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Psychometric re-evaluation of the Spiritual Support Scale

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PSYCHOMETRIC RE-EVALUATION OF
THE SPIRITUAL SUPPORT SCALE

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
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in

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by

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Abstract

Informal caregivers provide a substantial amount of emotional, financial, physical, and social support to their loved ones with Alzheimer's disease. Alzheimer's caregivers often report immense levels of burden, which are associated with the demands of their caregiving duties. Caregivers mediate this burden through various means of coping, including spiritual support. Individuals who successfully manage the negative stressors related to Alzheimer's caregiving are often highly resilient. The purpose of this study was to re-evaluate the psychometric properties of the Spiritual Support Scale among a sample of Alzheimer's caregivers. The Spiritual Support Scale was initially utilized to measure spiritual coping among a sample of graduate and undergraduate students, after the September 11th terrorist attacks. The current study examined the efficacy of the Spiritual Support Scale among a sample of 691 Alzheimer's caregivers in south Louisiana. The study confirmed previously reported calculations of the scale's reliability by calculating Cronbach's alpha and Guttman's split-half coefficient. The study also established the validity of the Spiritual Support Scale by comparing the measure to theoretically linked constructs, coping and resilience. Confirmatory factor analysis identified a single factor of the Spiritual Support Scale on which all items of the scale loaded. The study concluded the Spiritual Support Scale has sound psychometric properties.

Chapter 1. Introduction

According to the Alzheimer's Association (2011), 13% of all Americans have been diagnosed with Alzheimer's disease. The disorder, which causes cognitive impairment, is most commonly diagnosed among older adults. Nearly 45% of individuals diagnosed with Alzheimer's disease are between the ages of 75 to 84, while an additional 45% are over age 85 (Alzheimer's Association, 2011). Consequently, age is a significant risk factor for the disease. As medical technology continues to improve overall health outcomes, life expectancy among older adults is projected to increase. Thus, the number of people diagnosed with Alzheimer's disease will also continue to grow. In fact, by the year 2050, a person will develop Alzheimer's disease every 33 seconds (Alzheimer's Association, 2011). Current research should examine the overall impact of Alzheimer's disease on the population. These studies should aim to improve the quality of life of individuals with Alzheimer's disease and their caregivers.

Approximately 25% of all caregivers in the United States provide continual support to loved ones with Alzheimer's disease (Family Caregiver Alliance, 2010). In 2010, these individuals offered more than 17 billion hours of informal care, valued at more than \$200 billion (Alzheimer's Association, 2011). Alzheimer's caregivers take on vast responsibilities associated with caregiving, which include assisting loved ones with activities of daily living, managing finances, and coordinating medical care. Although these tasks may be the source of internal fulfillment for the caregiver, they may also be associated with feelings of stress and perceived burden (Takano & Arai, 2005). Being overwhelmed by caregiving duties has been associated with medical conditions, such as depression, anxiety, and heart disease (National Family Caregivers Association, 2010). The stress of caregiving also impairs one's ability to perform caregiving duties effectively (Gaugler, Kane, & Newcomer, 2007). Thus, social work

practitioners should continue to explore various means of managing these stressors. In previous studies, caregivers have reportedly minimized the negative effects of stressors through coping and spiritual support (Cooper, Katona, Orrell, & Livingston, 2008). Furthermore, caregivers' resilience has been linked to their ability to manage these stressors effectively (Wilks & Vonk, 2008).

Spiritual support as a means of coping has become a recent focus of social work research (Furman, Benson, & Canda, 2011; Ying & Han, 2009). Recent studies have utilized test instruments to measure the use of spiritual coping among various populations (Ai, Tice, Peterson, & Huang, 2005; Gough, Wilks, & Prattini, 2010). The test instrument examined in this thesis is the Spiritual Support Scale. The purpose of this study is to evaluate the scale's psychometric properties when used to measure spiritual coping among a sample of Alzheimer's caregivers. This thesis provides a review of literature concerning Alzheimer's disease and Alzheimer's caregivers. It also establishes the theoretical framework of positive psychology to identify a link between spiritual support, coping, and resilience among this population. After a brief discussion of methods utilized in the study, the thesis concludes with an evaluation of results and a discussion of implications for social work practice.

