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Risk Factors Associated with Depression and Anxiety in Older Adults of Mexican Origin

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Dissertation Submitted in Partial Fulfillment

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Abstract

Older adults of Mexican origin are often underserved, especially those residing in nursing homes. Their number has increased in the past 4 years. There is a gap in the research literature on Hispanic elders, specifically those of Mexican origin, residing in nursing homes along the Texas–Mexico border. Because Texas has one of the fastest growing populations of Mexican elders, it is important to better understand this population. This nonexperimental study evaluated the relationship among risk factors—such as gender, marital status, family support, activities of daily living (ADLs)—and participation in nursing home activities. These relationships were evaluated with a demographic questionnaire, the Geriatric Depression Scale, and the Beck Anxiety Inventory. The sample consisted of 150 individuals of Mexican origin, 55 years of age or older, residing in nursing homes in a Texas–Mexico border city. Two multiple regression analyses were used to examine the relationships between these variables. The results indicated that the risk factors account for 9.1% of the variance in depression and 11.7% of the variance in anxiety. Of the predictor variables, activities of daily living made the only significant contribution. Thus, a high score on activities of daily living (i.e., needs complete assistance) predicted higher depression and anxiety, while female gender predicted higher anxiety, and frequent family support predicted low anxiety. This new knowledge gain through this study has implications for positive social change: (a) nursing home staff and physicians can do a better job in referring residents for psychological services, (b) mental health professionals can help nursing home staff better serve this population, and (c) nursing home staff may hold more family events to increase family involvement with their loved ones.

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Dedication

This dissertation is dedicated to my loving parents, Reginaldo and Maria Estrada, who have inspired me to work hard through their example. Their unconditional love and support was my strength to accomplish this life goal. This project is also dedicated to my wonderful and loving husband, Ricardo González, who never let me give up and constantly encouraged and believed that I can persevere.

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I would like to acknowledge and thank God, first and foremost, for providing me the strength, wisdom and perseverance to successfully complete this project. "By your perseverance you will secure your lives." Luke 21:19

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Chapter 1: Introduction to the Study

Background

For many years, society has had a negative attitude about the aging population due to stereotypical beliefs: for example, the aged are no longer useful to society. As a result, they have been overlooked and underserved (Bartels, 2003; Bennett & Gaines, 2010). In recent years, older adults have received more attention from various professions, but the demand for mental health and health care services is greater than the availability of professionals (Karel et al., 2012). According to the U.S. Department of Health and Human Services (DHHS, 2009), Administration on Aging, 38.9 million Americans are 65 and over and that number is projected to double in the next 40 years. Currently, older adults constitute 12.8% of the U.S. population (Cummings, Kropf, Cassie, & Bride, 2004). The percentage of individuals in nursing homes or other long-term care facilities is 5% (Tatchell, Jordan, Waite, & Tatchell, 2003). Two million elders live in nursing homes and more than 1.5 million older adults reside in assisted-living facilities; these numbers are expected to double by 2020 (National Institutes of Health [NIH], 2002). As a result of these placements , older adults must adjust to lives of loss and abandonment associated with institutional placement, physical disabilities, and emotional distress (Brandburg, Symes, Mastel-Smith, Hersch, & Walsh, 2013). Therefore, various professionals must gain the fundamental knowledge regarding effective strategies that will promote quality of life through a multimodal treatment process that addresses medical, functional, and cognitive disorders, in addition to treatment of late-life mental health disorders (Cummings et al., 2004). These older adults will need extensive healthcare services for physical and mental health disabilities.

By 2050, 58% of elderly individuals will be members of an ethnic minority group, with 20% being Hispanic. The older Hispanic population is expected to grow dramatically "from under 3 million in 2010 to 17.5 million in 2050" (Federal Interagency Forum on Aging-Related Statistics, 2012, p. 4). These statistics are representative of the nation overall, but in Texas, the Texas State Data Center projected an increase from 2.6 million in 2011 to 7.5 million in 2040 for the population aged 65 and older (Texas Health and Human Services System [THHSS], 2010). In addition, the State Data Center projected the Hispanic population will increase from 530,000 in 2011, to 2.7 million in 2040, which is approximately 422% (THHSS, 2010).

Texas has the second largest aging Hispanic population and this population will continue to rise in the future (Texas Department of Aging [TDoA], 2002). By 2040, half of the state's elderly population will consist of members of ethnic minority groups. The burgeoning majority of them—primarily Spanish speaking—currently reside in the state's southern counties and along the Texas–Mexico border, where they comprise 13% of the total population . The federal government has deemed all counties along the Texas–Mexico border to be medically underserved, which includes mental health (TDoA, 2002), and thus makes this study necessary and important.

A greater understanding of Hispanic elders, specifically those of Mexican origin and residing in nursing homes is pertinent. Hispanic elders are the fastest growing population. Their use of long-term care facilities greatly differs from that of non-Hispanic White elders. When residing in nursing homes, their overall functional status also differs from those of non-Hispanic White elders (Choido, Kanten, Gerety, Mulrow, & Cornell, 1994).

As the aging population increases with the baby boomer generation, their nursing home placement will also increase. Elderly individuals currently residing in nursing homes experience a number of ailments that damages their cognitive and emotional well-being. Mexican American elders in nursing homes are more likely to experience higher levels of impairment in cognition and physical functioning compared to non-Hispanic Whites (Choido et al., 1994). For example, a south Texas study determined that the activities of daily living (ADL) scores for Mexican American nursing home residents were worse than those of non-Hispanic Whites, as the Mexican Americans were more dependent on assistance for ADLs (Mulrow et al., 1996).

Along with physical and cognitive impairment, depressive symptomatology becomes prominent: manifestations include irritability, withdrawal, isolation, crying spells, verbal and physical aggression, as well as anxiety. Unfortunately, the stigma of inferiority in comparison to younger generations limits the resources available to elderly individuals for mental health and physical healthcare treatment (Robb, Chen, & Haley, 2002). Some healthcare professionals continue to doubt whether these individuals warrant mental health services due to their age and severe medical disorders; thus, these professionals may see mental health issues as irrelevant (American Psychological Association, 2014). However, Bartels (2003) and Vink, Aartsen and Schoevers (2008) have suggested that early detection and treatment of mental health disorders in the aging population increases their quality of life. In addition, mental health disorders impact many elderly individuals, inhibiting them from functioning to full capacity. Mental health services are scarce for this population, despite the astounding number of older adults who suffer from these disorders (Bartels, 2003; Karel et al., 2012).

In long-term settings such as nursing homes, mental health services are essential, especially for ethnic-minority older adults. The literature on the effectiveness of various psychological-treatment modalities for ethnic minority groups—as well as the risk factors associated with anxiety and depression, specifically among elders of Mexican origin (Chavez-Korell et al., 2012; Vink et al., 2008)—is limited. While the need is significant; too few mental health professionals from ethnic and nonethnic minority groups are interested in geropsychology (Chavez-Korell et al., 2012; Karel et al., 2012). To increase awareness of mental health and the need for psychological services among the aging population, this study sought to determine the risk factors associated with depression and anxiety in older adults of Mexican origin residing in nursing homes. Determining these factors will allow for early detection and intervention. Furthermore, researchers could then compare these results to those from studies of nonethnic community-dwelling older adults to determine both commonalities and generalizability.

Problem Statement

Among the older population, depression and anxiety are the most prevalent symptoms that are often under recognized and undertreated; they affect quality of life and shorten their lifespan (Vink et al., 2008). Depression affects 2 million Americans over the age of 65 (Kieffer & Reese, 2002), especially those residing in nursing homes (12 to 18%)(E. D. Jones & Beck-Little, 2002). As a result of physical disorders, professionals may have difficulty accurately detecting and diagnosing depression. Depression in older adults contributes to increased mortality and negatively affects their overall well-being and daily functioning (Jongenelis et al., 2004). Anxiety is also common in later life; it has been linked with physical disability, self-reported increased health complications, and

poor quality of life, as well as frequent access to medical specialists and benzodiazepine medications (Le Roux, Gatz, & Wetherell, 2005). Late-onset anxiety can also be attributed to negative events, such as increased medical problems, widowhood, displacement to institutionalized settings resulting from complicated medical conditions, cognitive impairment, and physical disabilities (Cone, 2008). Fear of being alone may lead to anxiety in older adults, as many may have lost most of their social contacts through death, illness, or relocation. Loss of social support provokes fear and pain and may make older adults reluctant to form new friendships, leading them to isolation and increased anxiety. This increasing isolation may be true especially among older adults in nursing homes. Despite the high prevalence of anxiety among older adults, anxiety remains understudied among this population (Wetherell, 1998).

Appropriate understanding of the risk factors associated with anxiety and depression will enhance the detection of the high prevalence of depression and anxiety exists among older adults. Though depression and anxiety may share common risk factors among older adults (Goldberg & Huxley, 1992), few researchers have focused on risk factors for anxiety in later life (Vink et al., 2008) and on older adults residing in nursing home. Rather, most researchers have focused on community-dwelling older adults. Attaining a better understanding of the risk factors associated with depression and anxiety will enhance efforts for early detection and treatment, and thus reduce symptoms and increase quality of life. Ten percent of older adults residing in nursing homes present with clinical depression, whereas 6% have anxiety problems (Préville, Côte, Boyer, & Hébert, 2004).

In addition to gaps in the literature on nursing home residents, gaps also exist with reference to minority groups in these settings, specifically those of Mexican origin. The Texas–Mexico border is a unique region comprised of primarily Spanish-speaking Hispanics of Mexican origin. The location for this study was ideal because older adults comprise 13% of the Hispanic population. Therefore, this study assists in filling the gaps by focusing on the older population residing in nursing homes who are of an ethnic origin, specifically Mexican. Furthermore, this study assists in filling gaps on risk factors associated with depression and anxiety among this specific population.

Purpose Statement

The purpose of this nonexperimental quantitative study was to examine the relationship between risk factors associated with depression and anxiety among elders of Mexican origin residing in nursing homes. In addition, this study explored the relationship between individual risk factors (gender, marital status, familial support, ADLs, and participation in nursing home activities) associated with depression and anxiety. Further analysis determined if risk factors associated with depression among this population were the same factors as those associated with anxiety among this population.

Variables

Five individual predictor variables and two criterion variables underlie this descriptive quantitative study.

Predictor Variables

Risk factors consisted of five demographic descriptors used as predictor variables: (a) gender, (b) marital status, (c) familial support, (d) ADLs, and (e) participation in

nursing home activities. All five factors were measured using the demographic questionnaire.

Criterion Variables

The constructs are depression and anxiety. Depression was measured using the Geriatric Depression Scale (GDS) and anxiety was measured using the Beck Anxiety Inventory (BAI).

Research Questions and Hypotheses

1. How well do the five individual risk factors (gender, marital status, familial support, ADLs, and participation in nursing home activities) predict depression among older adults of Mexican origin residing in nursing homes? How much variance on the GDS can be explained knowing these factors? What is the best predictor of depression: gender, marital status, familial support, ADLs, or participation in nursing home activities?

   $H_0$1: For all correlations of the five individual risk factors, no predictive relationship exists between individual risk factors, measured by the demographic questionnaire, and the construct of perceived depression, measured by the GDS, among older adults of Mexican origin residing in nursing homes.

   H_a1: For at least one of the correlations, a significant predictive relationship exists between the individual risk factors, measured by the demographic questionnaire, and the construct of depression, measured by the GDS, among older adults of Mexican origin residing in nursing homes.

2. How well do the five individual risk factors (gender, marital status, familial support, ADLs, and participation in nursing home activities) predict anxiety among older adults of Mexican origin residing in nursing homes? How much variance on the BAI can be explained knowing these factors? What is the best predictor of anxiety: gender, marital status, familial support, ADLs, or participation in nursing home activities?

   $H_0$2: For all correlations of the five individual risk factors, no predictive relationship exists between the individual risk factors, measured by the demographic questionnaire, and the construct of perceived anxiety, measured by the BAI, among older adults of Mexican origin residing in nursing homes.

   H_a2: For at least one of the correlations, a significant predictive relationship exists between the individual risk factors, measured by the demographic questionnaire, and the construct of anxiety, measured by the BAI, among older adults of Mexican origin residing in nursing homes.

In order to describe the sample's characteristics, several demographic variables and answers to questions about participation in the study were collected. In addition to summarizing these variables, the researcher explored associations between these variables and the criterion measure in order to evaluate the feasibility of including these predictors. However, these were secondary to the main research questions and hypotheses.

Significance of the Study

By examining the relationship between risk factors and depression and anxiety in older adults of Mexican origin residing in nursing homes in a Texas–Mexico border city, this study offers physicians, psychologists, and other mental health professionals an understanding of the risk factors. Physicians may therefore be more willing to refer nursing home residents for psychological services; psychologists and other mental health professionals will discover a greater need for geropsychology. Early detection and treatment of depression and anxiety can contribute to improved quality of life for older adults, especially during this end-of-life stage. Missing in the professional literature are studies focused on mental health issues that impact minority nursing home residents.

This study is expected to promote positive social change in two ways: awareness and prevention. First, awareness about depression and anxiety, two of the most common and disabling psychiatric disorders in later life, will increase. Understanding risk factors related to depression and anxiety among older adults residing in nursing homes will assist in developing effective prevention or treatment strategies, thereby enhancing their quality of life (Jongenelis et al., 2004).

The professional literature shows that depression and anxiety are prevalent disorders among the elderly. However, most studies focus on community-dwelling nonminority older adults. Therefore, the information gained from that study cannot be generalized to minority nursing home residents. The professional literature also indicates that risk factors, such as gender, stressful life events, and marital status, among others, align with depression and anxiety (Vink et al., 2008). However, without additional

information, those results also cannot be generalized to minority nursing home residents. This study provides an initial step in filling those gaps.

Second, this study focused on a minority population—older adults of Mexican origin—that is unique to a geographic location such as a Texas–Mexico border city, where statistics have indicated Mexican American elders comprise 13% of the population and the numbers continue to increase. By 2040, this group is expected to comprise half of the elderly population in Texas (TDoA, 2002). Greater numbers of older adults will reside in nursing homes in Texas. Therefore, researchers and mental health professional must be cognizant of risk factors associated with their emotional state in order to better provide for their needs and to improve their quality of life. Untreated depression or anxiety could lead to deteriorating quality of life and death.

