino and the study sought to recruit older Latinos. One focus group was held at each location. Casa Familiar was the location of the first focus group. It is a non-
profit organization located in San Ysidro, the neighboring city of Tijuana, Mexico. Formerly known as Trabajadores de la Raza in 1968, Casa Familiar has expanded its services over the years to accommodate the growing diversity of South San Diego’s Latino population (Casa Familiar, 2010). At this location, there were 11 participants and 73% were female (n = 8).

Norman Park Senior Center was the location of the second focus group, and the only session conducted in English. Norman Park Senior Center is a community facility located in the City of Chula Vista. This center provides a variety of programs and services to older adults (e.g. health classes, social activities, exercise programs, computer classes, craft classes, etc.). Norman Park Senior Center is also home to over 100 senior volunteers (City of Chula Vista, 2010). At this location, there were 7 participants, with 43% being female (n = 3). The third focus group was held at Casa de Salud. Casa de Salud is a community-based organization located in National City. Casa de Salud hosts a Seniors Club that holds weekly membership meetings and various social activities (e.g. health talks, raffles, dances, etc.) in a bilingual setting (City of National City, 2008). Twelve participants were present for this site’s session and 100% of the participants were female. Finally, the fourth focus group was held at Villa Nueva, a 390-unit, low-income housing development located in San Ysidro. Villa Nueva is operated by Villa Nueva, Inc. which is a non-profit organization. Nineteen participants were present and 79% of them were female (n = 15). The participants were not recruited with a pattern in mind, although recruitment resulted in far more women. The female-dominant response was not expected; nevertheless, it provided an opportunity to link with the WHI/SA data and offered a more holistic approach to this investigation.

Bilingual invitations were mailed to eligible participants registered with the County’s Retired Senior and Volunteer Program. The invitations provided a clear and specific purpose of the invite (to gather information and opinions regarding volunteer work and ways to improve services for an aging population) as well as details of the sessions (i.e. time, place, $25 gift card incentive). Eligibility criteria included those who self-identified as Mexican descent, male or female, age 55 and older, and residents of San Diego County.

Procedures

The four focus groups were conducted by trained bilingual and bicultural moderators. There were 2 female moderators, 1 health professional and 1 research assistant. A semi-
structured interview guide was developed in English. The Spanish guide represented a linguistic and cultural adaptation of the English guide. The Spanish guide was reviewed by a group of lay health educators (or “promotoras”) from the community to verify linguistics of the community. Three of the focus groups were conducted in Spanish, and one was conducted in English. Each session was audio-taped with the consent of the participants. Co-facilitators were present to take notes and document group dynamics by observing non-verbal communication and overall setting. There were a total of 4 bilingual, female co-facilitators. At least 3 co-facilitators were present at each focus group. Focus groups sessions lasted 60 to 90 minutes each.

Upon arrival to the site, participants were greeted by the facilitators and provided light refreshments. Three research assistants helped check in the participants, providing them with a name tag, and reviewing the consent form and sociodemographic survey. All participants signed the informed consent in their primary language to participate in the study with a separate consent for audio-taping focus groups. The one-page, 9-item, sociodemographic form, available in English or Spanish, was used to collect information on age; educational attainment; living arrangements; primary sources of income; extent and type of volunteer work; caregiver status; health insurance coverage; and migration history (e.g. length of time in the U.S., city/state of origin in Mexico). These forms were administered by the research assistants and the time spent completing these forms gave the participants the ability to introduce themselves to one another as they waited for the session to begin. Once the session began, participants were encouraged to freely speak on the question topics and reminded that participation was voluntary. General house rules were outlined at the beginning of the discussion to be sure the groups ran smoothly and everyone would have an opportunity to share.

**Focus Group Questions**

The focus group questions were open-ended and participants were probed for clarification as needed. Question topics included: components of successful aging, general pleasant activities, benefits of leisure activities (i.e. emotional benefits to civic engagement), and motivators/deterrents to leisure activities. Participants were first asked to select their preferred term to describe older adults and to rate their overall health (e.g. poor, fair, good,
excellent). For each question, respondents were asked to explain their answer. Next, the
groups were asked several questions to identify the key components of a good quality of life
and to share their personal strategies for coping with a depressed mood. Questions then
focused on learning about the activities that bring pleasure to daily routine for the
participants. The following questions helped guide discussion: What types of activities and
hobbies help put you in this happy, positive mood? When you are feeling sad, blue, stressed,
unmotivated, or irritable, what do you do to lift your spirits? What about [the activities you
participate in] do you find most appealing? What types of activities are you currently
involved in as part of your volunteer work? How do those activities make you feel? What do
you personally get out of doing volunteer work? What is your motivation? Finally, the
conclusion of the focus group focused on the potential barriers to the activities that were
discussed. Participants were also asked what suggestions they had to help older adults, like
themselves, to volunteer.

**Data Analysis**

The methodology of Krueger and Casey (2000) guided logistical planning and
execution of the focus groups, while Grounded Theory was used to analyze the data These
methods facilitated organizing and managing the data collected. All identifying information
was withheld to maintain anonymity of the participants. Participant’s names were not listed
on the sociodemographic form and, if used within the discussion, were removed from the
final transcription. Descriptive data was tabulated for each group by using version 17.0 of the
Statistical Package for the Social Sciences (SPSS).