Chapter 2. Literature Review: Understanding Alzheimer's Disease

Introduction

Alzheimer's disease is a degenerative brain condition that has a drastic impact on those diagnosed with the disorder. The disease significantly affects one's ability to process and recall information. Although the neurological indicators of Alzheimer's disease are readily apparent, the far-reaching effects of the disorder are overlooked. Dharmarajan and Gunturu (2009) estimated that Alzheimer's-related health care costs currently exceed \$100 billion, ranking the condition among costly illnesses such as cancer and heart disease. However, the financial burden of Alzheimer's disease does not compare to the overwhelming burden experienced by many Alzheimer's caregivers. Recent Alzheimer's research focuses on the etiology and treatment of Alzheimer's disease, while little has been done to address the needs of Alzheimer's caregivers. Future research must explore the impact of caregiver burden and identify potential mediating factors to lessen its negative effects. Caregivers of people with Alzheimer's disease take on a responsibility which significantly impacts every other aspect of their lives. One may comprehend the true weight of such a responsibility by understanding the severity of this cognitive disorder.

Alzheimer's disease was first discovered in 1906, when Dr. Alois Alzheimer noted significant brain abnormalities during an autopsy of a female patient. This patient had a documented history of cognitive and memory problems (American Health Assistance Foundation, 2011). Alzheimer's disease can only be identified through autopsy and examination of brain tissue to note abnormal changes in the brain (Alzheimer's Association, 2008). Researchers have identified significant neurological effects of the disorder which impair normal brain functioning. Alzheimer's disease affects individuals from diverse backgrounds. As a

result, screening and diagnosis of the disorder must be completed in a timely fashion to ensure the most effective treatment.

Neurological Effects

Once an adult brain is fully developed, it has more than 100 billion neurons that help to facilitate routine tasks associated with learning and remembering (Tufts University, 2010). Alzheimer's disease is characterized as a brain disorder which affects brain neurons and causes cognitive impairment (National Institute on Aging, 2010). The condition progressively worsens after onset due to deterioration or loss of neurons and the atypical formation of proteins called plaques and tangles (Tufts University, 2010). These structures prevent brain neurons from performing their normal function, and the nerve cells eventually die (Alzheimer's Association, 2008). Furthermore, recent research proposes that oxidation and free radicals in the brain may also lead to neuron death (Wollen, 2010). Wollen (2010) reported that brain damage caused by plaques, tangles, and neuron death eventually causes inflammation in the brain. Autopsy of brain tissue confirms the presence of plaques and tangles, less than normal brain mass due to loss of neurons, and inflammation (Alzheimer's Association, 2008).

Alzheimer's disease significantly impacts normal brain functioning. Onset of the disorder is characterized by a state of confusion and an inability to recall new memories (National Institute on Aging, 2010). As the condition progressively worsens, Alzheimer's disease causes marked impairments in cognition. According to the American Psychiatric Association (APA), individuals with Alzheimer's disease may have trouble comprehending or speaking language, recognizing common items, carrying out routine tasks, and thinking abstractly (APA, 2000). Final stages of Alzheimer's disease are characterized by complete dependency upon caregivers to perform activities of daily living (Javier, 2010).

Prevalence

Alzheimer's disease has far-reaching effects among aging adults. Javier (2010) estimated that 17 million people across the world and 5 million people in the United States currently suffer from the disorder. Of every eight Americans, one individual has been diagnosed with Alzheimer's disease (Alzheimer's Association, 2008). According to the Center for Disease Control (2010), Alzheimer's disease is among the ten leading causes of American deaths. It is the fifth most documented reason for deaths among individuals above age 65 (Center for Disease Control, 2010).

The Alzheimer's Association reported the probability of an older African-American or Hispanic developing Alzheimer's disease is double that of an older Caucasian (Alzheimer's Association, 2010). Although no genetic link among these ethnic groups has been discovered, African-Americans and Hispanics are more prone to illnesses, such as high blood pressure and diabetes, which have been identified as risk factors for Alzheimer's disease (Alzheimer's Association, 2010). Perhaps socioeconomic factors increase the likelihood of Alzheimer's disease among minority groups, because these individuals have less access to health care, and they are also less likely to obtain higher levels of education (Alzheimer's Association, 2010). The Alzheimer's Association (2010) determined that 76% of African-Americans and 89% of Hispanics with an education level less than twelfth grade also experienced some degree of cognitive impairment. Only 47% of Whites with less than a high-school education indicated impaired cognition. Because level of education directly affects earning potential, it is logical that individuals without higher education earn smaller salaries in the workplace. According to the Alzheimer's Association (2010), income significantly impacts the incidence of Alzheimer's disease among minorities. Hence, 74% of African-Americans and 76% of Hispanics who

reported an income of less than \$18,000 each year also suffered from cognitive impairment. Caucasians with similar salaries indicated cognitive impairment at a much lower rate of 48% (Alzheimer's Association, 2010).