Theoretical Framework

The theoretical framework on which this study stands integrates the self-regulation perspective of sociocognitive theory (SCT), which states that human beings are active agents in regulating their motivation and actions (Bandura & Locke, 2003). Self-regulation plays a major role in older adults' ability to avoid the adverse physical and psychological health effects common in age-related challenges (Wrosch, Dunne, Scheier, & Schulz, 2006). Older adults who engage in appropriate self-regulation are likely able to protect themselves against harmful psychological and physical health, whereas those who engage in maladaptive self-regulation will likely experience poor health. According to SCT, older adults who regulate their motivation and actions in managing age-related challenges should display less emotional distress. In this study, the

four challenges for the population under study are placement in a nursing home, physical disability, depression, and anxiety.

Self-regulation, which may be automatic or require effort, allows people to cope adequately in society (Morf & Mischel, 2002). . Functions associated with self-regulation include self-evaluation, psychological self-protection, and preservation of self, and can result in either a positive or negative effect on mental health (Morf & Mishchel, 2002). Maladaptive self-regulation could result in mental health issues such as low self-esteem, excessive stress, anxiety, and depression. Self-regulation involves executive processes to a degree, but it also operates on an automatic level. This self-system develops from infancy, based on social relationships; its functions are centered and maintained around one's interactions/relationships and goals throughout life (Morf & Mischel, 2002). Individuals' self-esteem regulates their ability to self-regulate, based on their ability to sustain social relationships. Self-regulation helps maintain balance between goals and emotions. When there is conflict between the two, psychological health may be compromised. I will discuss self-regulation further in Chapter 2.

Definition of Key Terms

Activities of daily living status (ADLs): An individual's ability to perform daily self-care activities that include dressing, toileting, eating, bathing, and transferring oneself from bed or chair (Covinsky et al., 2003). For this study, bathing is not included because nursing home policies require residents to bathe under supervision.

Adaptive self-regulation: The ability to self-regulate emotional, behavioral, and cognitive processes resulting in emotional well-being and good health (Wrosch et al., 2006).

Anxiety: Characterized by excessive worry, fear, irritability, restlessness, muscle tension, and sleep disturbance (American Psychiatric Association, 2000).

Criterion variables: The constructs are depression and anxiety. Depression was measured using the Geriatric Depression Scale (GDS) and anxiety was measured using the Beck Anxiety Inventory (BAI).

Depression: A mood disorder affecting multiple functions that include emotional, behavioral, cognitive, and social well-being. A loss of energy, poor sleep patterns, deficits in memory and concentration, poor eating habits, fatigue, irritability, and social withdrawal characterize depression (Benek-Higgins, McReynolds, Hogan, & Savickas, 2008).

Maladaptive self-regulation: The inability or difficulty of regulating emotional, behavioral, and cognitive processes in situations/events, resulting in poor psychological and physical health (Wrosch et al., 2006).

Older adults: Individuals 65 and older (USDHHS, 2009). The terms older adults, elderly people, elderly individuals, elder population, elders, and nursing home residents are used interchangeably in this study.

Predictor variables: Risk factors consisted of five demographic descriptors used as predictor variables: (a) gender, (b) marital status, (c) familial support, (d) ADLs, and (e) participation in nursing home activities. All five factors were measured using the demographic questionnaire.

Risk factor: A risk factor increases a person's possibility of getting a particular disease or condition (*Merriam-Webster's online dictionary,* 2015).

Self-regulation: A concept derived from SCT, self-regulation is the belief that one has the ability to produce desired outcomes based on motivators; if not, one may face difficulty persevering, resulting in vulnerability to stress and depression (Bandura & Locke, 2003).

Sociocognitive theory: Bandura (1991) framed this theory indicating that human behavior is determined by motivation and people's ability to adapt their behavior to an environment or circumstance through self-regulation. The terms SCT and self-regulation theory are used interchangeably in this study.

Nature of the Study

This quantitative study examined the impact of the predictor variables—(a) gender, (b) marital status, (c) familial support, (d) ADL status, and (e) participation in nursing home activities—on the criterion variables of depression and anxiety. The risk factors (the predictor variables) were measured using a demographic questionnaire, while depression was measured using the GDS (Kurlowicz, 2002) and anxiety was measured using the BAI (Beck & Steer, 1993). The Mini-Mental State Examination-2 (MMSE-2; Likourezos, Lantz, & American Association for Geriatric Psychiatry, 2001) was used to determine participants' levels of cognitive ability to understand the assessment items and participate in the study. Data were collected from self-report questionnaires completed by nursing home residents, with assistance by the examiner. All participants completed the demographic questionnaire, MMSE-2, GDS, and BAI. Two multiple regression analyses were used to analyze the data.

Candidates were recruited from a participant pool of four nursing homes in a Texas–Mexico border city with a combined resident population of 480. Prior to given

their consent, the researcher gave each one a brief description of the study . A more detailed discussion of the nature of the study and its research methods are provided in Chapter 3.

Assumptions

It was assumed that the selection of the participants who volunteer to participate in the study did not bias the study. The participants understood the demographic questionnaire and provided responses that were consistent with the purpose of the screening instruments. In addition, it was assumed participants responded honestly to the questions posed by the screening instruments and that each participant submitted only one demographic questionnaire. It was also assumed the evaluator did not influence participants' responses on verbally administered items. Further, the sample was assumed to be representative of older adults of Mexican origin residing in nursing homes in a Texas–Mexico border city.

Limitations

Limitations focus on the inherent problems in a particular research design. The primary limitations are those of external validity and internal validity in survey research. A limitation to internal validity is participants' abilities to understand the demographic questionnaire, which will be available in English and Spanish, and provide responses that are consistent with the purpose of the screening instruments. In some instances, due to physical limitations, the evaluator may need to verbally administer the items. Another limitation to internal validity involves the GDS and BAI, which are self-report inventories. The mood and time frame when each individual completes the questionnaires are not under the researchers' control and may be influenced by various conditions. The

data rely on self-reports and risk factors and restricted by demographic information. Therefore, other factors may align with depression and anxiety among this population that are not addressed in this study, including other physical/medical disabilities.

Limitations with regard to external validity are also present. The sample ensued from four nursing homes in a city along the Texas–Mexico border and may not fully represent the population of all elderly individuals residing in nursing homes. Participants were drawn from a convenience sample of nursing home residents of Mexican origin who were given the MMSE-2 and scored within the range that deems them cognitively able to participate. In addition, the size of the population was limited to the only four nursing homes available in the border city. Nursing home residents refusing to participate may affect the sample size; other factors that may impact participation include sudden decline in physical or mental health and sudden admission to the hospital. Insufficient or limited numbers of eligible nursing home residents will make it more difficult to obtain an adequate sample size.

Summary

This study focused on a minority population, older adults of Mexican origin, unique to a geographic location, such as a Texas–Mexico border city. It was important to study this specific group because Texas has the second largest Hispanic aging population in nation states, the majority of which reside along the Texas–Mexican border and primarily speak Spanish (TDoA, 2002). This group may compose half of the elderly population in 2040. It is highly likely that increasingly number of older adults will reside in nursing homes. Therefore, it is importance to understand risk factors associated with their emotional state in order to better provide for their needs and to improve their quality

of life. Untreated depression or anxiety could lead to deteriorating quality of life and death.

According to self-regulation theory, individuals have the ability to control their own thoughts, feelings, motivations, and actions (Bandura & Locke, 2003). For health-related behaviors, self-regulation refers to the ability to engage in activities that may prevent unhealthy outcomes or restore health (Purdie & McCrindle, 2002). In older populations, adaptive self-regulation results in the ability to cope with age-related challenges, such as demographics, health issues, and residential placements. Maladaptive self-regulation could compromise physical and psychological health. SCT aligns with the goal of older adults to regulate their emotional and cognitive states in order to cope with age-related challenges. Determining risk factors associated with depression and anxiety among this population is important, specifically those residing in nursing homes, because depression and anxiety are more prominent among institutionalized older adults. Literature does not include the information needed to better understand older adults' self-regulatory processes.

Implications for positive social change as a result of this study are many for mental health professionals, nursing home personnel, and medical personnel. Implications include efforts for early detection of depression and anxiety and treatment to reduce these symptoms and increase quality of life. Another benefit for positive social change is contribution to the body of research in the area of psychological well-being among older adults of a minority population residing in nursing homes by filling the gap in the literature.

Chapter 2 includes a review of the pertinent research and provides an in-depth discussion of self-regulation theory as it relates to the predictor-variable risk factors (gender, marital status, familial support, ADLs, and participation in nursing home activities) and the criterion variables of depression and anxiety. Chapter 3 presents the research methods used in this study, including research design and approach, setting and sample, instrumentation and materials, data-collection and -analysis procedures, and measures that were taken to protect participants' rights. Results of the study are presented in Chapter 4. In Chapter 5, a brief overview of the study, a summary of the findings, interpretation, implications for social change, and recommendations for action and further research are provided.

Chapter 2: Literature Review

Depression and anxiety are common among older adults, but are undertreated due to the belief that they are untreatable (Beekman et al., 2000; Katona, 2000). Researchers have correlated risk factors, such as age and gender, with depression or anxiety (Jongenelis et al., 2004; Vink et al., 2008). However, researchers based their empirical data on community-dwelling, non-Hispanic older adults. The aging population, specifically elders of a minority group, is steadily increasing, as are their nursing home admissions (NIH, 2002; USDHHS, 2009). Nursing homes have an institutional ambiance that even caregivers cannot minimize with extra effort; they cannot make the resident feel at home (Haight, Michel, & Hendrix, 2000). As a result, elderly individuals have difficulty adapting; they experience anger and despair about the life situation that has placed them in this circumstance. In addition, their idle time is spent contemplating themselves and their life lived, which enhances their risk of becoming clinically depressed and anxious. Few interventions treat or prevent emotional distress among cognizant individuals residing in nursing homes because of the high demands placed on those with advanced cognitive impairment, as well as those who are physically impaired (Haight et al., 2000). Ultimately, those who display signs of depression and anxiety will become increasingly depressed and anxious, resulting in increased deficits in physical, behavioral, cognitive, and emotional well-being. The purpose of this nonexperimental quantitative study was to determine the relationship among the risk factors that are associated with depression and anxiety among older adults of Mexican origin residing in a nursing home.

This chapter begins with a description of the literature strategy. It starts with a review of literature on Bandura's SCT of self-regulation (1991; Bandura & Locke, 2003) and then moves to a review of studies investigating the relationship among depression and anxiety, risk factors, and the Hispanic culture . Next, the five risk factors (the variables) are discussed: age, gender, marital status, familial support, and participation in nursing home activities. An explanation is included about why these variables are important to the study of depression and anxiety among this particular ethnic-minority population residing in nursing homes. The chapter concludes with a summary of literature demonstrated on a choice of research method. The review demonstrates a need for additional research in the area of nursing home residents, especially those of an ethnic minority population, and the risk factors associated with depression or anxiety .

Description of the Literature Search

The following databases were used in the search for relevant literature: Academic Search Premier, PsycINFO, PsycARTICLES, MEDLINE, ProQuest Digital Dissertations, SocINDEX, SAGE. The literature search includes seminal texts obtained through library searches and retailers. The following key words were used: *older adults, nursing homes, aging, depression, anxiety, risk factors, self-regulation, socio-cognitive theory, Aaron Beck, GDS, BAI, MMSE, elderly individuals, nursing home residents, Hispanics,* and *baby boomers*. The time period for the literature search was between 2000 and 2014. The older works sought to establish background on the following topics: nursing home placement of minority populations, depression, anxiety, and instrument development. Some works are historically prominent theoretical works. Of approximately 120 works retrieved and viewed, 102 are used in this study. Articles and book chapters are filed for

later use if they met the criteria for one of the keywords used, fit effectively into the topic, seemed to provide the most recent and relevant information on the topic, and referred to the key concepts of the theoretical framework.

Sociocognitive Theory

The theoretical framework for exploring the relationship between risk factors among depression and anxiety is SCT of self-regulation and the concept that humans have the ability to control or self-regulate their own thoughts, feelings, and behaviors (Bandura, 2005). Self-regulation is an internal control mechanism that directs motivation, affect, and behavior (Bandura, 1989). Self-regulation is an important function, allowing for adequate coping among other individuals (Morf & Mischel, 2002). Self-regulation involves conscious and unconscious effort. Self-regulatory functions include self-evaluation and psychological self-protection and allow for the protection and enhancement of self-esteem. In addition, self-regulation allows individuals to function appropriately socially, emotionally, and cognitively. Maladaptive self-regulation results in negative outcomes, hindering psychological and physiological health (Bandura & Locke, 2003; Morf & Mischel, 2002). Reorganization of perceptions, cognition, and motivational processes affiliate with adaptive self-regulation. Self-regulation assists in maintaining balance between goals and emotions. When conflict arises between goals and emotions, poor psychological health may result.

Maladaptive self-regulation could result in mental health issues that include anxiety, excessive stress, depression, and low self-esteem. Self-regulation involves some executive processes, but often operates on an automatic level. This self-system develops from infancy, based on social relationships, and its functions center and maintain around

one's interactions/relationships and goals throughout life (Morf & Mischel, 2002). Individuals' self-worth determines their ability to self-regulate, established from interpersonal contexts. Adaptive self-regulation plays a major role in the ability of older adults to avoid adverse physical and psychological health effects common in age-related challenges (Wrosch et al., 2006).

Influence on This Study

SCT provides a conceptual framework to evaluate concepts relevant to depression and anxiety among older adults residing in nursing homes. In this model, older adults residing in nursing homes who engage in adaptive self-regulation can avoid adverse mental health effects (Wrosch et al., 2006). People are living longer than before and their quality of life is often compromised due to health issues, as well as psychological challenges. These health issues may adversely affect emotional well-being. Wrosch et al. (2006) provided an example of depressive symptoms being highly correlated with older adults experiencing specific medical problems or exhibiting limitations in their ADLs. Older adults who engage in adaptive self-regulation are able to protect themselves against negative psychological and physical health, whereas those who engage in maladaptive self-regulation will likely experience negative health. Older adults who apply self-regulation in managing age-related challenges should display less emotional distress. For this study, placement in a nursing home, medical disability, depression, and anxiety are perceived as challenges for the population being studied.