Audio tapes from the group sessions were professionally transcribed verbatim in their
respective languages. The group discussions were transcribed and reviewed independently by
two bilingual investigators. As previously mentioned, Krueger’s framework (Krueger &
Casey, 2000; Krueger, 1994) guided the interpretation and analysis of focus group data. This
framework provides seven established criteria for coding based on words, context, internal
consistency, frequency and extensiveness of comments, specificity of comments, intensity of
comments, and emerging concepts and trends. Further, in order to develop common themes
from transcript data, observational notes were cross-referenced with the results of analytical
analyses using techniques rooted in the principles of Grounded Theory (Strauss & Corbin,
1998). Although Grounded Theory was not the method used in collecting the data, it was used to analyze the data. There were no a priori hypotheses when designing or carrying out the study. The general area of interest that was explored was leisure activities among older adults. There was no hypothesis testing, nor confirmatory. Rather, Grounded Theory provided a systematic approach in working with and analyzing the qualitative data. From the data emerged concepts that help form the basis of Grounded Theory. These concepts are what help contribute to the growing theories in aging, adding that cultural component (given the sample of ethnic minorities). Grounded Theory methods were as follows: each transcript was reviewed and analyzed by at least two independent investigators in their original language. Next, open coding was performed by completing an initial review of transcript data line by line to uncover emerging themes. After independent review of transcripts, investigators examined the transcripts once again for review of inconsistencies. Final assessment of the transcripts allowed for consensus on coding and revelation of emerging themes. Themes were then grouped into major and minor categories to identify their properties and dimensions into a Master Codebook. Through this process, major themes were confirmed and possible relationships between categories were identified (axial coding). The relevance of themes was finally narrowed (selective coding) to incorporate into the Master Codebook. Comparing the emerging themes and integration of categories and their properties allowed investigators to make connections between themes and develop core generalizations that are consistent with a grounded theory method. In order to test inter-rater reliability, four pages from each transcript were tested. This was accomplished by uploading the codes and frequencies into SPSS. A Cohen’s Kappa was calculated to determine the inter-rater agreement for the qualitative (categorical) items between the investigators.
CHAPTER 4

RESULTS

WHI/SA STUDY

There were no significant ethnic group demographic differences between the Latinas and the Caucasian women (see Table 1). This result was expected because the samples were intentionally matched. The mean age of the women was 70.08 (SD = 5.6). Most of the women (91%) had at least a high school level education and the majority (60%) had an income between $20,000 and $74,999. Approximately 57% of the women reported being married.

There were few differences in the type of leisure activities the two groups of women participated in (see Table 2). Latinas (M = 1.29, SD = 2.33) were more inclined to assume caregiving responsibilities than Caucasian women (M = 0.62, SD = 1.67; p ≤ .05) and more likely to visit family member (M = 3.68, SD = 3.69) than the sample of Caucasian women (M = 2.85, SD = 3.03). On the other hand, Caucasian women (M = 4.50, SD = 2.82) were more likely to use computers than the Latinas (M = 3.57, SD = 2.85). Watching television was a common activity for Latinas (M = 6.04, SD = 1.75) and Caucasian women (M = 6.08, SD = 1.76) alike. Physical health composite scores from the SF-36 were not significantly different between the two ethnic groups. Latinas had a mean of 43.75 (SD = 14.46), while Caucasian women had a mean of 43.54 (SD = 13.99). No other differences were observed.

Compared to Caucasian women, Latinas reported significantly higher levels of depressive symptoms. Depressive symptoms for Latina and Caucasian women were M = 7.56 (SD = 7.05) and M = 5.26 (SD = 5.67), respectively (p ≤ .05). CES-D scores were dichotomized with a cut-off point of 16. Any score ≥16 signified probable depression. Over 8% (n = 8) of Latino women reported CES-D scores ≥16, whereas just under 7% (n = 6) of Caucasian women had CES-D scores ≥16. In this sample, the Cronbach’s alpha was α = .71 for Latinas and α = .92 for Caucasian women.
Table 1. Sociodemographic Description of the Matched Sample of Latina and Caucasian Women (n = 113 Each Group)

<table>
<thead>
<tr>
<th></th>
<th>Latina n (%)(^a)</th>
<th>Caucasian n (%)(^a)</th>
<th>Total Sample n (%)(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total n</strong></td>
<td>113</td>
<td>113</td>
<td>226</td>
</tr>
<tr>
<td><strong>Mean Age (± SD)</strong></td>
<td>70.04 (7.2)</td>
<td>70.16 (7.2)</td>
<td>70 (5.6)</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never Married</td>
<td>0 (0)</td>
<td>5 (4.4)</td>
<td>5 (2)</td>
</tr>
<tr>
<td>Divorced/Separated</td>
<td>35 (31.0)</td>
<td>25 (21.9)</td>
<td>60 (27)</td>
</tr>
<tr>
<td>Widowed</td>
<td>15 (13.3)</td>
<td>16 (14.0)</td>
<td>31 (14)</td>
</tr>
<tr>
<td>Married</td>
<td>60 (53.1)</td>
<td>61 (53.5)</td>
<td>121 (54)</td>
</tr>
<tr>
<td>Living in Marriage-Like Relationship</td>
<td>3 (2.7)</td>
<td>4 (3.5)</td>
<td>7 (3)</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No School</td>
<td>1 (.9)</td>
<td>1 (.9)</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Grade School (5–8 yrs)</td>
<td>6 (5.3)</td>
<td>0 (0)</td>
<td>6 (3)</td>
</tr>
<tr>
<td>Some H.S. (9–11 yrs)</td>
<td>7 (6.2)</td>
<td>5 (4.4)</td>
<td>12 (5)</td>
</tr>
<tr>
<td>H.S. Diploma/G.E.D</td>
<td>13 (11.5)</td>
<td>16 (14.0)</td>
<td>29 (13)</td>
</tr>
<tr>
<td>Vocational Training</td>
<td>9 (8.0)</td>
<td>12 (10.5)</td>
<td>21 (9)</td>
</tr>
<tr>
<td>Some College/Associate Degree</td>
<td>40 (35.4)</td>
<td>45 (39.5)</td>
<td>85 (38)</td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>11 (9.7)</td>
<td>11 (9.6)</td>
<td>22 (10)</td>
</tr>
<tr>
<td>Some Professional Training after College Graduation</td>
<td>13 (11.5)</td>
<td>7 (6.1)</td>
<td>20 (9)</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>10 (8.8)</td>
<td>14 (12.3)</td>
<td>24 (11)</td>
</tr>
<tr>
<td>Doctoral Degree</td>
<td>3 (2.7)</td>
<td>0 (0)</td>
<td>3 (1)</td>
</tr>
<tr>
<td><strong>Annual Income ($)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;10,000</td>
<td>15 (13.4)</td>
<td>11 (9.6)</td>
<td>26 (12)</td>
</tr>
<tr>
<td>10,000–19,999</td>
<td>15 (13.4)</td>
<td>7 (6.1)</td>
<td>22 (10)</td>
</tr>
<tr>
<td>20,000–34,999</td>
<td>20 (17.9)</td>
<td>22 (19.3)</td>
<td>42 (20)</td>
</tr>
<tr>
<td>35,000–49,000</td>
<td>15 (13.4)</td>
<td>24 (21.1)</td>
<td>39 (18)</td>
</tr>
<tr>
<td>50,000–74,999</td>
<td>22 (19.6)</td>
<td>26 (22.8)</td>
<td>48 (22)</td>
</tr>
<tr>
<td>75,000–99,999</td>
<td>12 (10.7)</td>
<td>7 (6.1)</td>
<td>19 (9)</td>
</tr>
<tr>
<td>100,000–149,000</td>
<td>7 (6.3)</td>
<td>6 (5.3)</td>
<td>13 (6)</td>
</tr>
<tr>
<td>150,000+</td>
<td>2 (1.8)</td>
<td>3 (2.6)</td>
<td>5 (2)</td>
</tr>
</tbody>
</table>