Risk Factors

According to the Alzheimer's Association (2008), the most prominent risk factor for Alzheimer's disease is age. Elderly persons over the age of 85 are at the highest risk of developing the disorder (Waugh, 2010). Alzheimer's disease affects almost half of all people over 85 (Alzheimer's Association, 2008). In fact, the risk continues to double each five-year period after the age of 65 (Tufts University, 2010). By the year 2030, Americans over 65 with Alzheimer's disease are projected to exceed 7 million people (Alzheimer's Association, 2008). Projections surpass 13 million people with the disease by the year 2050 (Center for Disease Control, 2010).

Genetics is another risk factor associated with Alzheimer's disease (American Health Assistance Foundation, 2011). Dementia of the Alzheimer's type has been attributed to a gene called Apolipoprotein E (ApoE) (Alzheimer's Association, 2008). Inheriting the gene ApoE increases the likelihood of developing Alzheimer's disease after the age of 65 (American Health Assistance Foundation, 2011). In some cases, early onset dementia of the Alzheimer's type is passed through families (Alzheimer's Association, 2008). The American Health Assistance Foundation (2011) noted that, on rare occasions, Familial Alzheimer's disease has been diagnosed among individuals as young as age 35.

Screening

Reliable and accurate screening of cognitive impairment is necessary for making the most precise clinical diagnosis of Alzheimer's disease. Seshadri et al. (2011) noted that individuals

diagnosed with dementia of the Alzheimer's type present with varied levels of cognitive impairment, based on age of onset. According to Solomon and Murphy (2005), all individuals over the age of 65 should be screened by a primary care doctor. In addition, individuals who complain about impaired cognition and those with a family history of Alzheimer's disease should also be screened (Solomon & Murphy, 2005). Screening helps physicians detect Alzheimer's disease in its early stages and begin treatments that may slow down the course of the disorder. Buscema, Grossi, Capriotti, Babiloni, and Rossini (2010) suggested that inexpensive screening procedures must be developed to screen and detect early signs of Alzheimer's disease among the ever-growing elderly population. Screening tools should identify impairments in cognition that are abnormal and not attributed to the aging process (Eschen, Martin, Gasser, & Kliegel, 2009). Screening methods designed for use in primary care settings should also be time and cost effective (Takechi & Dodge, 2010).

Researchers noted the presence of mild cognitive impairment increases one's risk for developing Alzheimer's disease (Dale, Hougham, Hill, & Sachs, 2006). Eschen et al. (2009) defined mild cognitive impairment as significant decline in cognitive functioning which does not impede one's ability to engage in routine activity. Buscema et al. (2010) reported that people with mild cognitive impairment should be considered *high-risk* and provided medications to prevent further cognitive decline. Almost 15% of all individuals diagnosed with mild cognitive impairment are later diagnosed with Alzheimer's disease (Dale et al., 2006; Eschen et al., 2009). Hence, screening individuals for mild cognitive impairment has become an important tool to aid in early detection.

Practitioners currently administer a variety of test measurements to determine the severity of cognitive impairment (Dharmarajan & Gunturu, 2009). Commonly utilized assessments

include the Mini Mental Status Examination, the Wechsler Memory Scale, the Clinical Dementia Rating Scale, and the Cambridge cognitive examination (Parsey & Schmitter-Edgecombe, 2011; Seshadri et al., 2011). However, valuable insights about cognitive impairment may be derived from simpler assessments. For example, the Clock Drawing Test requires individuals to draw the hands of a clock set to a specific time (Parsey & Schmitter-Edgecombe, 2011). This test of executive functioning helps practitioners screen for early signs of dementia, including Alzheimer's disease, by evaluating abstract thinking, memory, and understanding (Bodner et al., 2004). Takechi and Dodge (2010) also identified the Scenery Picture Memory test, a rapid-assessment tool designed to test visual memory.

Diagnosis

Alzheimer's disease is recorded on Axis III, the portion of the APA multiaxial assessment scale that annotates the presence of a medical condition (APA, 2000). Autopsies of brain matter confirm that people with Alzheimer's disease have less brain mass, fewer neurons, and inflamed brain tissue (Alzheimer's Association, 2008). Dharmarajan and Gunturu (2009) recommended that physicians rule out the presence of other medical conditions which may cause similar symptoms prior to diagnosing patients with Alzheimer's disease. Physicians frequently confirm the presence of brain abnormalities through neuroimaging (Dharmarajan & Gunturu, 2009).