Research Aligned with SCT

Self-regulation based on SCT references an individual's ability to be goal oriented, persistent, and willing to take purposeful actions regarding their own propriety,

especially in reference to their health (Purdie & McCrindle, 2002). Researchers found depression aligned with social risk factors that include "health of a partner or friends, conflict with others, financial problems" among older adults, age 65 and older (Bailly, Joulain, Hervé, & Alaphilippe, 2012, p. 434). Additionally, researchers also determined that those older adults who used the two modes of self-regulation (assimilative tenacity and accommodative flexibility) displayed less depression. Both methods of self-regulation played an essential role in the ability to adapt to negative life events (Bailly et al., 2012). Results from the Bailly et al. study may not represent the overall population, as participants were highly educated, living at home, had previous occupations, and were in general good health.

Adaptive self-regulation can protect against the adverse effects of psychological and physical health associated with age-related issues (Wrosch et al., 2006). Researchers determined that age-related challenges correlated with increased emotional distress and health problems when older adults demonstrated maladaptive patterns of self-regulation. This empirical evidence derived from cross-sectional, longitudinal, and experimental studies. Environmental influences may also play a role in older adults' motivation for self-regulation. Purdie and McCrindle (2002) reported that older adults who had family support were more likely to demonstrate increased motivation to improve their health, whereas those who lacked support, exhibited cognitive decline, or declining physical health displayed maladaptive self-regulation resulting in physical decline.

SCT in Relation to Risk Factors

Risk factors such as deteriorating physical health, cognitive decline, and poor social networks increase the risks for anxiety and depression. Vink et al. (2008) reported

that detection of depression and anxiety would be higher if risk factors associated with those disorders were known or better understood. When conducting their cross-sectional and longitudinal studies, Vink et al. found that female gender, poor coping skills, history of psychopathology, and stressful life events were risk factors correlated to prevalence and incidence of anxiety among older adults. Risk factors associated with depression included chronic disease, poor coping skills, physical disability, history of psychopathology, limited social network, unmarried status, female gender, and stressful life events. In addition, chronic health conditions, cognitive impairment, and physical limitations also were risk factors for depression (Vink et al., 2008).

Based on a study conducted by R. N. Jones, Marcantonio, and Rabinowitz (2003), the risk factors associated with the prevalence of depression among elderly individuals residing in nursing homes included marital status, cognition, age, sex, race, and length of stay in the facility, as well as heart disease and Parkinson's disease. However, Jongenelis et al. (2004) found age, physical complications such as stroke and visual impairment, physical limitations, poor social support, loneliness, and perceived inadequate care by the nursing home facility were risk factors for depression. Researchers did not find mild or moderate cognitive impairment to be a risk factor for depression.

The development of depression and anxiety in late-life can be harmful to physical and social adjustment, use of health services, and overall well-being. Determining risk factors associated with these mental health disorders will allow better understanding of how to prevent chronicity and implement more accurate interventions (Schoevers et al., 2003). It is also important to identify which factors more highly correlate with a specific gender because it is plausible that similar or various risk factors could increase or predict

chronicity of depression or anxiety among older adults. Kraaij and de Wilde (2001) found that negative life events were risk factors for depression among older adults. Bailly et al. (2012) suggested that social risk factors, such as negative life events, lack of support, health issues, or finances may contribute to older adults' maladaptive self-regulation, resulting in depression. Adaptive self-regulation among elders who also undergo these risk factors will depend on their flexibility to cope and find positive meaning in life.

SCT in Relation to Depression and Anxiety

Depression and anxiety are among the many, as well as the most common, ailing conditions impacting the quality of life for older adults (Vink et al., 2008). Often, they appear as comorbid disorders (Beekman et al., 2000; Katona, 2000; Vink et al., 2008). The prevalence of depression among institutionalized older adults is approximately 10%, whereas 6% experience anxiety (Préville et al., 2004). In addition, 25% of older adults residing in nursing homes or long-term care facilities experience increased psychological distress, which does not meet criteria for major depression (Préville et al., 2004). Stress associated with physical health conditions or limitations in physical activity causes an increased prevalence of depression and anxiety among this population. According to SCT, the amount of stress and depression individuals experience in difficult situations depends on the level of confidence they have in about their capabilities to address these situations, as well as their level of motivation (Bandura, 1989).

Brenes et al. (2008) reported that anxiety, depression, and physical disability are three debilitating problems many elderly people endure that may be related. However, evidence suggested a greater relationship between depression and physical disability. To date, little research indicated any relationship between anxiety and physical disability.

Wetherell, Gatz, and Pederson (2001) suggested that a relationship between depression and anxiety may show differences if conducted among older adults. Studies conducted with older adults may reveal a relationship between these two entities that may be less clear, equally stable, or demonstrate that depression is as likely to lead to anxiety as anxiety to depression. However, researchers conducted little research with older adults. From an SCT perspective, anxiety arises in situations where individuals' coping strategies are compromised (Bandura, 1989). Individuals' limited abilities to cope with tasks or circumstances beyond their perceived self-efficacy range results in anxiety, stress, or depression. When one has little perceived control over one's situation, the ability to self-regulate becomes negatively affected, resulting in increased emotional arousal (Bandura, 1989).

Risk Factors

Researchers identified various risk factors associated with depression and anxiety among community-dwelling older adults; however, generalization to older adults who are institutionalized needs to be determined (Penninx et al., 2008; Schnittger, Wherton, Prendergast, & Lawlor, 2012). Although much research exists on risk factors associated with depression, little focused on risk factors for anxiety (Vink et al., 2008). Researchers suggested that identifying those risk factors related to depression and anxiety among older adults will enhance understanding, increase early detection of disorders, and allow for more accurate interventions (Heun & Hein, 2005; Schoevers et al., 2003; Vink et al., 2008). Despite studies suggesting a link between various risk factors and depression and anxiety, some research demonstrates contradictory or inconclusive findings.

In a study conducted by Heun and Hein (2005), researchers found that female gender, age, subjective memory impairment, previous history of anxiety disorders, and somatoform disorders were all risk factors associated with depression among community-dwelling older adults. However, in studies conducted by Steffens et al. (2000) and Lehtinen and Joukamaa (1994), researchers found age was not a risk factor for depression among adults aged 65 and older. Vink et al. (2008) reviewed 80 articles regarding risk factors associated with depression and anxiety among community-dwelling elders and conducted a systematic comparison of risk profiles across these studies. The reviewed studies indicated risk factors aligned with anxiety, including personality traits, inadequate coping strategies, previous psychopathology, stressful events, and female gender. The risk factors found to be associated with depression included chronic diseases, poor self-perceived health, functional disability, personality traits, inadequate coping strategies, smaller network size, being unmarried, and female gender. Of those 80 articles reviewed, eight were on studies related to risk factors and anxiety, 63 described risk factors for depression, and 9 identified risk factors associated with both anxiety and depression (Vink et al., 2008). Based on this information, conclusions about similarities or differences of risk factors associated with depression and anxiety among this population should be made with caution, due to the limited number of articles focused on anxiety. Cole and Dendukuri (2003), in contrast, did not conclude age, lower education level, being unmarried, and poor social support were risk factors for depression.

Beekman et al. (2000) reviewed research suggesting that positive family histories and personal histories of affective and anxiety disorders were not significant risk factors associated with depression in older adults. However, physical health and cognitive

decline were prominent risk factors for developing anxiety and depression, according to those studies reviewed. Vink et al. (2008), in contrast, reported chronic health conditions and cognitive impairment to be risk factors for depression, but not anxiety. These contradictory conclusions intensify the need for further study.

A great range of risk factors associate with depression and anxiety among older adults. The literature is limited in studies addressing risk factors for anxiety among this population. Study results demonstrated some variability in conclusions and outcomes. Literature searches did not result in more current information; as a result, the majority of studies conducted on risk factors associated with depression and anxiety in this population are dated. It is important to better understand the significance of risk factors associated with depression and anxiety, especially for older adults, to aid in the development of interventions.

Depression and Anxiety Among Older Adults

Depression is a common disorder afflicting older adults, especially those residing in nursing homes (Gonçalves, Albuquerque, Byrne, & Pachana, 2009; Haight et al., 2000). However, although this may be the case, detection of depression among this population often remains unrecognized, but when recognized is undertreated or treated inadequately or inappropriately (R. N. Jones et al., 2003; Katona, 2000). Depression is likely to persist unidentified among nursing home residents who are old-old (80 years of age and older), minorities, those who exhibit severe cognitive deficits, or those with limited social support (Mehta et al., 2008). Depression among older adults results in decreased quality of life, increased medical problems, and mortality (Gonçalves et al., 2009). Researchers often believed late-life depression was part of normal aging, as well

as an unavoidable symptom of growing old (Benek-Higgins et al., 2008; Gonçalves et al., 2009). Depression in older adults may be overlooked because physicians may be focused on physiological factors in making a diagnosis (Katona, 2000). In addition, older adults may not be aware of the symptoms associated with depression and present to their physician with more somatic complaints. The misdiagnosis of depression among older adults with medical conditions is fairly common because symptoms of their health conditions often mimic symptoms of depression (Beck-Higgins et al., 2008; Kahan, Mitchell, Kemp, & Adkins; 2006). This misdiagnosis may be especially true for older adults residing in nursing homes because of the medical conditions that contributed to their placement. As a result, elders are often underserved and overlooked for psychological services (Myers & Harper, 2004) and treatment is not always available to them. Additionally, some professionals believe this population does not benefit from services over time.

Some researchers assumed a high correlation exists between aging and depression (Newmann, 1989). They consider depression to be an expectation felt among older adults who experience illnesses, hindering their ability to care for themselves, as well as those who have experienced a loss in their life such as the death of a loved one (Benek-Higgins et al., 2008; Katona, 2000). Thus, this population lacks psychotherapy treatment for depression. Researchers indicated that failure to refer older adults for psychotherapy is based on the misconception that old adults will not benefit because they are "too set in their ways" (Benek-Higgins et al, 2008, p. 289). These assumptions are based on limited research focused on depression among the elderly population, including older adults residing in nursing homes. The high incidence of depression among elderly people

residing in nursing homes is a cause for concern; therefore, the psychosocial issues related to symptomatology during their end-of-life placement in nursing homes should be addressed (Haight et al. 2000).

Researchers have highly correlated anxiety disorders, specifically generalized anxiety disorder, with major depressive disorder (Mineka, Watson, & Clark, 1998). Evidence suggested depressive disorders usually follow anxiety disorders with lifetime comorbidity. In addition, pure depression does not commonly coexist without anxiety, whereas pure anxiety is more likely to exist without depression (Mineka et al., 1998). The National Institute of Mental Health Epidemiologic Catchment Area Program conducted a study suggesting 43% of people who have been diagnosed with a depressive disorder are likely to be diagnosed with an anxiety disorder at some point in their lives, whereas 25% of those with anxiety disorders will be diagnosed with a mood disorder (Mineka et al., 1998).

Anxiety, like depression, is common among older adults. A scarcity of research focuses on the prevalence of anxiety among this population, especially those residing in nursing homes (Flint, 1994; Smalbrugge, Pot, Jongenelis, Beekman, & Eefsting, 2005; Wetherell, 1998). Of the research that has been conducted, researchers estimated the prevalence of anxiety among community-dwelling older adults to range between 2 and 19% (Ayers, Sorrell, Thorp, & Wetherell, 2007). The effects of anxiety among older adults can impact their quality of life, as they may experience difficulty engaging in ADLs. In addition, they may experience a decrease in their overall well-being and feel less satisfied with life (Smalbrugge et al., 2005). Early detection and treatment of anxiety may prevent these consequences.

Despite a lack of research focused on anxiety among the elderly population in the past, in recent years, researchers have focused on the prevalence, nature, and consequences of anxiety (Bryant, Jackson, & Ames, 2008). This research has resulted in conflicting findings, including the belief that anxiety manifests differently in younger people than older (Flint, 2005), whereas conflicting research suggested otherwise (Wetherell, Maser, & van Balkom, 2005; Wetherell, Sorrell, Thorp, & Patterson, 2005). In addition, Flint (2005) indicated that anxiety and depression are comorbid disorders, whereas Wetherell et al. (2005) suggested the concurrence of anxiety and depression may be lower than each disorder on its own. Resolution of these controversies has not yet occurred; however, it is important to address the effects/consequences of anxiety among the older population.

Anxiety can be a debilitating disorder, especially for older adults, because its symptoms can create life dissatisfaction and increase risks for emotional and physical well-being, including mortality and disability (Ayers et al., 2007; Bryant et al., 2008). This disorder continues to be underrecognized and undertreated, especially in nursing home settings (Cheok, Snowdon, Miller, & Vaughn, 1996). Older adults in medical settings experience up to 65% of anxiety symptoms, whereas community-dwelling older adults average from 2.4–15% (Bryant et al., 2008). Because the percentage for medical settings appears to be high, it is important to implement mental health interventions in such settings to minimize this frequency. Unfortunately, there are several contributors to the gaps in the literature regarding anxiety to include lack of interest by geriatric professionals, misconception that anxiety, as depression, are age-related, and the majority

of older adults will not seek mental health treatment for anxiety, but rather are attended by their primary care physicians.

Bryant et al. (2008) indicated older adults who exhibit compromised cognitive processes, frailty, and poor physical health and require institutionalized settings are at a higher risk of developing symptoms of anxiety. In addition, Cheok et al. (1996) reported that older adults who are in institutionalized settings, such as a nursing home, are likely to experience many stressors due to compromised physical health and anguish associated with loss of autonomy. Anxiety is a disorder in which symptoms often relate to physical health. Therefore, it is highly predicted that prevalence rates of anxiety are high among those residing in nursing homes.