\(^a\)unless noted, e.g. for M ± SD
Table 2. Differences in Frequency of Participation in Leisure Activities in Matched Sample of Latina and Caucasian Women (n = 113 Each Group)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Latina Mean (SD)</th>
<th>Caucasian Mean (SD)</th>
<th>Paired t-test</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>6.04 (1.75)</td>
<td>6.08 (1.76)</td>
<td>-0.16</td>
<td>0.88</td>
<td></td>
</tr>
<tr>
<td>Housework</td>
<td>4.84 (2.38)</td>
<td>4.55 (2.54)</td>
<td>0.86</td>
<td>0.39</td>
<td></td>
</tr>
<tr>
<td>Radio</td>
<td>4.12 (2.89)</td>
<td>4.51 (2.75)</td>
<td>-0.88</td>
<td>0.38</td>
<td></td>
</tr>
<tr>
<td>Reading and Puzzles</td>
<td>3.98 (1.75)</td>
<td>4.08 (1.71)</td>
<td>-0.43</td>
<td>0.67</td>
<td></td>
</tr>
<tr>
<td>Visiting with Family</td>
<td>3.68 (3.69)</td>
<td>2.85 (3.03)</td>
<td>1.53</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>Computer*</td>
<td>3.57 (2.85)</td>
<td>4.50 (2.82)</td>
<td>-2.36</td>
<td><strong>.02</strong></td>
<td></td>
</tr>
<tr>
<td>Writing</td>
<td>2.44 (2.52)</td>
<td>2.38 (2.41)</td>
<td>0.16</td>
<td>0.87</td>
<td></td>
</tr>
<tr>
<td>Visiting with Friends</td>
<td>1.89 (1.83)</td>
<td>2.24 (1.78)</td>
<td>-1.27</td>
<td>0.21</td>
<td></td>
</tr>
<tr>
<td>Religious</td>
<td>1.56 (1.91)</td>
<td>1.42 (2.07)</td>
<td>0.48</td>
<td>0.64</td>
<td></td>
</tr>
<tr>
<td>Caregiving*</td>
<td>1.29 (2.33)</td>
<td>0.62 (1.67)</td>
<td>2.13</td>
<td><strong>.04</strong></td>
<td></td>
</tr>
<tr>
<td>Organized Social Activity</td>
<td>1.04 (1.27)</td>
<td>1.27 (1.53)</td>
<td>-1.16</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>Volunteering</td>
<td>1.00 (1.62)</td>
<td>1.31 (1.67)</td>
<td>-1.28</td>
<td>0.20</td>
<td></td>
</tr>
<tr>
<td>Artwork</td>
<td>0.95 (1.99)</td>
<td>0.74 (1.60)</td>
<td>0.81</td>
<td>0.42</td>
<td></td>
</tr>
<tr>
<td>Classes</td>
<td>0.62 (1.11)</td>
<td>0.63 (0.98)</td>
<td>-0.07</td>
<td>0.95</td>
<td></td>
</tr>
<tr>
<td>Sexual Activity</td>
<td>0.51 (1.05)</td>
<td>0.47 (0.99)</td>
<td>0.22</td>
<td>0.83</td>
<td></td>
</tr>
<tr>
<td>Games</td>
<td>0.43 (1.10)</td>
<td>0.49 (1.07)</td>
<td>-0.40</td>
<td>0.69</td>
<td></td>
</tr>
</tbody>
</table>

Note: Participants reported how many days they engaged in the listed leisure activities for at least half an hour a day in an average week. Individual scores ranged from 0 to 7 days per week. * indicates p ≤ .05.

Overall, more frequent participation in organized social activities was associated with lower levels of depressive symptoms for both Latina (ρ = -.23, p ≤ 0.05) and Caucasian women (ρ = -.22, p ≤ 0.05). Listening to the radio was associated with lower depressive symptoms among Latino women (ρ = -.24, p ≤ 0.05) whereas housework was associated with greater depressive symptoms (ρ = .21, p ≤ 0.05). Among Caucasian women, sexual activity (ρ = -.25, p ≤ 0.05), computer activities (ρ = -.27, p ≤ 0.05), and volunteering (ρ = -.22, p ≤ 0.05) were associated with lower levels of depressive symptoms.
0.05) were negatively correlated with depressive symptoms. Table 3 displays these findings as Spearman’s rho from bivariate analyses results.

Table 3. Spearman’s Rho Correlational Analyses of Leisure Activities and Depressive Symptom Severity (CES-D Score) by Ethnic Group (n = 113 Each Group)

<table>
<thead>
<tr>
<th>Depressive Symptom Severity&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Latina</th>
<th>Caucasian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>.01</td>
<td>-.01</td>
</tr>
<tr>
<td>Housework</td>
<td>.21*</td>
<td>.07</td>
</tr>
<tr>
<td>Radio</td>
<td>-.24*</td>
<td>.12</td>
</tr>
<tr>
<td>Reading and Puzzles</td>
<td>-.02</td>
<td>-.14</td>
</tr>
<tr>
<td>Visiting with Family</td>
<td>-.02</td>
<td>.14</td>
</tr>
<tr>
<td>Computer</td>
<td>-.14</td>
<td>-.27*</td>
</tr>
<tr>
<td>Writing</td>
<td>-.05</td>
<td>-.07</td>
</tr>
<tr>
<td>Visiting with Friends</td>
<td>-.15</td>
<td>-.08</td>
</tr>
<tr>
<td>Religious</td>
<td>-.06</td>
<td>-.21</td>
</tr>
<tr>
<td>Caregiving</td>
<td>.04</td>
<td>-.13</td>
</tr>
<tr>
<td>Organized Social Activities</td>
<td>-.22*</td>
<td>-.23*</td>
</tr>
<tr>
<td>Volunteering</td>
<td>-.21</td>
<td>-.22*</td>
</tr>
<tr>
<td>Artwork</td>
<td>.00</td>
<td>-.13</td>
</tr>
<tr>
<td>Classes</td>
<td>-.16</td>
<td>-.17</td>
</tr>
<tr>
<td>Sexual Activity</td>
<td>.01</td>
<td>-.25*</td>
</tr>
<tr>
<td>Games</td>
<td>.06</td>
<td>-.13</td>
</tr>
</tbody>
</table>