A visual electroencephalography (EEG) provides a picture of electrical activity in the brain (Lopes, Abe, & Anghinah, 2010). Buscema et al. (2010) noted that EEGs help physicians to diagnose dementia of the Alzheimer's type by giving an accurate account of neurological damage caused by Alzheimer's disease and mild cognitive impairment. In addition, neurologists recommend utilizing single photon emission computed tomography (SPECT) imaging to

differentiate between Alzheimer's disease and other forms of dementia (Tripathi et al., 2010). Because SPECT imagery helps to distinguish between Alzheimer's disease and other types of cognitive impairment, researchers have utilized SPECT to gain a better understanding the etiology and treatment of Alzheimer's disease (Tripathi et al., 2010). Furthermore, neurologists have identified several indicators of Alzheimer's disease in the blood (Momeni & Ferrari, 2010). These indicators, obtained via DNA or blood samples, also aid physicians in the diagnostic process (Momeni & Ferrari, 2010).

A diagnosis of Alzheimer's disease only accounts for physical changes in the brain (Alzheimer's Association, 2008). To note clinically significant behaviors and impairments caused by Alzheimer's disease, practitioners record dementia of the Alzheimer's type on Axis I of the APA multiaxial assessment scale (APA, 2000). Dementia of the Alzheimer's type has four distinct subtypes, which include *early onset*, *late onset*, *with behavioral disturbance*, and *without behavioral disturbance* (APA, 2000). Typically, dementia of the Alzheimer's type is diagnosed among individuals above the age of 65 (Alzheimer's Association, 2008). In these cases, the dementia is classified as *late onset* (APA, 2000). Dementia of the Alzheimer's type which develops prior to the age of 65 is considered *early onset* (APA, 2000). Impairments in cognition may cause behavioral disturbances such as irritability and wandering, although these changes in behavior are not necessary for diagnosis (National Institute on Aging, 2010). Thus, it is appropriate to utilize the subtypes *with behavioral disturbance* or *without behavioral disturbance*, respectively (APA, 2000).

Treatment

Since Alzheimer's disease may be attributed to multiple etiologies, effective treatments must be developed to combat various dimensions of the disorder. Proposed treatments of

Alzheimer's disease include cognitive stimulation, prescription medications, herbal supplements, nutritional supplements, and physical exercise (Hernandez, McClendon, Zhou, Sachs, & Lerner, 2010; Getsios, Blume, Ishak, & Maclaine, 2010; Wollen, 2010). Although many of these treatments are not evidenced-based, they have successfully minimized the negative effects of Alzheimer's disease in some patients (Howe, 2009). For instance, Vidovich, Shaw, Flicker, and Almeida (2011) suggested that physicians utilize cognitive stimulation to treat Alzheimer's disease. This therapy attempts to minimize the level of cognitive impairment in early stages to improve the course of the disorder (Wollen, 2010).

Moreover, the Food and Drug Administration has endorsed two types of medications to treat Alzheimer's disease, acetylcholinesterase inhibitors (AChEIs) and memantine (Hernandez et al., 2010). AChEIs work to increase the efficiency of neurotransmitters in the brain, thereby improving memory and cognition (Wollen, 2010). On the other hand, memantine affects neural receptors to improve cognition and executive functioning (Wollen, 2010). In some cases, psychiatrists may prescribe antipsychotics and antidepressants to treat symptoms of Alzheimer's disease in its advanced stages (Howe, 2009). While antipsychotics help to minimize aggressive behavior and delusions caused by the disease process, antidepressants help treat symptoms of depression (Alzheimer's Society, 2012).

In addition, herbs and nutritional supplements also help to treat the symptoms of Alzheimer's disease (Wollen, 2010). Shi, Liu, Wu, and Yew (2010) noted that Ginkgo biloba is a natural remedy for inflammation and accumulation of protein in the brain. Furthermore, n-3 omega fatty acids reduce inflammation in the brain and improve the functioning of neurotransmitters (Gogus & Smith, 2010). Wollen (2010) reported that vitamins A, B, and E, as well as turmeric, have numerous neurological benefits. Not only does turmeric reduce

inflammation and oxidation in the brain, but it also decreases the formation of protein plaques (Mishra & Palanivelu, 2008). Thus, physicians have learned to combat Alzheimer's-related symptoms by recommending an increase in the consumption of herbs, foods that contain n-3 omega fatty acids, turmeric, and vitamins among Alzheimer's patients (Gogus & Smith, 2010).