Hispanic Culture

For this study, it is important to understand the values and beliefs of the Hispanic culture, specifically for those of Mexican descent. According to the 1991 U.S. Census, individuals of Hispanic descent over the age of 64 are the fastest growing population in the nation (Beyene, Becker, & Mayen, 2002). Baxter, Bryant, Scarbro, and Shetterly (2001) found limited research focused on nursing home use among Hispanics, specifically those of Mexican American descent. About 2–3% of Mexican American elders reside in a nursing home setting (Eribes & Bradley-Rawls, 1978; Markides et al., 1996). The reason for this low percentage has much to do with the culture, family members care for most elders of Mexican descent at home. Culturally, Mexican Americans regard older adults with much respect, valuing them for their wisdom. Hispanics, specifically those of Mexican descent, have a close relationship with their elders and tradition holds that it is the moral obligation for the now adult children to care

for elder adults. Therefore, Mexican Americans do not view nursing homes as a culturally practical alternative, but as a last resort if absolutely necessary. One may then assume that those Mexican elders who are placed in nursing homes are likely to experience abandonment issues, grief, adjustment issues, depression, or anxiety. I found no studies in the literature that addressed these issues among older adults of Mexican descent residing in nursing homes, to determine a more evidence of this problem.

In a study conducted by Eribes and Bradley-Rawls (1978), researchers indicated that older adults of Mexican origin would be more likely to use nursing homes if they were built in neighborhoods more highly populated by individuals of Mexican descent. Despite cultural values and traditions, families of older adults of Mexican origin are placing them in nursing homes. As a result, these individuals not only must endure the complications (physical and emotional) associated with aging, but also accept a placement not customary of their culture. Therefore, research on this population is important because it may enhance and further increase understanding of elders' needs, thereby promoting a better quality of life for them. In conducting research, not only is there a scarcity of research on older adults residing in nursing homes, but also of minority older adults, especially Hispanics, residing in nursing homes. The scarcity of research extends to those populations residing near the U.S.–Mexico border.

Summary

This chapter detailed current literature on SCT, risk factors, depression, anxiety, and Hispanic culture. The dominant focus in the literature is on the risk factors associated with depression and anxiety among non-Hispanic community-dwelling older adults (Beekman et al., 2000; Heun & Hein, 2005; Lehtinen & Joukamaa, 1994; Schoevers et

al., 2003; Steffens et al., 2000; Vink et al., 2008). Researchers conducted fewer studies on risk indicators of depression in nursing homes, despite prevalence rates of depression ranging from 6 to 26% for major depression and from 11 to 50% for minor depression (Beekman et al., 2000; R. N. Jones et al., 2003; Jongenelis et al., 2004). Researchers stressed the importance of gaining greater insight into the prevalence rates and risk indicators of depression and anxiety among nursing home residents because of the increasing number of elderly people in the population (R. N. Jones et al., 2003; Jongenelis et al., 2004; Katona, 2000; Kraaij & de Wilde, 2001; Smalbrugge et al., 2005). Furthermore, researchers have not examined the risk factors associated with depression and anxiety among Hispanic older adults residing in nursing homes. The older Hispanic population is growing more rapidly than any other ethnic group in the nation (Choido et al., 1994; Federal Interagency Forum on Aging-Related Statistics, 2012; TDoA, 2002). In Texas, the Hispanic older population may increase from 530,000 in 2011 to 2.7 million by 2040, which is an increase of nearly 422% (TDoA, 2002; THHSS, 2010). Given the significance of the increasing numbers of older adults, especially those of Hispanic descent, it seems imperative to gain more insight into the risk factors associated with depression and anxiety among this population who reside in nursing homes to develop adequate prevention and treatment plans (Jongenelis et al., 2004; Kraaij & de Wilde, 2001; Vink et al., 2008). The study addresses the relationship between risk factors associated with depression and anxiety among older adults of Mexican origin residing in nursing homes.

Chapter 3 provides the research design and approach, including data collection, data analysis, instrumentation, a description of the setting and sample, threats to statistical conclusion validity, and protection of participants' rights.

Chapter 3: Research Method

Introduction

The purpose of this nonexperimental quantitative study was to examine the relationship between risk factors and depression and anxiety among older adults of Mexican origin residing in nursing homes in a Texas–Mexico border city. The focus is on the influence of risk factors associated with depression and anxiety.

The risk factors (gender, marital status, familial support, ADLs and participation in nursing home activities) were assessed using a demographic questionnaire. Participants' level of depression was measured using the GDS (Yesavage et al., 1983), and participants' level of anxiety with the BAI (Beck & Steer, 1993).

This chapter includes the study's research methods. A brief review of the design and approach to the study, including setting and sample, procedures, and instrumentation are presented. Next, the chapter discusses data collection and analysis. A review of the threats to statistical validity, including reliability of the instruments, data assumptions, and sample size, and the measures that protect participants' rights conclude the chapter.

Research Design and Approach

This quantitative study used a nonexperimental design. The goal was to collect numerical statistical data, using psychometrically sound instruments, to evaluate selected risk factors associated with depression or anxiety among older adults of Mexican origin residing in a nursing home in a border city. Participants' responses to the researcher-developed demographic questionnaire yielded the potential risk factors. The GDS, developed by Yesavage et al. (1983), was used to assess the level of depression. The instrument was appropriate for use in this study due to its extensive use with older

populations in community settings and long-term settings. Researchers have deemed it appropriate for use with older adults with physical illnesses and mild to moderate dementia (Yesavage et al., 1983). Although the BAI developed by Beck and Steer (1993) was not designed to be used with older adults, the use of the BAI among this population has high internal consistency (Yochim, Mueller, June, & Segal, 2011). Therefore, the BAI was the instrument of choice to assess the level of anxiety in older adults participating in this study.

A nonexperimental design was used because the constructs under study cannot be manipulated and there was no intervention. The advantages of nonexperimental research are that researchers can collect the data from participants easily, and can examine questions that experimental researchers cannot (Stone-Romero & Rosopa, 2008). The disadvantages are the restricted ability to make inferences on causality and the inability to manipulate or control the variables. The nonexperimental design allows for hypotheses testing without the manipulation of variables. However, the disadvantage is that causality cannot be determined.

Self-administered surveys offer several advantages: they (a) allow participants to respond at their convenience; eliminate interviewer bias, minimize social-desirability effects, require no interviewer training, and finally, they are cost effective (Bordens & Abbott, 2011; Tourangeau & Yan, 2007). However, face-to-face administration of structured surveys eliminates fluctuation in the data, allowing for easier analysis (Bordens & Abbott, 2011). In addition, researcher administration is more ideal for individuals with limited skills and allows for higher response rates as well as greater control over the environment (Chang & Kronsnick, 2010). For this study, the MMSE-2

was administered to participants, which determined participants' cognitive ability to participate in the study; participants can self-administer the MMSE-2 or can be administered the items of the instruments. When the researcher administered the instruments, the researcher administered the items to each participant exactly as they were written on the assessment tools to ensure validity.

Comparing telephone interviewing with face-to-face interview surveys among older adults, Herzog, Rodgers, and Kulka (1983) found that older adults are less likely to participate in telephone surveys than face-to-face interviews. In addition, the authors determined that older adults who perceive themselves to be less healthy are more likely to decline telephone interviews than face-to-face surveys. This factor also held true for those older adults who were less educated. Face-to-face surveys seemed to ease respondents and made the process more personable (Herzog et al., 1983). Disadvantages of data collected from a face-to-face administration of a survey include experimenter bias, a requirement of interviewer training, and increased social-desirability effects (Duffy, Smith, Terhanian , & Bremer, 2005).

Although various research methods were considered, they were eventually rejected. The manipulation of the variables in this study is not possible; therefore, an experimental design is inappropriate. A qualitative approach for this study is not considered because the interest is in examining the statistical relationship of these constructs, rather than examining themes based on interviews.

Setting and Sample

The sample for this study was drawn from four nursing homes located in a city on the border between Texas and Mexico. Participants were of various ages, ranging upward

from 55, and of Mexican origin. Descriptive statistics was reported on these variables. Permission was sought from the administrators at each of the nursing homes prior to conducting the study. To be eligible for participation in the study, residents have to be 55 years of age or older, be able to communicate effectively in either Spanish or English, have no severe cognitive impairment (MMSE-2 $\geq$ 23), and be of Mexican descent.

Availability or convenience sampling was used because it provides the researcher accessibility to participants and data needed concerning a specific nursing home population. Convenience sampling helps establish an effective sample size (Mitchell & Jolley, 2004). A shortcoming of a single sampling source is the probability of not having a good representation of overall populations due to limitations in the information gathered (Howell, 2014).

To determine the appropriate sample size for the study, two power analyses were conducted using G*Power3.1 software (Faul, Erdfelder, Lang, & Buchner, 2007). The sample size was calculated using a power of .80 and an alpha level of .05, which are considered to be accepted values to establish sufficient statistical power and are standard practice in psychological research (Gravetter & Wallnau, 2009; Mitchell & Jolley, 2004). Since there is limited research on the relationship between risk factors associated with depression and anxiety, as well as a limited number of possible participants, both medium ($f^2 = .25$) and large ($f^2 = .40$) effect sizes for multiple regression were used in the calculations (Gravetter & Wallnau, 2009). A minimum estimated number of participants needed to achieve statistical power with a large effect size is 80. A conservative number of participants needed with a medium effect size is 196 (Faul et al., 2007). Therefore, an estimated 150 participants was sought for this study.

Procedures

Participants were recruited to voluntarily participate in the research study through hand-delivered invitations taken to their rooms announcing that a study is available to prospective participants. The invitation and eligibility requirements were verbally explained to the prospective participants and a written invitation containing a brief description of the study and the informed consent was provided (see Appendix A). Prospective participants were provided an index card with their room number and bed letter and they were asked to deposit the card in a box at the nurses' station if they choose to participate.

Prospective participants' signatures on the informed consent indicate they have agreed to voluntarily participate in the study. Once the informed-consent form was signed, participants were provided the demographic survey (see Appendix B) and three screening instruments (see sample items in Appendices C, D, and E). The demographic survey was verbally administered if requested. The three psychometric screening instruments, also available in Spanish, were then administered. Personal identifying information was gathered on the demographic questionnaire or on the survey instruments. The dissertation committee and the researcher will only have access to the data. Raw data, void of any sensitive information, are available to qualified professionals, upon request.

Instrumentation

Geriatric Depression Scale

The purpose of the GDS (Yesavage et al., 1983) is to identify severity of depression among the elderly population (see Appendix C). The GDS was chosen to

measure depression based on its extensive use in community, acute, and long-term settings. In addition, it is brief and older adults who are considered healthy, medically ill, and who display mild to moderate cognitive deficits can readily use it (Kurlowicz, 2002). Researchers may administer it orally or in written form and it does not require a trained professional to administer it. The GDS is readily available in a public domain, as a result of federal support, so the instrument is available for researchers to use freely.

The GDS is a 30-item questionnaire, with each item requiring a yes or no response. It is also available in a 15-item short form. Furthermore, this instrument is available in Spanish as well as many other languages. The participants' primary language will determine the use of the published Spanish or English version of this instrument. The scores from 0–4 are in normal range, 5–8 suggests mild depression, 9–11 indicates moderate depression, and 12–15 indicates severe depression (Greenburg, 2012). For this study, participants responded yes or no to the 15-item form because it is more easily used by older adults with physical ailments as well as those with mild dementia. Based on each participant's preference and ability to read and write due to any medical limitations, either the participant self-administered, or was administered the GDS. It takes approximately 10 minutes to complete. Scores were calculated by adding the number of responses circled that are in bold letters. This total determined the range of depression the participant reported. This instrument has been shown to have a high degree of internal consistency, as well as the highest sensitivity and specificity with rates of 92% and 89%, respectively on the English version of the GDS (Abraham, Wofford, Lichtenberg, & Holroyd, 1994; Kurlowicz, 2002). The Spanish version of the GDS has been shown to have a sensitivity of 87% and specificity of 63% (Fernández-San Martin et al., 2002).

The significant difference indicated between the sensitivity and specificity of the English version and the Spanish version of the GDS may be due to the population used to determine these percentages. The English version is based on research conducted with psychiatric patients, whereas researchers studied Spanish-speaking nonpsychiatric patients. The internal consistency coefficient of alpha = .81 was only found for the Spanish version of the GDS-15 (Lucas-Carrasco, 2012).

Beck Anxiety Inventory

The purpose of the BAI (Leyfer, Ruberg, & Woodruff-Borden, 2006; Magán, Sanz, & García-Vera, 2008) was to examine the severity of anxiety among the older population (see sample items in Appendix D). The BAI was selected based on its wide use to measure severity of anxiety across various populations including clinical practice and research. I obtained permission to use the BAI (see Appendix F).

The BAI is a 21-item, 4-point scale, self-administered inventory. The BAI is self- or orally administered and takes approximately 10 minutes to complete. This instrument is also available in Spanish. As with the GDS, the Spanish and English versions were available to participants. The inventory consists of 21 self-report items based on descriptive statements of anxiety. Participants selected a response using a 4-point scale with a possible response range from 0 (Not at all); 1 (Mildly; it did not bother me much); 2 (Moderately; it was very unpleasant, but I could stand it); to 3 (Severely; I could barely stand it) (Beck & Steer, 1993). It has a maximum score of 63 with 0–7 suggesting a minimal level of anxiety, 8–15 mild anxiety, 16–25 moderate anxiety, and 26–63 severe anxiety (Beck & Steer, 1993). Scores accrue by adding the ratings of each item given by participants to obtain an overall score.

Internal consistency coefficients reported by Beck, Epstein, Brown, and Steer (1988) for the total sample carry alpha = .92, whereas Fydrich, Dowdall, and Chambless (1990) found a slightly higher level of internal consistency of alpha = .94. The item correlations and reliability for the 21 BAI symptoms range from .30 to .71 (Beck & Steer, 1993). Test–retest reliability was .75. The internal consistency coefficient for the Spanish version of the BAI, reported by Magán et al. (2008), was .93.

Construct validity, strongly supported by Beck et al. (1988) in a study of 160 patients correlating between the BAI and the Hamilton Psychiatric Rating Scale for Depression–Revised, was significant with $r = .25$, whereas the correlation between the BAI and BDI is significantly higher with $r = .48$. Concurrent validity ranges from $r = .41$ to $r = .61$. Validity was supported through confirmatory factor analysis ($r = .56$; Beck & Steer, 1993). The Spanish version of the BAI yielded $r = .63$ when correlated to the BDI-II and $r = .32$ when correlated with the Trait-Anger scales of the State-Trait Anger Expression Inventory-2 (Magán et al., 2008).