<sup>Note:</sup> CES-D = Center for Epidemiological Studies Depression scale
<sup>a</sup> = as measured with CES-D scale
* indicates p ≤ .05

Once adjustments for physical functioning and other covariates were made (e.g. age, education, income, etc.), there was no significant correlation found between depressive symptoms and leisure activity participation (see Table 4). Bonferroni corrections were also used to correct for multiple comparisons.
Table 4. Unstandardized Values from Linear Regression Analyses Examining the Association Between Leisure Activity Type and Depressive Symptom Severity (CES-D Score) in Latina and Caucasian Women Controlling for Income, Education, Marital Status, and Physical Functioning

<table>
<thead>
<tr>
<th>Activity Type</th>
<th>Latina</th>
<th></th>
<th>Caucasian</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>95% CI</td>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Radio</td>
<td>-.386</td>
<td>(-.85, .08)</td>
<td>0.351</td>
<td>(-.11, .81)</td>
</tr>
<tr>
<td>Television</td>
<td>.309</td>
<td>(-.40, 1.0)</td>
<td>-0.06</td>
<td>(-.85, .73)</td>
</tr>
<tr>
<td>Caregiving</td>
<td>.029</td>
<td>(-.56, .62)</td>
<td>-0.28</td>
<td>(-1.1, .53)</td>
</tr>
<tr>
<td>Sexual Activity</td>
<td>.050</td>
<td>(-1.5, 1.6)</td>
<td>-0.112</td>
<td>(-2.7, .47)</td>
</tr>
<tr>
<td>Writing</td>
<td>.060</td>
<td>(-.47, .60)</td>
<td>0.02</td>
<td>(-.51, .56)</td>
</tr>
<tr>
<td>Computer</td>
<td>.274</td>
<td>(-.29, .84)</td>
<td>-0.25</td>
<td>(-.71, .21)</td>
</tr>
<tr>
<td>Reading and Puzzles</td>
<td>.036</td>
<td>(-.26, .33)</td>
<td>-0.06</td>
<td>(-.32, .19)</td>
</tr>
<tr>
<td>Visiting with Friends</td>
<td>-.55</td>
<td>(1.30, .15)</td>
<td>0.02</td>
<td>(-.71, .74)</td>
</tr>
<tr>
<td>Organized Social</td>
<td>-.76</td>
<td>(-1.80, .25)</td>
<td>-.48</td>
<td>(-1.3, .33)</td>
</tr>
<tr>
<td>Artwork</td>
<td>-.34</td>
<td>(-1.00, .31)</td>
<td>-.25</td>
<td>(-.96, .46)</td>
</tr>
<tr>
<td>Games</td>
<td>.35</td>
<td>(1.10, 1.80)</td>
<td>-.43</td>
<td>(-1.90, 1.10)</td>
</tr>
<tr>
<td>Classes</td>
<td>-.44</td>
<td>(-1.60, .74)</td>
<td>-.27</td>
<td>(-1.60, 1.10)</td>
</tr>
<tr>
<td>Religious</td>
<td>-.17</td>
<td>(-.82, .48)</td>
<td>-.37</td>
<td>(-1.0, .26)</td>
</tr>
<tr>
<td>Volunteering</td>
<td>-.36</td>
<td>(-1.2, .49)</td>
<td>-.25</td>
<td>(-1.0, .55)</td>
</tr>
<tr>
<td>Visiting with Family</td>
<td>-.04</td>
<td>(-.39, .31)</td>
<td>.30</td>
<td>(-.12, .72)</td>
</tr>
<tr>
<td>Housework</td>
<td>.19</td>
<td>(-.33, .71)</td>
<td>.21</td>
<td>(-.09, .50)</td>
</tr>
</tbody>
</table>

Note: CES-D = Center for Epidemiological Studies Depression scale

QUALITATIVE STUDY

A total of 49 participants attended the focus groups. The first focus group had 9 females, the second (and smallest group) had 4 females, the third had 12 females, and the fourth group (and largest group) had 16 female participants. Mean age for the participants was 70.5 (SD = 8.2). All participants were of Mexican descent. The majority of the participants were born in Mexico (63%). Nearly 70% of the participants lived with a spouse or other family member and the majority (71%) of the participants reported social security as their source of income. Not one of the participants earned an income from full time work, although at least 10% from each group volunteered a ‘few times a week’. Educational
attainment was rather low with one third of the participants completing six years or less of schooling. Government medical insurance programs (e.g. Medicare, Medi-Cal, County programs) were the most common source of health insurance coverage (68%). Table 5 shows the sociodemographic profile for all participants.