Demographics Questionnaire

A brief demographics questionnaire designed by the researcher for this study, developed in both English and Spanish, is available in Appendix B. The demographic information consists of nine items: (a) age, (b) gender, (c) ethnicity, (d) marital status, (e) length of time in the facility, (f) consultation with psychologist or psychiatrist, (g) familial support, (h) assistance with ADLs, and (i) participation in nursing home activities.

Mini-Mental Status Examination -2

The purpose of the MMSE (Tombaugh, McDowell, Kristjansson, & Hubley, 1996) is to screen participants and determine their cognitive ability to participate in the study. The MMSE-2 is equivalent to the original MMSE and was used in this study (Folstein, Folstein, White, & Messer, 2010; see sample items in Appendix E). This instrument is chosen due to its extensive use in many clinical settings to measure cognitive functioning, as well as changes in cognitive state. Researchers used it widely to screen for cognitive impairment and to track patients' progress through time, as well as to screen patients for dementia in clinical trials (Folstein et al., 2010). Researchers should not use the MMSE-2 alone to diagnose dementia. Permission is sought to use the MMSE-2 (see Appendix G).

The MMSE-2 is a brief and objective measure that researchers can administer in 5 to 10 minutes in written or oral form. It is also available in English and Spanish. This instrument is a 30-point questionnaire measuring orientation, attention, memory, arithmetic, language, comprehension, and basic motor skills (Folstein et al., 2010). Anyone trained to assess individuals with cognitive impairment and who is familiar with the administration instructions and scoring procedures may administer the MMSE-2 (Folstein et al., 2010). Researchers conduct the scoring by adding all the responses and obtaining a sum score. Scores $\geq$ 24 are within normal range, 18–23 indicate mild cognitive impairment, 10–17 moderate cognitive impairment, and $\leq$ 9 suggest severe cognitive impairment (Folstein et al., 2010; Tombaugh et al., 1996). The cutoff score is 23.

Researchers have established reliability for the MMSE-2. Internal consistency reliability coefficients reported by Folstein et al. (2010) yielded a range of .66 to .79. Folstein et al. found test–retest reliability, by examining generalizability coefficients, to be $\geq$ .96 and interrater reliability coefficients ranged from .94 to .99. Researchers established validity for the MMSE-2. Researchers established convergent validity by correlating MMSE-2 with Wechsler Memory Scale-III Digit Span Forward and Digit Span Backward subtests, the Category Naming Test, the Boston Naming Test, and the Trail Making Test (Folstein et al., 2010).

Data Analysis

The relationship between the risk factors' five dimensions (gender, marital status, familial support, ADLs and participation in nursing home activities), and the constructs of depression and anxiety was evaluated. Data screening and descriptive statistics of demographic variables was evaluated to discern relationships among the criterion variables. The research questions, null hypotheses, and alternative hypotheses were formulated to examine the potential relationships among risk factors and depression and anxiety.

Two multiple regression analyses were used in this study. Regression analysis is appropriate when the predictive value of a correlation between variables is desired (Gravetter & Wallnau, 2013). Additionally, the predictor variable consists of five dimensions and a multiple regression can examine the effects of single or multiple variables.

Restatement of the Research Questions and Hypotheses

1. How well do the five individual risk factors (gender, marital status, familial support, ADLs, and participation in nursing home activities) predict depression among older adults of Mexican origin residing in nursing homes? How much variance on the GDS can be explained knowing these factors? What is the best predictor of depression: gender, marital status, familial support, ADLs, or participation in nursing home activities?

   $H_0$1: For all correlations of the five individual risk factors, no predictive relationship exists between individual risk factors, measured by the demographic questionnaire, and the construct of perceived depression, measured by the GDS, among older adults of Mexican origin residing in nursing homes.

   H_a1: For at least one of the correlations, a significant predictive relationship exists between the individual risk factors, measured by the demographic questionnaire, and the construct of depression, measured by the GDS, among older adults of Mexican origin residing in nursing homes.

2. How well do the five individual risk factors (gender, marital status, familial support, ADLs, and participation in nursing home activities) predict anxiety among older adults of Mexican origin residing in nursing homes? How much variance on the BAI can be explained knowing these factors? What is the best predictor of anxiety: gender, marital status, familial support, ADLs, or participation in nursing home activities?

$H_0$2: For all correlations of the five individual risk factors, no predictive relationship exists between the individual risk factors, measured by the demographic questionnaire, and the construct of perceived anxiety, measured by the BAI, among older adults of Mexican origin residing in nursing homes.

H_a2: For at least one of the correlations, a significant predictive relationship exists between the individual risk factors, measured by the demographic questionnaire, and the construct of anxiety, measured by the BAI, among older adults of Mexican origin residing in nursing homes.

Data Collection

Participants completed one administered brief, objective psychometric measure (MMSE-2), demographic survey, and two self-administered psychometric instruments (GDS and BAI) at four of the local nursing homes. The GDS, BAI, and demographic survey may be orally administered, depending on participants' limitations to read or write, due to illiteracy or medical disabilities. After participants complete the survey instruments, the data was collected by the researcher for analysis.

Data Analysis

Data was screened and individual cases were eliminated if the participant did not complete the survey instruments. Missing values for continuous data will be replaced with the mean score of all other subjects for that variable provided no more than 15% of the data is replaced. George and Mallery (2006) determined the acceptability of this criterion, which has little influence on analysis outcome.

Data analyses was conducted using the SPSS 21.0 software application. Preliminary analyses of the questions was conducted to verify that the internal consistency of the subscales are comparable to the previous literature using Cronbach's coefficient alpha. Descriptive statistics of demographic variables were evaluated to discern relationships to the criterion variables. An inspection of standardized residual plots were used to confirm homoscedasticity.

The normality of the distribution of variables was assessed by a visual examination of the data for outliers. Skewness and kurtosis for the measures of depression and anxiety was examined to assess normality. Examining Mahalanobis distances (Finch, 2012) will identify multivariate outliers. Multicolinearity between the five predictor variables of risk factors (gender, marital status, familial support, ADLs and nursing home participation) and the criterion variables of depression and anxiety was determined.

Multiple regression analysis was the method of data analysis used to test the hypotheses and examine the interaction between the variables of depression and anxiety with the five risk factors. Multiple regression analysis is appropriate when determining predictive correlations between one or more independent variables on a dependent variable (Bordens & Abbott, 2011). Researchers use regression analysis when there are two or more predictor variables (Bordens & Abbott, 2011).

Composite depression scores was calculated from the GDS and composite anxiety scores was calculated from the BAI, both calculated as ratio measures. Ratio measurement scales are appropriate when identifying magnitudes (Gravetter & Wallnau, 2013). The regression analyses tested for interactions between each of the five predictor

variables of risk factors—gender, marital status, familial support, ADLs, and nursing home participation—on the criterion variables depression and anxiety.

Threats to the Validity of the Statistical Conclusion

This study does not involve an experiment and threats to internal validity are not applicable. However, threats to statistical conclusion validity can occur when the researcher makes inadequate inferences and generalizes to the rest of the population. When low statistical power exists, the estimated effect size is biased, statistical assumptions are violated, the sample size is too small, or measurement instruments are unreliable or invalid, statistical conclusion validity is threatened (Marczyk, DeMatteo, & Festinger, 2005).

Reliability of Instruments

All selected instruments were reviewed for psychometric adequacy. All instruments will be assessed using SPSS 21.0 software to evaluate internal consistency using Cronbach's coefficient alpha.

Data Assumptions

Two standard multiple regression analyses were the statistical test used to answer the research questions. Assumptions pertaining to regression analysis follow: (a) variables are normally distributed, (b) a linear relationship between predictor and criterion variables exists, (c) variables are measured reliably, and (d) homoscedasticity is present (Bordens & Abbott, 2011). Prior to conducting the main analyses, the assumption is made that the variables are distributed normally. Variables with extreme outliers, highly skewed or kurtotic variables can distort the relationship of the variables examined.

Researchers can reduce Type I and Type II errors by removing outliers (Bordens & Abbott, 2011). Data plots, skewness, kurtosis, and histograms will be visually examined.

It was assumed that a linear relationship between the predictor and criterion variables. Nonlinear relationships between the variables result in underestimation of the true relationship. An increased risk of Type II error exists for the predictor variables, as well as an increased risk of Type I error for the other predictor variables that share variance, if the relationship is nonlinear. A determination of linear relationships can be made by examining residual plots and curvilinearity testing (Bordens & Abbott, 2011).

It was assumed that the measurement of the variable is reliable. Unreliable measurement increases the risk of Type II error by underestimating the relationship. The effect size of other variables may be overestimated. According to Mitchell and Jolley (2010), reliability estimates of Cronbach's alphas of .70 to .80, preferably closer to 1, are considered acceptable for a social science experiment.

Homoscedasticity specifies that the variance of errors is equal across all predictor variables. The possibility of Type I error is increased when there are differences of variance errors across predictor variables (Bordens & Abbott, 2011). Visual examination of a plot of the standardized residuals will be used to confirm homoscedasticity.

Sample Size

If the sample size is too small, the probability of committing errors increases. If the sample size is too small, it will have insufficient influence on the statistical significance of the results (Bordens & Abbott, 2011). An appropriate sample size will decrease the probability of committing errors, maximize the accuracy of population estimates, and increase the generalizability of the results (Bordens & Abbott, 2011). *A*

priori power analysis was conducted to minimize the threat of too small a sample size and ensure a sufficient sample size.

Protection of Participants' Rights

Ethical considerations are important in this study. Appropriate efforts to uphold all ethical standards was ensured. Steps that were taken for the ethical protection of all participants are described in the following sections.

Ethical Issues in the Research Problem

This research has meaning for older adults residing in a nursing home, especially those of Mexican origin, who seek a better understanding of how various risk factors may be related to their depression and anxiety. Nursing home residents' understanding of the risk factors associated with depression and anxiety can impact their overall quality of life. This research also has meaning for nursing home personnel, as well as medical personnel, who provide essential care for nursing home residents. Mental health professionals who provide psychological services to elderly people residing in a nursing home will also find this study meaningful, as they will be able to modify their treatments and effectively evaluate for depression and anxiety. Nursing home personnel can also use results to help them recognize the importance of better monitoring patients' emotional status and attain the appropriate referrals, as ethically they are obliged to make sure all patients' needs are being met. In addition, results can be used by medical physicians to better understand the risk factors associated with depression and anxiety among older adults residing in nursing homes and provide more effective treatments that will improve these individuals' quality of life. Although the risks are minimal when filling out the questionnaires and surveys, older adults may have concerns or questions about their depression and anxiety as it

pertains to each questionnaire. If any participants had concerns about their depression and anxiety and feel follow-up services are needed, a list of referral sources was available.

Ethical Issues Pertaining to Research Questions and Purpose

Each participant was informed about the purpose of the study and were not deceived in any way. Participation in this research was confidential and entirely voluntary. Participants were able to withdraw from participation in the study at any time without negative repercussions of any kind.

Ethical Issues in Data Analysis and Interpretation

Approval from the Walden University Institutional Review Board, #06-15-15-0034762 (see Appendix H) was sought and received prior to initiating data collection. As participants complete the questionnaire and surveys, the data was directly provided to the researcher and stored in a locked cabinet for 7 years, as the American Psychological Association (2010) requires, accessible only by the researcher. All assumptions were thoroughly tested when collecting the data, and the analysis and interpretation of the data was conducted honestly and accurately.

Ethical Issues in Writing and Disseminating Research

All data collected, to include informed consent, and analyzed during this study were reviewed for accuracy of participation, completeness of individual questionnaires, scoring, and interpretation. The researcher provided honest and accurate results in the formal reporting of all research findings. Summary of results will be provided to all participants and the nursing home administrators. Individuals currently receiving services from the researcher were sought as participants for this study.

Summary

This chapter presented the research methods used for this nonexperimental quantitative study, which seeks to explore the relationship between risk factors associated with depression and anxiety among older adults of Mexican origin residing in nursing homes in a Texas–Mexico border city. The chapter included the research design, setting and sample, as well as sample selection. The instrumentation are discussed in detail. Two self-report surveys, the GDS and BAI, and a demographic questionnaire were used for data collection. The MMSE-2 determined eligibility for participation. The chapter specified reliability of the instruments, as well as the threats to statistical conclusion validity. Particular attention is directed toward ethical issues pertaining to the research and the protection of participants' rights.

Chapter 4: Results

The purpose of this nonexperimental quantitative study was to examine the relationship between risk factors associated with depression and anxiety among older adults of Mexican origin residing in nursing homes. Specifically, this study was conducted to answer two research questions:

1. How well do the five individual risk factors (gender, marital status, familial support, ADLs, and participation in nursing home activities) predict depression among older adults of Mexican origin residing in the nursing homes? How much variance on the GDS can be explained knowing these factors? What is the best predictor of depression: gender, marital status, familial support, ADLs, or participation in nursing home activities?
2. How well do the five individual risk factors (gender, marital status, familial support, ADLs, and participation in nursing home activities) predict anxiety among older adults of Mexican origin residing in the nursing homes? How much variance on the BAI can be explained knowing these factors? What is the best predictor of anxiety: gender, marital status, familial support, ADLs, or participation in nursing home activities?

The first hypothesis stated no predictive relationship exists between the individual risk factors and levels of depression. The second hypothesis stated no predictive relationship exists between the individual risk factors and levels of anxiety. The hypotheses were tested using two standard multiple regression analyses. This chapter describes the participants sampled, it provides an overview of the design and procedures, and it summarizes the results of the analyses.

Demographic Characteristics of the Sample

Participants were assessed on an individual basis during a month and a half long time frame. A total of 150 participants from four perspective nursing homes participated in the study and all completed the instruments successfully. Of those who participated, 50 were male and 100 were female. The majority of the participants were Mexican (53%) and the remaining were Mexican-American (47%). Of these participants, 47% were widowed, 27% were married, 15% were single, and 12% were divorced. Their length of time in the facility varied from less than a year (30%), 1 to 5 years (61%), 6 to 10 years (6%) and greater than 10 years (3%). Only 36% of the participants indicated receiving family support at least once a week, while 19% indicated daily support, 19% only twice a month, 10% from three times a week or at least once a month, and 6% received family support twice a week.

The majority of the participants (80%) do not receive any form of psychological or psychiatric consultation. Results indicated 38% of the participants participated in daily activities with some (34%) participating 2 to 3 times a week, while 26% do not participate in any activities, 1% participate once a week and less than 1% participated four times a week. With regards to ADLs, 96% did not require assistance for eating, 3% required some assistance and 1% required complete assistance. For dressing, 43% required no assistance, 28% required some assistance and 29% required complete assistance. In addition, 47% required no assistance for toileting, 23% required some assistance and 30% required complete assistance. Finally, 48% required no assistance for transferring, 23% required some assistance and 29% required complete assistance. Table 1 summarizes the demographic characteristics of the sample.

Table 1

Demographic Characteristics of the Sample Study (N = 150)

Characteristics	Number	Percentages
Gender		
Male	50	33
Female	100	67
Ethnicity		
Mexican	79	53
Mexican-American	71	47
Marital status		
Single	22	15
Married	40	27
Divorced	18	12
Widowed	70	47
Family support		
Daily	29	19
Once a week	54	36
Twice a week	9	6
Three times a week	15	10
Once a month	15	10
Twice a month	28	19
Length in facility		
Less than a year	45	30
1-5 years	91	61
6-10 years	9	6
Greater than 10 years	5	3
Dressing		
No assistance	65	43
Some assistance	42	28
Complete assistance	43	29
Toileting		
No assistance	71	47
Some assistance	34	23
Complete assistance	45	30
Eating		
No assistance	144	96
Some assistance	4	3
Complete assistance	2	1

(*table continues*)

Characteristics	Number	Percentages
Transferring		
No assistance	72	48
Some assistance	35	23
Complete assistance	43	29
Participation in Activities		
None	39	26
Daily	57	38
Once a week	2	1
2-3 times a week	51	34
Four times a week	1	<1
Consultation with Psychologist/Psychiatrist		
No	120	80
Yes	30	20

Data Screening

Prior to analysis, data were screened to ensure complete and accurate completion of instruments. All the participants completed the assessments. Eighteen participants requested English versions of the instruments. In addition, all of the participants requested for the researcher to orally administer the assessment tools due to one or several medical impediments. Missing values in categorical data did not interfere with analysis, as there were not any missing values. Therefore, all participants' responses were considered valid.

Overview of Design and Procedures

Depression and anxiety were assessed for each participant. Participants completed a mental status examination, two screening instruments and one demographic questionnaire. The mental status examination was the first instrument administered and was used solely to determine the participants' cognitive ability to participate in the study

(MMSE-2 cutoff score $\geq$ 23). The mean and SD for the composite score of the MMSE-2 was *M* = 24.59 and *SD* = 1.76.

The second instrument administered was the GDS, which measured severity of depression. The composite scores of symptom severity ranged from 0-4 none to mild depression (56%), 5-9 moderate depression (30%) and 10-15 severe depression (14%). The mean and SD for the composite score of depression was *M* = 4.49 and *SD* = 3.98. The third instrument administered was the BAI, which measured severity of anxiety. The composite scores of symptom severity ranged from 0-7 none to minimal anxiety (69%), 8-15 mild anxiety (18%), 16-25 moderate anxiety (10%) and 26-63 severe anxiety (3%). The mean and SD for the composite score of anxiety was *M* = 6.21 and *SD* = 7.59. The mean scores and standard deviations for the criterion and predictor variables are shown in Table 2.

Table 2

Means and Standard Deviations for Criterion and Predictor Variables (N = 150)

Variable	Mean	SD
GDS	4.49	3.98
BAI	6.21	7.59
TotADL	6.54	2.50

Data Analyses

Two separate analyses were run. The first examined the predictive relationship of the five individual risk factors and depression. It also examined how much variance can be explained by the scores on the depression scale (GDS), as well as which risk factors were the best predictor of depression. The second examined the predictive relationship of

the five individual risk factors and anxiety, along with the variance that can be explained by the scores on the anxiety scale (BAI) and determine which risk factors were the best predictors of anxiety.

Data analyses was conducted using SPSS 21.0 software. In preliminary analysis, the assumptions of linearity and homogeneity of variance were assessed with scatter plots. The assumptions were met. Homoscedasticity was confirmed through an examination of standardized residual plots. The standardized residual scores were evenly distributed over predicted standardized over the GDS and BAI scores. Skewness and kurtosis of the variables were examined and indicated a normal distribution for both composites. An examination of Mahalanobis distances (Pallant, 2013), computed from the regression of the GDS and BAI, demonstrated the MD = 1.25 to 10.39 failed to identify any outliers considered significant outliers at MD = 20.52 (α = .001). The assumption of absence of multicollinearity among predictor variables (gender, marital status, familial support, ADLs, and participation in activities) was assessed by examining the Variance Inflation Factors (VIF) and Tolerance statistics. Tolerance statistics ranged between T = .89 and T = .97 and all VIF were below 10, ranging between 1.03 and 1.12 meeting the assumption for the absence of multicollinearity (Pallant, 2013).

Major Findings

To test the hypotheses for the first research question, the predictor variables (gender, marital status, familial support, ADLs and participation in nursing home activities) were entered into a multiple regression analysis with the GDS as the criterion variable. The results indicated the risk factors account for 9.1% of the variance of

depression, as measured by the GDS. The overall regression (Table3) was significant, $F(5, 144) = 2.89$, $p < .001$, Adjusted $R^2 = .060$.

Table 3

Model Summary of Variance for Depression, as Measured by the GDS

R	R^2	Adjusted R^2	*F*	*df1*	*df2*	*p* Value
.302[a]	.091	.060	2.89	5	144	.016[a]

Note: [a]Predictors: (constant), gender, marital status, familial support, ADLs, participation in activities.

Regression weights were examined and are shown in Table 4. Of the predictor variables, ADLs makes the only significant contribution ($\beta = .274$, $p < .001$). Thus, a high score on ADL (needs complete assistance) predicts higher depression. Although this predictive relationship exists, the strength is not very strong. Based on the findings of the analysis, the null hypothesis for the first question, "For all correlations of the five individual risk factors, no predictive relationship exists between individual risk factors, measured by the demographic questionnaire, and the construct of perceived level of depression, measured by the GDS, among older adults of Mexican origin residing in nursing homes." was rejected. The alternate hypothesis was supported indicating a significant predictive relationship exists by at least one of the individual risk factors (ADLs) and the construct of depression. These findings suggest complete assistance with ADLs predicts high levels of depression.

Table 4

Summary of Analysis for Variables Predicting Depression, as Measured by the GDS

Measure	*B*	*SE B*	β	*t*	*p*
Gender	.586	.707	.070	.829	.408
Marital status	-.285	.282	-.082	-1.011	.314
Familial support	.319	.180	.146	1.772	.079
ADLs	.436	.129	.274	3.367	.001
Participation in activities	-.049	.262	-.015	-.189	.850
Constant	.623	1.763		.353	.724

Note. B = Unstandardized β, SEM = standard error of the mean for unstandardized β, Std B = standardized β.

To examine the second hypothesis question and determine the extent in which the five individual risk factors (gender, marital status, familial support, ADLs, and participation in nursing home activities) predicted the construct anxiety, as measured by the BAI, another multiple regression analysis was conducted. The results of the analysis, shown in Table 5, indicated the risk factors account for 11.7% of the variance of anxiety. The overall regression was statistically significant, $F(5, 144) = 3.83$, $p < .001$, Adjusted $R^2 = .087$.

Table 5

Model Summary of Variance for Anxiety, as Measured by the BAI

R	R^2	Adjusted R^2	*F*	*df1*	*df2*	*p* Value
.342[a]	.117	.087	3.83	5	144	.003[a]

Note: [a]Predictors: (Constant), gender, marital status, familial support, ADLs, participation in activities.

Regression weights were examined and are shown in Table 6. Of the predictor variables, gender made the largest unique contribution (β = .236), although family support (β = .189), and ADLs (β = .176), also made statistically significant contributions. Thus, females (*M* = 7.4) tended to have higher anxiety scores than males (*M* = 3.82). Individuals with more frequent family support had lower anxiety and those with higher ADLs scores (needs complete assistance) had higher anxiety scores. Based on the findings of the analysis, the null hypothesis for the second question, "For all correlations of the five individual risk factors, no predictive relationship exists between individual risk factors, measured by the demographic questionnaire, and the construct of perceived level of anxiety, measured by the BAI, among older adults of Mexican origin residing in nursing homes." was rejected. The alternate hypothesis was supported indicating a significant predictive relationship exists by at least one of the individual risk factors (gender, familial support, and ADLs) and the construct of anxiety. These findings suggest gender strongly predicts high levels of anxiety, as did complete assistance with ADLs, while frequent family support predicts low levels of anxiety.

Table 6

Summary of Analysis for Variables Predicting Anxiety, as Measured by the BAI

Measure	*B*	*SE B*	β	*t*	*p*
Gender	3.787	1.329	.236	2.849	.005
Marital status	.561	.530	.085	1.058	.292
Familial support	.786	.338	.189	2.324	.022
ADLs	.536	.243	.176	2.203	.029
Participation in activities	-.341	.492	-.055	-.692	.490
Constant	-6.855	3.316		-2.068	.040

Note. B = Unstandardized Beta, SEM = standard error of the mean for unstandardized Beta, Std B = standardized Beta.

Summary

Based on the findings of the regression analyses the null hypotheses regarding the predictive relationships between the five individual risk factors (gender, marital status, familial support, and ADLs) and depression, as well as the predictive relationships between the five individual risk factors and anxiety, were rejected and alternative hypotheses were retained. The overall results support the premise that at least one individual risk factor (complete assistance with ADLs) strongly predicts high levels of depression, as measured by the GDS, among older adults of Mexican origin residing in nursing homes. Results further support that at least one of the individual risk factors (gender and complete assistance with ADLs) strongly predicts high levels of anxiety, as measured by the BAI, while frequent family support predicts lower levels of anxiety, among older adults of Mexican origin residing in nursing homes.

Chapter 5 will provide a brief summary of the study and an explanation of why

and how the study was undertaken and performed. Conclusions will be drawn based on the findings, and their impact on social change will be discussed. Recommendations will be offered for future action and further research.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

This chapter is arranged in five sections: a brief overview of why and how the study was done and a review of the research questions, the interpretation of findings in the context of peer-reviewed literature and theoretical framework, the limitations of the study, the recommendations for further research, and the implications for social change.

The purpose of this nonexperimental quantitative study was to examine the relationship between risk factors and depression and anxiety among older adults of Mexican origin residing in nursing homes in a Texas border city. This study sought to address a gap in the literature by identifying significant relationships that may exist in this population between five individual risk factors (gender, marital status, familial support, and ADLs) and depression, as measured by the GDS, and anxiety, as measured by the BAI. The research questions were as follows: (a) How well do the five individual risk factors (gender, marital status, familial support, ADLs, and participation in nursing home activities) predict depression among older adults of Mexican origin residing in the nursing homes? How much variance on the GDS can be explained knowing these factors? What is the best predictor of depression: gender, marital status, familial support, ADLs, or participation in nursing home activities? (b) How well do the five individual risk factors (gender, marital status, familial support, ADLs, and participation in nursing home activities) predict anxiety among older adults of Mexican origin residing in the nursing homes? How much variance on the BAI can be explained knowing these factors? What is the best predictor of anxiety: gender, marital status, familial support, ADLs, or participation in nursing home activities?

This study and its importance was justified by the scarcity of empirical data in the literature regarding nursing home residents, especially those of a minority population, and their risk factors associated with depression and anxiety. The risk factors associated with depression and anxiety among community-dwelling older adults have been well documented (Heun & Hein, 2005; Schoevers et al., 2003; Vink et al., 2008). However, some of the research demonstrated contradictory or inconclusive findings. For example, Heun and Hein (2005) found gender, age, subjective memory impairment, previous history of anxiety disorders, and somatoform disorders were all risk factors associated with depression among community-dwelling older adults. In contrast, Vink et al. (2008) conclude that age, memory impairment or previous psychopathology were not risk factors associated with depression; instead, they determined that chronic disease, poor self-perceived health, being unmarried, inadequate coping strategies, functional disability and smaller set of family and friends were the relevant risk factors. According to Cole and Dendukuri (2003), age, lower education level, being unmarried and poor social support were not seen as risk factors for depression.

The literature on risk factors for anxiety among this population is limited. According to Vink et al. (2008), few studies have focused on risk factors associated with anxiety. Those studies that have focused on anxiety demonstrated variability with regards to conclusions and outcomes (Beekman et al., 2000; Vink et al., 2008). Furthermore, there is a limited amount of research focused on nursing home use among Hispanics, specifically that of Mexican American decent (Baxter et al., 2001). It is estimated that 2% to 3% of Mexican-American elderly reside in a nursing home setting (Eribes & Bradley-Rawls, 1978; Markides et al., 1996). However, these numbers are projected to rise with

the baby boomer generation. Therefore, understanding the risk factors, such as gender, marital status, ADLs, participation in activities and familial support, associated with depression and anxiety among this population was imperative to develop adequate prevention and treatment plans.

Interpretation of the Findings

The initial data analysis supported rejecting the null hypothesis, indicating that for all correlations of the five individual risk factors, no predictive relationship exists between individual risk factors, measured by the demographic questionnaire, and the construct of perceived depression, as measured by the GDS, among older adults of Mexican origin residing in nursing homes. Those individuals who required more assistance with ADLs scored higher on the construct of perceived depression suggesting complete dependence on others for assistance with eating, toileting, dressing and transferring predicts higher levels of depression.

The second analysis supported rejecting the null hypothesis, stating that for all correlations of the five individual risk factors, no predictive relationship exists between individual risk factors, measured by the demographic questionnaire, and the construct of perceived anxiety, as measured by the BAI, among older adults of Mexican origin residing in nursing homes. Females and those requiring more assistance with ADLs scored higher on the construct of perceived anxiety, while more frequent familial support scored lower on the construct of perceived anxiety. This suggests that females and complete dependence on others for assistance with eating, toileting, dressing and transferring predicts higher levels of anxiety, while more frequent familial support predicts lower levels of anxiety.