Table 5. Sociodemographic Characteristics by Focus Group

<table>
<thead>
<tr>
<th>Language of Focus Group</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spanish</td>
<td>English</td>
<td>Spanish</td>
<td>Spanish</td>
<td></td>
</tr>
<tr>
<td>No. of Participants</td>
<td>11</td>
<td>7</td>
<td>12</td>
<td>19</td>
<td>49</td>
</tr>
<tr>
<td>% Female</td>
<td>73%</td>
<td>43%</td>
<td>100%</td>
<td>79%</td>
<td>38%</td>
</tr>
<tr>
<td>Mean Age</td>
<td>67</td>
<td>69</td>
<td>70</td>
<td>73</td>
<td>70</td>
</tr>
</tbody>
</table>

**Current Living Arrangements**

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alone</td>
<td>9%</td>
<td>43%</td>
<td>58%</td>
<td>26%</td>
<td>33%</td>
</tr>
<tr>
<td>With Spouse</td>
<td>64%</td>
<td>43%</td>
<td>8%</td>
<td>37%</td>
<td>37%</td>
</tr>
<tr>
<td>With Spouse and Family</td>
<td>27%</td>
<td>14%</td>
<td>8%</td>
<td>0%</td>
<td>10%</td>
</tr>
<tr>
<td>With Family</td>
<td>0%</td>
<td>0%</td>
<td>25%</td>
<td>37%</td>
<td>20%</td>
</tr>
</tbody>
</table>

**Highest Level of Education**

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Education to Less Than 3rd Grade</td>
<td>9%</td>
<td>0%</td>
<td>17%</td>
<td>5%</td>
<td>8%</td>
</tr>
<tr>
<td>Third to Sixth</td>
<td>27%</td>
<td>0%</td>
<td>42%</td>
<td>21%</td>
<td>25%</td>
</tr>
<tr>
<td>Some Middle School</td>
<td>18%</td>
<td>0%</td>
<td>0%</td>
<td>11%</td>
<td>8%</td>
</tr>
<tr>
<td>Completed High School or G.E.D</td>
<td>9%</td>
<td>14%</td>
<td>17%</td>
<td>16%</td>
<td>14%</td>
</tr>
<tr>
<td>Some College or Vocational School</td>
<td>9%</td>
<td>29%</td>
<td>8%</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Bachelor’s Degree or Higher</td>
<td>9%</td>
<td>57%</td>
<td>0%</td>
<td>5%</td>
<td>12%</td>
</tr>
</tbody>
</table>

**Country of Origin**

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>100%</td>
<td>14%</td>
<td>75%</td>
<td>53%</td>
<td>63%</td>
</tr>
<tr>
<td>Mexican-descent; born in the U.S.</td>
<td>0%</td>
<td>72%</td>
<td>25%</td>
<td>47%</td>
<td>37%</td>
</tr>
<tr>
<td>Other</td>
<td>0%</td>
<td>14%</td>
<td>0%</td>
<td>0%</td>
<td>14%</td>
</tr>
</tbody>
</table>

(table continues)
<table>
<thead>
<tr>
<th>Table 5. (Continued)</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age when migrated to U.S.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13–20</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>21–30</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>31–40</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>41–55</td>
<td>3</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td><strong>Caregiver Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Family/Friend</td>
<td>36%</td>
<td>14%</td>
<td>25%</td>
<td>11%</td>
<td>20%</td>
</tr>
<tr>
<td>Guardian of Grandchild</td>
<td>8%</td>
<td>0%</td>
<td>8%</td>
<td>21%</td>
<td>14%</td>
</tr>
<tr>
<td><strong>Source of Income</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Security</td>
<td>64%</td>
<td>100%</td>
<td>75%</td>
<td>63%</td>
<td>71%</td>
</tr>
<tr>
<td>Pension</td>
<td>27%</td>
<td>86%</td>
<td>17%</td>
<td>16%</td>
<td>29%</td>
</tr>
<tr>
<td>Part-Time Work</td>
<td>27%</td>
<td>14%</td>
<td>8%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Full-Time Work</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Spouse or Family</td>
<td>18%</td>
<td>43%</td>
<td>25%</td>
<td>32%</td>
<td>29%</td>
</tr>
<tr>
<td><strong>Volunteerism</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>46%</td>
<td>0%</td>
<td>33%</td>
<td>58%</td>
<td>51%</td>
</tr>
<tr>
<td>On Occasion Throughout the Year</td>
<td>0%</td>
<td>0%</td>
<td>17%</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>A Few Times a Month</td>
<td>0%</td>
<td>29%</td>
<td>25%</td>
<td>11%</td>
<td>10%</td>
</tr>
<tr>
<td>A Few Times a Week</td>
<td>55%</td>
<td>71%</td>
<td>25%</td>
<td>11%</td>
<td>22%</td>
</tr>
<tr>
<td><strong>Health Insurance Coverage</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medi-Cal Only</td>
<td>18%</td>
<td>0%</td>
<td>25%</td>
<td>11%</td>
<td>14%</td>
</tr>
<tr>
<td>Medicare Only</td>
<td>9%</td>
<td>14%</td>
<td>17%</td>
<td>21%</td>
<td>12%</td>
</tr>
<tr>
<td>Medi-Cal + Medicare</td>
<td>27%</td>
<td>14%</td>
<td>42%</td>
<td>32%</td>
<td>31%</td>
</tr>
<tr>
<td>Medicare + Supplement</td>
<td>9%</td>
<td>29%</td>
<td>8%</td>
<td>21%</td>
<td>16%</td>
</tr>
<tr>
<td>County Medical Services</td>
<td>0%</td>
<td>0%</td>
<td>8%</td>
<td>11%</td>
<td>6%</td>
</tr>
<tr>
<td>Private</td>
<td>27%</td>
<td>57%</td>
<td>0%</td>
<td>26%</td>
<td>25%</td>
</tr>
<tr>
<td>Mexican Health Plan</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>No Coverage</td>
<td>18%</td>
<td>0%</td>
<td>8%</td>
<td>5%</td>
<td>8%</td>
</tr>
</tbody>
</table>

*Note: * indicates more than one answer is acceptable
As previously mentioned, the purpose of this study was to provide a subjective view of the leisure activity preferences older Mexican-Americans have, as well as the perceived benefits of these activities on emotional health. Results from the analyses of the data presented several main themes and subthemes that helped shed light on the original research questions. The Cohen’s Kappa that was calculated ($\kappa = .72$) reflects that there was a medium-to-high agreement between the investigator coding of topics and themes after achieving a consensus through discussion.

In the group discussions participants revealed some of the major components that effect QOL/HRQOL in older age. The major components were found to be participation in leisure activities (that gave way to social interactions), and emotional health. Analyzing the data derived from this study helped provide the cultural context that is missing in the collection of QOL and Successful Aging theories used in current research, as previously discussed. Spanish quotes have been translated to English.