Literature Review and Research Findings

This study aligns with prior research conducted on community dwelling white older adults (Vink et al., 2008) that indicated female gender was a risk factor for anxiety and with Bryant et al. (2008) in that complete dependence on others for assistance creates increased anxiety and depression. Also, Cole and Dendukuri (2003) did not find poor social support to be a risk factor for depression among community dwelling older adults, primarily white, as this study did not find poor familial support to be associated with depression among nursing home residents. In addition, this study supports a study conducted by Choido et al. (1994) suggesting Mexican American elders residing in nursing homes are more likely to be dependent with ADLs. In this study, complete assistance with ADLs was predictive of both high levels of anxiety and depression.

The goal of this study was to determine the risk factors associated with depression and anxiety among older adults of Mexican origin residing in nursing homes. This study supports that older adults of Mexican origin residing in nursing homes who require complete assistance with ADLs are more likely to experience high levels of anxiety and depression. Also, females of this given population are likely to experience high levels of anxiety, while those nursing home residents whose families provided frequent support are less likely to experience anxiety.

Theoretical Framework and Research Findings

The theoretical base for this study supported that individuals who have the ability to control or self-regulate their own thoughts, feelings and behaviors functioned more appropriately socially, emotionally and cognitively (Bandura, 2005). Older adults residing in nursing homes who engage in adaptive self-regulation can avoid adverse

mental health effects (Wrosh et al., 2006). The findings in this study suggest limitations in ADLs was highly predictive of depression and anxiety. Worsch et al. (2006) provided the example of depressive symptoms being highly correlated with older adults experiencing specific medical problems or exhibiting limitations in their ADLs. Maladaptive patterns of self-regulation lead to increased emotional distress (Bandura & Lock, 2003; Morf & Mischel, 2002). Adaptive self-regulation among this population will depend on their flexibility to cope and find positive meaning in life.

Environmental influences may also play a role in older adults' motivation for self-regulation. This study found more frequent familial support was predictive of lower levels of anxiety. Purdie and McCrindle (2002) report that older adults who had family support were more likely to demonstrate increased motivation to improve their health, while those who lacked support, exhibited cognitive decline and/or declining physical health displayed maladaptive self-regulation resulting in physical decline. From SCT perspective, anxiety arises in situations where individuals coping strategies are compromised (Bandura, 1989). Furthermore, increased emotional distress occurs when there is little perceived control over one's own situation and one's ability to self-regulate becomes compromised.

Limitations of the Study

One limitation of this study was a reliance on the researcher to administer the assessment tools orally due to the participants' request stemming from their physical disabilities (e.g. poor vision, paralysis, severe arthritis, tremors, etc.) that did not allow them to self-administer. As a result, there was no systematic means to determine if the participants were in any way influenced by the researcher. Another limitation of the study

relates to mood and timeframe of when participants' answered the questionnaires, as this was not under the control of the researcher and may have influenced the responses. Various conditions could account for the responses/results obtained.

Since the study was limited to data based on self-reports and demographic information, other possible constructs of perceived depression and anxiety, such as physical diagnoses, medication, or prior mental illness, were not explored. The individual risk factors were limited to gender, marital status, familial support, ADLs, and participation in nursing home activities measured by the demographic questionnaire. Unknown is whether other unmeasured variables moderated the variables under study.

Implications for Social Change

The aging Hispanic population is expected to significantly increase to approximately 17.5 million by 2050 (Federal Interagency Forum on Aging-Related Statistics, 2012, p. 4). Of this approximation, 7.5 million are projected to reside in Texas with 13% of this population residing along the Texas-Mexico border, in which all counties have been deemed medically underserved and the individuals are primarily Spanish speaking (TDoA, 2002). With this increase, the rise in nursing home placement is also expected. Due to the scarcity of information in the literature regarding this population, this study sought to explore risk factors associated with depression and anxiety among older adults of Mexican origin residing in nursing homes to gain insight into risk factors that can be predictive of increased and/or decreased levels of depression and anxiety.

Determining and understanding risk factors associated with depression and anxiety will enhance efforts for early detection and treatment to reduce symptomatology

and increase quality of life. Depression and anxiety are prevalent disorders among this population and are often under recognized or under treated affecting quality of life and shortening of lifespan for many older adults (Vink et al., 2008). Unfortunately, nursing home residents are often overlooked by professionals due to the belief that they are at an age of no longer benefiting from mental health services. The findings of this study suggest nursing home residents of Mexican origin who require complete assistance with eating, dressing, toileting and transferring were more likely to experience high levels of depression and anxiety. In addition, females were more likely to experience high levels of anxiety, while those individuals who received more frequent family support were more likely to experience low levels of anxiety.

With these results, nursing home staff and primary care physicians may be more willing to refer residents for psychological services. In addition, mental health professionals working with this population can provide in-services for nursing home staff on the importance of treating the residents with dignity and respect, especially those who require complete dependence with ADLs, to help minimize the residents' emotional distress. Also, nursing home staff may consider having events that involve family members participation on a more frequent basis increasing their support to their loved one residing in the nursing home.

Recommendations for Action

In order to assure that the results are useful, a summary of the results will be disseminated to the administrators of each of the four nursing homes, in which the study occurred. The summary will enhance their knowledge of risk factors that can be predictive of depression and anxiety, which will hopefully make them more vigilant and

more open to proceed with the appropriate interventions/referrals. A summary of the findings will also be disseminated in written form, available in English and Spanish, to each participant with an available phone number for any questions that may arise. Each participant gave their time to participate in this study and feedback regarding the results is warranted. For many of the participants, their reward for participating was reported to be that they were attempting to be part of a project that would provide information that would benefit their psychological well-being. This supports the action of providing a results summary that they can keep to themselves or share with their family members.

Recommendations for Further Research

This study demonstrated older adults of Mexican origin residing in nursing home who required complete assistance with ADLs showed higher levels of depression and anxiety. Being female was also predictive of high levels of anxiety, while more frequent family support was predictive of low levels of anxiety. The predictive relationship between female gender and anxiety may be due to females, especially in the given culture, excessive worry about their families, physical ailments, among other things they may not have any or much control over. Nursing home placement limits the control residents' have within their reach. This speculation could be the contributor to this finding. Further studies with larger populations are recommended to provide additional insights into the risk factors that may be more predictive of depression and anxiety. Findings from minority, specifically Hispanic, populations residing in nursing homes would provide support for this study's findings. Further research may consider widening the selection of risk factors and not limiting them to only demographics. Studies might also consider focusing on medical diseases, medications, history of family mental illness

and/or history of individual mental illness as risk factors for depression and anxiety among this population. Finally, future research may include exploration of various risk factors associated with the symptoms of depression and anxiety among older adults of Mexican origin residing in nursing homes.

Summary

This study focused on a sample (N = 150) of older adults of Mexican origin residing in nursing homes located in a Texas-Mexico border city. The research was designed to collect data to examine the predictive relationship between five individual risk factors (gender, marital status, familial support, ADLs, and participation in nursing home activities) and depression and anxiety. The results of two standard multiple regression analyses determined a significant predictive relationship existed between ADLs (complete assistance required) and high levels of depression and anxiety. In addition, female gender was predictive of high levels of anxiety, while more frequent familial support was predictive of low levels of anxiety. A significant predictive relationship was not found between gender, marital status, familial support or participation in nursing homes and level of depression. Also, a significant predictive relationship was not found between marital status or participation in nursing homes and level of anxiety.

These findings suggest that older adults of Mexican origin residing in nursing homes who require complete assistance with eating, dressing, toileting, and transferring are more likely to experience high levels of depression and anxiety. Females, of this given population, are more likely to experience high levels of anxiety, while those individuals, of this given population, who have more frequent family support experience

low levels of anxiety. Based on these results, it seems pertinent to promote more family involvement. This may be achieved by increasing communication between family and nursing home staff regarding the care of their loved ones. In addition, nursing home administration may consider organizing more family activities that will entice family members to be more proactive and involved. When there is more family participation in a resident's life, the resident's risk of developing emotional distress should be minimized.

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Appendix A: Description of Study and Informed Consent

You are invited to participate in a research study focused on determining risk factors associated with depression and anxiety among older adults, of Mexican descent, residing in nursing homes. You are invited as a possible participant because you fall into this category and your nursing home administrator has allowed this study to be conducted in this nursing home. Please read this form and ask any questions you may have before acting on the invitation to be in the study. This is a process called an "informed consent" allowing you to understand this study prior to accepting participation.

This study is being conducted by Raquel Estrada González, a doctoral candidate at Walden University.

Background Information:
This study is to examine the risk factors (demographic information to include gender, marital status, familial support, activities of daily living (ADLs) and participation in nursing home activities) associated with depression and/or anxiety among older adults, of Mexican origin, residing in nursing homes.

Procedures:
If you agree to participate in this study you will be asked to complete a demographic questionnaire and three other questionnaires that will measure your mental processes to include memory, reasoning, problem solving skills, and thinking, as well as measure for depression and anxiety. Please know that this is not a diagnosing process and the information obtained will not become part of your medical/nursing home chart. This should take 30-45 minutes.

Conflicts of Interest:
The researcher will make sure that no personal gain will be obtained by your participation. Those individuals who are currently receiving services from the researcher will not be included in this study. Invitees may have seen the researcher in the nursing home previously; however, this study is separate from the researcher's previous work. Names of invitees who agree or decline to participate will not be disclosed to staff.

Voluntary Nature of the Study:
Your participation in this study is completely voluntary. Your choice to participate or not will certainly not affect your current or future relations with Walden University or the nursing home. If you decide to participate now and change your mind at any time later, you are still free to do so without affecting those relationships. You may quit at any time.

Risks and Benefits of Being in the Study:
There may be some risks associated with participating in this study to include the time it will take to complete the forms and some of the questions from the depression questionnaire. For example, distress may occur when answering the following questions:
a). Are you basically satisfied with your life?

b). Do you feel that your life is empty?
c). Are you afraid that something bad is going to happen to you?
d). Do you think it is wonderful to be alive now?

Please note: if you experience significant stress, you are under no obligation to continue your participation in the study. Also, you may refuse to answer any question you may consider too personal.

There are no benefits to participating in the study other than providing information for completion of this study. However, your information will allow for the determination of developing and implementing adequate prevention and treatment strategies within the nursing home.

Compensation:
You will not be compensated for participating in this study and filling out the inventories.

Confidentiality:
The records of this study will be kept confidential within the limits of the law. All identifying information will be discarded and not used in any reports. Records will be kept in a locked cabinet and only the researcher will have access to the records.

Contacts and Questions:
Walden University's approval number for this study is 06-15-15-0034762 and it expires June 14, 2016. Please refer any questions to:

Raquel Estrada González (956) 763-9746
esrachel@gmail.com
142 Lake Carnegie Ct
Laredo, TX 78041

Dr. Magy Martin
magy.martin@waldenu.edu

Research Participant Advocate
001-612-312-1210
irb@waldenu.edu

Statement of Consent:
I have read the above information. If I had questions I asked and received answers. I may request a copy of this consent form, if I choose. I consent to participate in the study and I am agreeing to the terms stated above.

Signature of Participant	Date of Consent
Signature of Researcher	Date

DESCRIPCIÓN DE ESTUDIO Y CONSENTIMIENTO INFORMADO

Usted está invitado a participar en un estudio de investigación centrado en determinar los factores de riesgo asociados con la depresión y la ansiedad en los adultos mayores, de origen Mexicano, que residen en hogares de ancianos. Usted está invitado como posible participante, ya que entra en esta categoría. El administrador del hogar ha permitido que este estudio se lleve a cabo en este hogar de ancianos. Por favor, lea esta forma y haga cualquier pregunta antes de actuar en la invitación a participar en el estudio. Este es un proceso que se llama un "consentimiento informado" que le permite entender este estudio previo a la participación de aceptar.

Este estudio está siendo realizado por Raquel Estrada González, candidato al doctorado en la Universidad de Walden.

Antecedentes:
Este estudio es para examinar los factores de riesgo (información demográfica para incluir género, estado civil, apoyo familiar, actividades de la vida diaria y participación en las actividades) asociados con la depresión y/o ansiedad en los adultos mayores, de origen Mexicano, que residen en asilos de ancianos.

Procedimiento:
Si usted se compromete a participar en este estudio se le piderá que llene un cuestionario demográfico y tres cuestionarios que medirán sus procesos mentales incluyendo memoria, razonamiento, habilidades de resolución de problemas y pensamiento, la depresión y la ansiedad. Esto no es un diagnóstico y la información obtenida no se convertirá en parte de su expediente. Esto debe tomar 30-45 minutos.

Conflicto de Interés:
El investigador se asegurará de que ningún beneficio personal se obtendrá por su participación. Las personas que reciben servicios del investigador no se incluirán en este estudio. Los invitados pudieron haber visto el investigador con anterioridad. Sin embargo, este estudio es independiente del anterior trabajo del investigador. Invitados que están de acuerdo o se niegan a participar no serán revelados al personal.

Carácter Voluntario del Estudio:
Su participación en este estudio es completamente voluntaria. Su decisión de participar o no, no afectará sus relaciones actuales o futuros con Walden University o el hogar de ancianos. Si usted decide participar ahora y cambia de opinión en cualquier momento, es libre de hacerlo sin afectar a esas relaciones. Usted puede salir en cualquier momento.

Riesgos y Beneficios de Participar en el Estudio:
Puede haber riesgos asociados con la participación en este estudio incluyendo el tiempo que se tardará en completar las preguntas y algunas de las preguntas del cuestionario de depresión. Por ejemplo, la angustia puede ocurrir al responder a las siguientes preguntas:
a). ¿En general, se siente usted satisfecho/a con su vida?
b). ¿Siente usted que su vida está vacía?

c). ¿Tiene usted temor de que algo malo le vaya a pasar?
d). ¿Piensa usted que es maravilloso estar con vida?

Nota: si experimenta un estrés significativo, usted no tiene ninguna obligación de continuar su participación en el estudio. También, usted puede negarse a contestar cualquier pregunta que usted puede considerar demasiado personal.

No hay beneficios para los participantes en el estudio que no sea el suministro de información para la realización de este estudio. Sin embargo, la información permitirá la determinación de desarrollar e implementar estrategias adecuadas de prevención y tratamiento en el hogar de ancianos.

Retribución:
No será compensado por su participación en este estudio y el llenado de las inventarios.

Confidencialidad:
Los registros de este estudio será confidencial dentro los limites de la ley. Toda la información de identificación se descartan y no se utiliza en los informes. Los registros se guardan en un armario cerrado con llave y sólo el investigador tendrá acceso a los registros.

Contactos y Preguntas:
El numero de aprobacion por Walden University por este estudio es IRB 06-15-15-0034762 y esto expiro en el 14 de junio de 2016. Por favor referir cualquier pregunta a:

Raquel Estrada González (956) 763-9746
esrachel@gmail.com
142 Lake Carnegie Ct
Laredo, TX 78041

Dr. Magy Martin
magy.martin@waldenu.edu

Research Participant Advocate
001-612-312-1210
irb@waldenu.edu

Declaración de Consentimiento:
He leído la información anterior. Si tuve preguntas las pregunte y recibieron respuestas. Puedo pedir una copia de este consentimiento si quisiera. Doy mi consentimiento para participar en el estudio y estoy de acuerdo con los plazos establecidos anteriormente.

Firma del Participante	Fecha de Consentimiento
Firma del Investigador	Fecha

Appendix B: Demographics Questionnaire

Please complete this demographic survey to the best of your ability. Read each question and answer carefully and accurately. There will be no personal information indicated in the study results.

1. Age: 2. Gender: Male Female

3. Ethnicity: Mexican Mexican-American Puerto Rican Cuban Caucasian African-American

4. Marital Status: Never Married Married Widowed

5. How long have you been in the nursing home?

6. Do you consult with a psychologist or psychiatrist?

7. Does your family visit? How often?

8. Do you require assistance with ADLs?

	No Assistance	Some Assistance	Complete Assistance
Dressing	_____	_____	_____
Toileting	_____	_____	_____
Eating	_____	_____	_____
Transferring from bed or chair	_____ (1)	_____ (2)	_____ (3)

9. Do you participate in nursing home activities such as bingo, loteria, arts and crafts, parties, movie time, etc.? Which ones? How often? If no, are there any activities you would like to have available?

CUESTIONARIO DEMOGRAFICO

Por favor complete esta encuesta demográfica a lo mejor de su capacidad. Lee cada pregunta y respuesta con cuidado y precisión. No habrá datos personales indicados en los resultados del estudio.

1. Edad: 2. Género: Hombre Mujer

3. Origen Étnico: Mexicano Mexicano-Americano Puertorriqueño
   Cubano Americano Afroamericano

4. Estado Civil: Nunca Casado Casado Viudo

5. ¿Cuanto tiempo tiene en el hogar de ancianos?

6. ¿Usted consulta con un psicólogo o un psiquiatra?

7. ¿Su familia lo visita? ¿Con qué frecuencia?

8. ¿Usted requiere asistencia para atender sus Actividades de la Vida Diaria?

	Ninguna Asistencia	Poca Asistencia	Asistencia Completa
Vestir	_____	_____	_____
Ir al baño	_____	_____	_____
Comiendo	_____	_____	_____
Transferir de cama o silla	_____ (1)	_____ (2)	_____ (3)

9. ¿Participas en actividades del hogar de ancianos como bingo, lotería, pintar, manualidades, tiempo de pelicula, etc.? ¿Cuales? ¿Con qué frecuencia? Si no, ¿hay alguna actividad que le gustaría tener a su disposición ?

Appendix C: Geriatric Depression Scale (GDS—English Version)

Geriatric Depression Scale: Short Form

Choose the best answer for how you have felt over the past week:

1. Are you basically satisfied with your life? YES/**NO**
2. Have you dropped many of your activities and interests? **YES**/NO
3. Do you feel that your life is empty? **YES**/NO
4. Do you often get bored? **YES**/NO
5. Are you in good spirits most of the time? YES/**NO**
6. Are you afraid that something bad is going to happen to you? **YES**/NO
7. Do you feel happy most of the time? YES/**NO**
8. Do you often feel helpless? **YES**/NO
9. Do you prefer to stay at home, rather than going out and doing new things? **YES**/NO
10. Do you feel you have more problems with memory than most? **YES** / NO
11. Do you think it is wonderful to be alive now? YES/**NO**
12. Do you feel pretty worthless the way you are now? **YES**/NO
13. Do you feel full of energy? YES/**NO**
14. Do you feel that your situation is hopeless? **YES**/NO
15. Do you think that most people are better off than you are? **YES**/NO

Answers in bold indicate depression. Score 1 point for each bolded answer.
A score > 5 points is suggestive of depression.
A score ≥ 10 points is almost always indicative of depression.
A score > 5 points should warrant a follow-up comprehensive assessment.

Source: http://www.stanford.edu/~yesavage/GDS.html
This scale is in the public domain.

Escala de Depresión Geriátrica (Forma Corta)

Short Geriatric Depression Scale (Spanish version)

Piense en como se ha sentido usted durante la ultima semana y responda si o no alas siguientes preguntas:

1. ¿En general, se siente usted satisfecho/a con su vida? SI **NO**
2. ¿Ha abandonado usted actividades o cosas de interés personal? **SI** NO
3. ¿Siente usted que su vida está vacía? **SI** NO
4. ¿Se siente usted con frecuencia aburrido/a? **SI** NO
5. ¿Se siente usted de buen ánimo la mayor parte del tiempo? SI **NO**
6. ¿Tiene usted temor de que algo malo le vaya a pasar? **SI** NO
7. ¿Se siente usted feliz la mayor parte del tiempo? SI **NO**
8. ¿Se siente usted a menudo desamparado/a? **SI** NO
9. ¿Prefiere usted estar en casa, en vez de salir y hacer nuevas cosas? **SI** NO
10. ¿Siente usted que tiene más problemas de memoria que la mayoría de las personas? **SI** NO
11. ¿Piensa usted que es maravilloso estar con vida? SI **NO**
12. ¿Se siente usted que no vale nada en la condición en que está viviendo? **SI** NO
13. ¿Se siente usted lleno de energía? SI **NO**
14. ¿Se siente usted en una condición sin remedio? **SI** NO
15. ¿Siente usted que la mayoría de las personas están mejor que usted? **SI** NO

Evaluación: Acredite 1 punto por cada respuesta en mayúscula acentuada en negro.

0-4 puntos - Sugiere ninguna o leve depresión
5-9 puntos - Sugiere depresión moderada; requiere más investigación
10 -15 – Alta indicación de depresión. Requiere ser referido para más evaluación y tratamiento

Appendix D: Beck Anxiety Inventory® (BAI®)

Beck Anxiety Inventory Sample Items

	NOT AT ALL	MILDLY It did not bother me much	MODERATELY It was very unpleasant, but I could stand it.	SEVERELY I could barely stand it
1. Frightened.				
2. Heart feels like it is skipping a beat.				
3. Legs like jelly.				

Appendix E: Mini-Mental Status Examination -2 (MMSE) Sample Items

PAR
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Appendix A

English MMSE-2 Sample Items

Orientation to Time
"What is the date?"

Naming
"What is this?" [*Point to eye.*]

Repetition
"Now I am going to ask you to repeat what I say. Ready? It is a lovely, sunny day but too warm. Now you say that. [*Wait for examinee response and record response verbatim. Repeat up to one time.*]

US Spanish MMSE-2 Sample Items

Orientación Temporal [Orientation to Time]
"¿Cuál es la fecha de hoy?"

Denominación [Naming]
"Qué es esto?" [*Se ñale un ojo.*]

Repetición [Repetition]
"Ahora voy a pedirle que repita lo que yo digo. Listo(a)? ES UN DÍA AGRADABLE Y SOLEADO, PERO HACE DEMASIADO COLOR. Ahora Repítalo. [*Espere la repuesta de la persona evaluada y anótela literalmente. Repita hasta una vez.*]

Appendix F: Permission to Use Beck Anxiety Inventory

from: Licensing, - <pas.licensing@pearson.com>
sent by: bill.schryver@pearson.com
to: Raquel Estrada Gonzalez <esrachel@gmail.com>
date: Tue, Sep 30, 2014 at 11:47 AM
subject: Re: Permission Request

Dear Ms. Gonzalez,

Permission to use a Pearson assessment is inherent in the qualified purchase of the test materials in sufficient quantity to meet your research goals. In any event, Pearson has no objection to you using the Beck Anxiety Inventory® (BAI®) and **you may take this email response as formal permission from Pearson to use the test in its as-published formats in your student research**.

The BAI is a sensitive clinical assessment that requires a high degree (B Level) to purchase, administer, score and interpret. It also represents Pearson copyright and trade secret material. As such, Pearson **does not permit photocopying or other reproduction of our test materials by any means and for any purpose when they are readily available in our catalog. Consequently, you may not simply reproduce the BAI test forms**.

Long term license agreements with our Test Authors prohibit Pearson from providing or licensing our test materials at no charge/gratis for any purpose.

To qualify for and purchase a BAI Kit or other test materials, in either English or Spanish, please visit the following link to the product page in our online catalog: http://www.pearsonclinical.com/psychology/products/100000251/beck-anxiety-inventory-bai.html

Finally, because of test security concerns, permission is not granted for appending tests to theses, dissertations, or reports of any kind. You may not include any actual assessment test items, discussion of any actual test items or inclusion of the actual assessment product in the body or appendix of your dissertation or thesis. You are only permitted to describe the test, its function and how it is administered and discuss the fact that you used the Test, your analysis, summary statistics, and the results.

That said, we have prepared a couple of sample test items that you may include in your dissertation results and I have attached them herein for your possible use.

Regards,

William H. Schryver
Senior Licensing Specialist

from: Raquel Estrada Gonzalez <esrachel@gmail.com>
to: ClinicalCustomerSupport@pearson.com
date: Thu, Sep 25, 2014 at 10:57 AM
subject: Permission Request

To Whom It May Concern:
I am currently a Doctoral Student in Clinical Psychology at Walden University and am working on my dissertation. The title of my research is: The Relationship Between Risk Factors Associated with Depression and Anxiety in Elderly Individuals of Mexican Origin Residing in Nursing Homes.

I was wondering how I could go about officially requesting permission to use the BAI, both English and Spanish versions, for my study. I would greatly appreciate any information you can provide to expedite this request. It may or may not be of importance, but I am a Licensed Psychological Associate in the state of Texas and have a current account with Pearson.

Thank you in advance for your assistance,

Raquel E. Gonzalez

Appendix G: Permission to Use MMSE-2

PAR
Creating Connections. Changing Lives.

16204 N. FLORIDA AVENUE • LUTZ, FLORIDA 33549
Telephone: 813.968.3003 • Fax: 813.968.2598 • Web: www.parinc.com

Sent Via Email: esrachel@gmail.com

October 9, 2014

Raquel E. Gonzalez
142 Lake Carnegie Ct.
Laredo, TX 78041

Dear Ms. Gonzalez:

In response to your recent request, permission is hereby granted to you to include the three (3) approved sample items from the Mini-Mental State Examination-2 (MMSE-2) Blue Form in the appendix of your dissertation titled, *The Relationship Between Risk Factors Associated with Depression and Anxiety in Elderly Individuals of Mexican Origin Residing in Nursing Homes*. If additional material is needed or further publication (i.e. in a Journal), it will be necessary to write to PAR for further permission.

The three (3) approved sample items are provided to you in Appendix A of this Permission Agreement. No other sample items will be allowed to be published from the MMSE-2. **PAR will not grant permission to publish the entire MMSE-2 in any publication.**

This Agreement is subject to the following restrictions:

(1) Any and all materials used will contain the following credit line:

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(2) None of the material may be sold, given away, or used for purposes other than those described above.

(3) Payment of a permission fee will be waived.

Appendix H: IRB Approval to Conduct Research

Dear Ms. Gonzalez,

This email is to notify you that the Institutional Review Board (IRB) has approved your application for the study entitled, "Risk Factors Associated with Depression and Anxiety among Older Adults of Mexican Origin."

Your approval # is 06-15-15-0034762. You will need to reference this number in your dissertation and in any future funding or publication submissions. Also attached to this e-mail are the IRB approved consent forms. Please note, if these are already in an on-line format, you will need to update those consent documents to include the IRB approval number and expiration date.

Your IRB approval expires on June 14, 2016. One month before this expiration date, you will be sent a Continuing Review Form, which must be submitted if you wish to collect data beyond the approval expiration date.

Your IRB approval is contingent upon your adherence to the exact procedures described in the final version of the IRB application document that has been submitted as of this date. This includes maintaining your current status with the university. Your IRB approval is only valid while you are an actively enrolled student at Walden University. If you need to take a leave of absence or are otherwise unable to remain actively enrolled, your IRB approval is suspended. Absolutely NO participant recruitment or data collection may occur while a student is not actively enrolled.

If you need to make any changes to your research staff or procedures, you must obtain IRB approval by submitting the IRB Request for Change in Procedures Form. You will receive confirmation with a status update of the request within 1 week of submitting the change request form and are not permitted to implement changes prior to receiving approval. Please note that Walden University does not accept responsibility or liability for research activities conducted without the IRB's approval, and the University will not accept or grant credit for student work that fails to comply with the policies and procedures related to ethical standards in research.

When you submitted your IRB application, you made a commitment to communicate both discrete adverse events and general problems to the IRB within 1 week of their occurrence/realization. Failure to do so may result in invalidation of data, loss of academic credit, and/or loss of legal protections otherwise available to the researcher.

Both the Adverse Event Reporting form and Request for Change in Procedures form can be obtained at the IRB section of the Walden website: http://academicguides.waldenu.edu/researchcenter/orec

Researchers are expected to keep detailed records of their research activities (i.e., participant log sheets, completed consent forms, etc.) for the same period of time they retain the original data. If, in the future, you require copies of the originally submitted IRB materials, you may request them from Institutional Review Board.

Both students and faculty are invited to provide feedback on this IRB experience at the link below:

http://www.surveymonkey.com/s.aspx?sm=qHBJzkJMUx43pZegKlmdiQ_3d_3d

Sincerely,

Libby Munson
Research Ethics Support Specialist
Office of Research Ethics and Compliance
Email: irb@waldenu.edu
Fax: 626-605-0472
Phone: 612-312-1283

Office address for Walden University:
100 Washington Avenue South, Suite 900
Minneapolis, MN 55401