When first asked to self-rate their health, participants shared a range of answers and rationales, which shed light on the extent to which leisure activities and social support can buffer the effects of emotional and even physical health ailments (for example, diabetes, which was reported by at least 7 participants). Although the presence of physical disability or disease was mentioned as having some effect on self-rated health, the participants’ answers also appeared to be informed by the degree of control and management they had over their health conditions, and the extent to which their conditions limited their daily or leisure activities. The participants discussed preventive actions they take to promote physical health and overall well-being. Such health-promoting activities included being physically active, eating healthy foods, avoiding vicios (bad habits, addictions), and sleeping well. In addition, health maintenance and preventive measures (e.g., regular check-ups, taking medications) were reported as valuable components in achieving a good QOL/HRQOL. Likewise, the participants’ self-rated health was influenced by what they accepted as a normal part of aging compared to their peers. A selection of participants’ comments follows:

For me, it is very important that food be nutritious and doesn’t produce cholesterol or other problems that we elderly accumulate. And exercise…I make sure to do it daily.

I have to get out and do something, and become more active. That's the downfall of a lot of elderly people because they just sit around and watch TV and it becomes their death sentence.
My health is ‘excellent’ because I’m not going to go around with a sign that says ‘feel sorry for me’. My illnesses are not visible, but they are very serious. I think that my emotional state, the confidence that one accumulates over the years…and the state of mind surpasses my physical health problems.

Participants went on to discuss, in greater detail, the attributes needed to overcome negative health conditions. Inner strengths, or resilience, were mentioned and appeared to manifest through self-confidence, emotional support from others, and/or religious faith. In the same light, staying busy and finding distractions were discussed as crucial to achieving a positive state of emotional health, and, specifically, coping with or preventing depression. Distractions described by participants included socializing, individual and group-based leisure activities, volunteering (formal and informal), and leisure-time physical activities. The majority of the women reported household tasks as fruitful distractions. Leisure activities most often cited were dancing (alone or with a group), listening to music, helping others, crafts, taking English or literacy classes, and walking. Other interests included swimming, learning to use the computer/internet, and going on short, low-cost, group excursions offered by the senior centers. Several participants described how they seek strength and meaning through their religious faith. They looked to prayer or their spirituality to help them overcome personal challenges and emotional distress.

Overall, group members unanimously reported a positive state of emotional health was achieved with healthy outlets and distractions for coping with and reducing depression. The participants explained that participation in leisure activities and developing strong social networks provided important feelings of self-contentment, tranquility, and inner strength. Specifically, social relationships offered benefits such as emotional and instrumental support in stressful times, companions in leisure activities, and sources of inspiration to help others and maintain a positive attitude. For example, many of the participants were engaged in formal and informal volunteer activities. They volunteered with various organizations, such as San Diego Police Department, the Alzheimer’s Association, senior centers, churches, or informally by helping neighbors who lived alone.

I enjoy music…dancing is also a healthy exercise, it motivates you because of the type of music you dance to.

We’re all big dancers here.

With happy music I love dancing, I’m always singing.

I enjoy working on crafts and I feel very good; that gives me a lot of strength.
I put on some music, take out the iron, and crack open a beer. [Music/dance] makes the heart happy.

I don’t believe in depression because when I think I’m down I say “St. Lazarus, lift me up!” (St. Lazarus is a Catholic Saint.)

Being happy with yourself, making sure to be as tranquil as possible and healthy to be able to help others. If you are not satisfied with yourself, it is difficult to provide help to others.

Participants just beamed when discussing the importance of their social relationships and networks. For some participants, social connections involve family members whom they can turn to in times of need:

When I’m with depression and there are problems related to my children, I call my sister and vent.

These social relationships were not only composed of immediate and extended family, but also of friends, and organized social groups (e.g., senior clubs, church). Especially with the absence of family members (often due to U.S. migration), the seniors relied heavily on extended networks of friends at the senior centers they became a part of:

This [senior] club is my life.

Since I entered this program, I’ve gotten to know many wonderful people and the truth is that they really lift your spirit.

I entered this club a while ago and I like it because it gives you a distraction, and I agree with what my friends have said, you feel less alone.
CHAPTER 5

DISCUSSION

Population growth of older adults has been exponential. Currently, there are about 40 million Americans who are age 65 and over. Three in five people within this age group are women (AoA, 2009a). Older U.S. Hispanics, including the largest subgroup, Mexican-Americans, are one of the fastest growing segments of the population (Bassford, 1995). Not surprising, it is estimated that Mexican-Americans will become the largest ethnic minority group among those aged 65 and older by 2030 (Angel, 2009). This group will also be largely composed of women (AoA, 2010).

The growth of the aging population has guided researchers to improve and expand their knowledge on the quality of life and determinants of healthy or successful aging. In accord with the chief goal of health promotion in the Healthy People, 2000 and 2010, reports, research, programs, and policies on aging are increasingly focused on improving QOL and not just extending life. Specifically, emotional health is an important component of QOL to consider among older Mexican-Americans—a population gravely affected by depression (Aranda et al., 2001; Raji et al., 2007). Depressive symptoms demonstrate a strong negative correlation with measures of QOL/HRQOL and have been used as a marker of successful aging in older adults (Coleman, Philip, & Muller, 1995; Evans, 2009; Havighurst, 1968; Shear et al., 2005; Strawbridge et al., 1996). The study of potential modifying factors on emotional health is, therefore, an important step in gerontological research.

Participation in leisure activities has been found to moderate the effects of depression by promoting and stimulating social interaction that can provide a sense of meaning and purpose in late life (Reyes-Ortiz, Berges, Raji, Koenig, Kuo, & Markides, 2008). The literature explains that older adults who have greater social interaction and satisfaction with social support have fewer depressive symptoms (George, Blazer, Hughes, & Fowler 1989; Hays et al., 1998; Holahan & Holahan, 1987; Oxman, Berkman, Kasl, Freeman, & Barrett, 1992; Wallsten, Tweed, Blazer, & George, 1999). Likewise, a reduction in leisure time activities among older adults can be symptomatic of chronic fatigue (Jopp & Hertzog, 2010),
whereas increased engagement in stimulating leisure activities has been associated with good physical health and independent functioning, higher levels of well-being, and relative preservation of cognitive functioning (Bosma et al., 2002; Herzog et al., 1998; Hultsch, Hertzog, Small, & Dixon, 1999; Lampinen, Heikkinen, Kauppinen, & Heikkinen, 2006; Menec, 2003; Prohaska et al., 2006; Schroll, 2003).

The results of this mixed methods study provided a better understanding of the leisure activity preferences among older Mexican-American women. In addition, this study reviewed data about emotional health (a major component of QOL) and looked to see if there was a connection between the two. Findings supported and contributed to the research on older adults and the elements that support a healthy aging process.

The WHI/SA study examined the differences in leisure activity participation among older, post-menopausal Latino and Caucasian women. Not only were the differences in rate of participation in 16 common leisure activities surveyed, but the potential association to depressive symptoms (and cognition) were also analyzed among the women. After matching the samples of Latino and Caucasian women on core demographic variables, the rates of participation in certain leisure activities were different between the two samples. For example, Latinas were significantly more inclined to be caregivers than the Caucasian women. This difference in rate of participation in caregiving is consistent with much of the literature (Angel, Angel, & Markides, 2000; Mor, Zinn, Angelelli, Teno, & Miller, 2004). It has been documented that Latinos are highly likely to care for their aging relatives and that this may be part of a cultural norm (Crist, Woo, & Choi, 2007; Herrera, Lee, Palos, & Torres-Vigil, 2008). Familism is a term often used in the literature to describe that which motivates family members to care for their relatives. With duties that generally require home skills, the caregiving task is frequently delegated to females in the Latino culture (Harwood et al., 2000; Langa et al., 2002).

Listening to the radio was one of the activities associated with lower rates of depressive symptoms in the sample of Latinas. This finding, from the bivariate analyses, supports recent research that listening to the radio or music has particular benefits (Chan et al., 2009). For example, an international, cross-sectional study of older adults showed that listening to the radio correlates with lower rates of depression (Gautam, Saito, & Kai, 2007); these findings are consistent with the positive psychological effects of music therapy in some
psychosocial trials among older adults (Jeste et al., 2008). Likewise, data from the qualitative study also stressed that music and dance were preferred leisure activities associated with better emotional health, as well as socialization among Latinas. This opportunity for increased socialization among Latinas supports the literature on the benefits from social support in leisure activities (Fulbright, 2010). Given such, music and dance warrant further study as a potential component of lifestyle and/or psychotherapy interventions. Now, the emotional health benefits from listening to the radio or music among Latinas differs from the benefits seen among the Caucasian women in the WHI/SA study. In the regression model for Caucasians, it was actually found that listening to the radio or music was associated with better cognitive performance.

Among Caucasian women, engaging in frequent sexual activity, volunteering, and computer usage were activities associated with fewer depressive symptoms. The association found between increased sexual activity and less depression among the older Caucasian women in the WHI/SA study sample is a reminder that a healthy sexual life in older age can have an impact on mood and should not be underestimated due to ageism (Gott & Hinchliff, 2003). Additionally, Latinas reported less computer use than Caucasian women. This finding highlights the technological divide between Hispanics and non-Hispanic whites (Lorence, Park, & Fox, 2006). Overall, the quantitative data indicated that Latinas engaged in family-related activities more often than Caucasian women. In addition, Latinas were less likely to participate in activities that required greater time and resources (i.e. financial). Nonetheless, further analyses adjusted for covariates and showed that many positive correlations to depressive symptom burden were no longer evident. That is, there was no longer any significant findings and the potential relationship between leisure activity participation and depressive symptoms essentially disappeared. Despite both Latinas and Caucasian women who engaged in organized social activities having lower depressive symptom burden, the named covariates may have captured more of the influence. In other words, lower depressive symptom scores may have just been attributed to better physical health (or another covariate) and not necessarily from engaging in the leisure activities.

Similarly, findings from the qualitative study identified major components of QOL/HRQOL in older age. The seniors emphasized the importance of emotional health as a component of QOL and shared their personal stories and strategies for how they cope with
depression/depressive symptoms. Participation in leisure activities was a major coping mechanism for dealing with depression because it provided opportunities for the seniors to socialize and even motivate them to overcome health conditions that might otherwise limit them. Some of the leisure activities consistently mentioned in helping seniors feel less depressed and improving overall well-being included listening to music, dancing, and housework. These findings are consistent with those found in the WHI/SA study.

The data from the four focus groups emphasized how social relationships can buffer life stressors (e.g. retirement, loss of partner) and can be helpful in coping with depression. Discussion of these strategies is where leisure activity preferences and perceived benefits were identified. Spending time with family and friends, volunteering (formal and informal), and drawing on spiritual strength are some of the strategies that participants noted. Consistent with literature that Latinos have a high preference to care for aging and infirm relatives, 14 to 20% of the participants served as caregivers for a family member or friend. However, during the focus groups seniors also shared the challenges of taking on such roles with their U.S. lifestyle. With greater geographic mobility and acculturation issues, the ability to provide care to loved ones becomes increasingly difficult (Angel, Angel, Aranda, & Miles, 2004; Durand, Telles, & Flashman, 2006). The emphasis on the participants’ reliance on spiritual strength to cope with depressive symptoms was also consistent with the literature and culturally-specific investigations (Adams, Aranda, Kemp, & Akagi, 2002; Herrera, Lee, Nanyonjo, Laufman, & Torres-Vigil, 2009).

Although not addressed in the WHI/SA study, the qualitative study was able to touch upon culturally-specific points. For example, the potential effects of U.S. migration. Participants expressed that U.S. migration had a positive effect on physical health because of improved access to healthcare, government benefits, and overall environment. Increased access to healthcare and economic resources can provide a better sense of control over health conditions and, therefore, influence the subjective health of older Mexican-Americans (Angel et al., 2009). With such incredible population growth, the number of public health problems and healthcare demands are exacerbated (Zunker & Rutt, 2007), therefore older adults will need access to adequate sources of care to help prevent illness and gain better control of their quality of life. However, a major finding with regard to U.S. migration was that participants felt the challenges of adjusting to U.S. lifestyle (e.g. straining interactions with family
members, discrimination/racism) had a negative impact on emotional health. This finding underscored the importance of developing healthy social networks in the U.S. for improved emotional health.

**STRENGTHS AND LIMITATIONS**

Despite the limitations discussed, there is little empirical research on the patterns of leisure activity participation and preferences among older ethnic minorities. The WHI/SA study and the qualitative study are pioneers in examining leisure activities in conjunction with emotional health and cognition. The results from the study provide a foundation for future research concerning the preferences and benefits of leisure activities among older ethnic minorities.

The data from this study should be reviewed with caution as the samples may not be representative of the general, older Mexican-American population. It may be argued that the recruitment of the women for both studies presents some bias. In the WHI/SA study, the group of Latina women had unexpectedly low rates of depressive symptoms (8% with CES-D $\geq 16$) compared to community estimates of depression in the general population of older Latinas (typically 24–39%). Nonetheless, careful examination of the sociodemographic variables, as well as the matching of the Latino and Caucasian samples reduces potential selection bias.

In the qualitative study, the participants were all self-selected individuals. With the participants recruited from senior recreation centers, clubs, and low-income community housing, it is possible the sample is comprised of seniors that are more active, have greater social connections, and overall, healthier. The levels of social support may not be typical of the general population and especially those not involved in volunteer programs. Unfortunately, however, the challenges to recruit older ethnic minorities required research staff to seek heavily populated areas where barriers such as lack of transportation, poor health, or caregiving constraints were not as much of an issue (McBride, 2007) and, as evident from a smaller sample size ($n = 49$), recruitment was still difficult. Recruitment required great effort by the study staff. The study staff were all females and, perhaps, this was also influential in who was recruited.
Some of the distinct differences in the samples have also been mentioned. The WHI/SA study had a more global inclusion of Latinas, although most were Mexican-American. One important note about the WHI/SA study sample of Latinas was that while nearly 60% were Mexican-American, this proportion is less than the estimated 64% in the U.S. (U.S. Census Bureau, 2006) and far less than the proportion estimated in the Southwest U.S. and for a border city like San Diego. In addition, the category of ethnicity for the Latinas was heterogeneous, and while it may not allow depiction of cultural differences based on country of origin, migration, or levels of acculturation, the majority of the sample were Mexican-Americans (57%). Despite the slight sample differences between the two studies, the samples were comprised mostly of older, Mexican-American women who were in their 70’s and fairly well educated.

An additional limitation of the WHI/SA study is the reliance on self-administered survey data. Collecting data in this manner is solely reliant upon the subjects and depends greatly on the subject’s memory, motivation, and even honesty to respond. In addition to the possibility of recall and response bias, enrollment in the Successful Aging study was exclusive to English-speaking women and only approximately one-third of the potential WHI subjects participated.

Finally, one must exercise caution when drawing conclusions, especially causal and bidirectional relationships, based on the variables measured in the cross sectional data presented. For example, health status and social support were examined at one particular point in time, not as a process. Such measures can vary greatly as one ages and has new experiences in life in older age (i.e. retirement, loss of spouse, etc.). Furthermore, the variables could very well have multiple meanings for each subject and the way they are defined could vary from the clinical definitions used.

**IMPLICATIONS FOR PUBLIC HEALTH AND FUTURE RECOMMENDATIONS**

In order to drive appropriate intervention programs for aging adults, it is imperative to understand the fundamental aspects of aging and what types of programs can improve emotional health in older adults. Depp, Schkade, Thompson, and Jeste (2010) note in their review that recent clinical trials propose caloric restriction, physical activity, stress reduction, and cognitive and social intervention programs enhance the lives of older adults. With the
growing older adult population, public health efforts should find ways to add life to years, not just add years to life (Evans, 2009). The data from this study is useful in that it provides a strong rationale for pursuing interventions that incorporate culturally preferred leisure activities among older Mexican-Americans to potentially improve emotional health, and the overall QOL/HRQOL as one ages.

With music and dance named as preferred activities by older Latinos, future programs could include these elements, particularly in a group setting that fosters social interactions and development of inner strength. Even for those individuals who participated in senior clubs or visited senior centers, they emphasized the importance of making social connections for various forms of support. Community-based interventions should encourage positive interactions that stimulate functional and cognitive activities that keep older adults active. These interventions could very well be church-based or those that allow groups to carry-out housework type duties (e.g. a clean-up of a community park, building, or business). Ideally, the leisure activities should also promote less-sedentary behaviors, such as watching television. Despite Latinas ($M = 6.04$) and Caucasian women ($M = 6.08$) reporting high frequency of television watching, it has been found that older adults do watch more television, yet enjoy the experience less (Depp, Schkade, et al., 2010). From the qualitative study, women did report that they enjoy activities outside the home and those that allowed them to interact with others. Hence, leisure activity-based interventions should consider more engaging (i.e. socially, physically, mentally) activities that older adults find enjoyable.

Also important to note is that ethnic minorities need leisure activities that provide a nurturing environment and not one where they will be faced with discrimination or racism. Hence, it is important to have multi-cultural and multi-lingual groups. Computer classes in Spanish might be helpful because, although the cognitive data from the WHI/SA study was not reviewed for the purpose of this study, the results showed that reading and doing puzzles was associated with improved cognition among Latinas. Also, participants whose preferred language was English were more likely to be involved in formal, structured volunteer opportunities. Perhaps volunteer opportunities in local Spanish-speaking organizations would be beneficial for older Mexican-Americans. The participants from the qualitative study had several recommendations for encouraging others to engage in volunteer work. For example, the groups suggested promoting volunteer opportunities that have clear expectations, with
cultural competency training for volunteer coordinators. Some of the participants also felt that organizations such as American Association of Retired Persons (AARP) and Latino-serving institutions (e.g. Chicano Federation, Casa de Salud, Neighborhood Health Association), and even churches would be a great places to involve volunteers.

Future research should continue to investigate the elements that contribute to a positive QOL/HRQOL in older ethnic minority adults, while gaining knowledge to inform the development of programs and policies that are culturally appropriate and can maximize health benefits—specifically, emotional health. Studies that investigate the genetic determinants of successful aging may also be of interest. Nevertheless, qualitative studies are not as abundant and could definitely contribute to the field by providing insight into a population that is understudied. Finally, as sparked from the qualitative study, differences in leisure activity preferences by gender should also be explored.

Patterns of leisure activity participation among older Latinos have received little empirical research, leaving several unanswered questions regarding the potential for these activities to promote more successful physical, emotional, and cognitive aging. Based on the findings from this study, fostering a range of leisure activities among older Latina women that include emotional, cognitive, and physical components may offer a cost-effective, culturally acceptable, and a feasible approach to improving overall health.
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