Alzheimer's Caregiving

Recent studies projected that men and women over age 65 will live up to 20 additional years, due to a decline in mortality rates among elderly adults (Cangelosi, 2009; Hayslip, Han, & Anderson, 2008). Thus, caregiving among older adults has become more common as the life expectancy of this population continues to increase (Cangelosi, 2009; Lockenhoff, Duberstein, Friedman, & Costa, 2011). As the symptoms of Alzheimer's disease progressively worsen, individuals with the disorder require assistance from formal and informal caregivers (Egan, Berube, Racine, Leonard, & Rochon, 2010). Formal caregivers are considered those individuals who are paid to provide social or health services on behalf of a patient with Alzheimer's disease (Kaufman, Kosberg, Leeper, & Tang, 2010). The focus of this paper is informal caregivers, or nonprofessionals who provide support to close relatives or friends with Alzheimer's disease in a home setting (Nichols et al., 2008). Alzheimer's caregivers supplement medical treatment teams by providing routine emotional and financial support to people with Alzheimer's disease. Despite overwhelming stressors and caregiver burden, Alzheimer's caregivers across the globe dedicate countless hours and resources towards the continued care of those diagnosed with the disorder.

Definitions

Individuals who assume the caregiver role juggle responsibilities and ensure their loved ones receive the assistance they need to function outside of an inpatient facility. Caregivers have become an essential asset, vital to the success of professional treatment teams (Brangman, 2006).

According to Rodrigue et al. (2010), patients with chronic diseases experience a greater quality of life when they receive long-term support from a caregiver. Caregivers function in numerous capacities, tending to patients with illnesses that range from mental illness and disabilities to stroke and kidney failure (Perkins & Haley, 2010; Wilson-Genderson, Pruchno, & Cartwright, 2009). Because the caregiver role is so broad, stressors associated with caregiver responsibilities vary depending upon factors such as the condition of the patient, caregiver age, race, and socioeconomic status (Lockenhoff, Duberstein, Friedman, & Costa, 2011).

Alzheimer's caregivers assist individuals with activities of daily living once the disease begins to have a notable impact on cognition and executive functioning (Kaufman, Kosberg, Leeper, & Tang, 2010). Although the caregiving experience may offer caregivers emotional gratification and rewards, it also demands immense sacrifices (Campbell, 2009; Cangelosi, 2009). Caregiving responsibilities reportedly cost informal caregivers over \$354 billion each year (Marziali & Garcia, 2011). In addition, primary caregivers may devote over 70 hours each week to their caregiving efforts (Martin-Carrasco et al., 2009). For the purpose of this discussion, a caregiver is defined as an individual who provides consistent informal support and financial assistance to a loved one or spouse with Alzheimer's disease (Brangman, 2006; Campbell, 2009).

Scope

The Family Caregiver Alliance (2010) estimated that 52 million caregivers in the United States provide assistance to adults with an illness or disability. According to the National Alliance for Caregiving (2004), nearly 80% of these caregivers tend to relatives and loved ones over the age of 50. Researchers estimated that 25% of these caregivers offer physical, emotional, and financial support to patients with Alzheimer's disease (National Alliance for Caregiving,

2004). In addition, the Alzheimer's Association (2008) reported that over three million individuals with Alzheimer's disease live at home with a caregiver. These caregivers provide at least 75% of routine care necessary for the successful treatment of their loved ones (Martin-Carrasco et al., 2009).

The National Alliance for Caregiving (2004) noted that informal caregivers of adults over age 50 comprise about 16% of the American population. The average age of these caregivers is approximately 47, although 14% of Alzheimer's caregivers are over age 65 (Family Caregiver Alliance, 2010; Wilks & Croom, 2008). According to Cangelosi (2009), Alzheimer's caregivers are more likely to be female than male. In fact, females comprise at least 60% of all caregivers of adults over age 50, and they spend 50% more time than their male counterparts on caregiving duties (Family Caregiver Alliance, 2010). However, male caregivers are considerable in number and represent a growing portion of the caregiver population (Family Caregiving Alliance, 2010; National Alliance for Caregiving, 2004). Male caregivers often perform routine tasks such as managing finances and arranging formal care (Family Caregiving Alliance, 2010). Asian males are more likely to be caregivers than males of any other ethnic group (National Alliance for Caregiving, 2004).

Alzheimer's caregivers report instances of caregiver burden more frequently than most other caregivers (Wilks & Croom, 2008). While 61% of Alzheimer's caregivers report being burdened by caregiver responsibilities, only 46% of all other caregivers report some degree of burden (Wilks & Croom, 2008). According to Valimaki, Vehvilainen-Julkunen, Pietila, and Pirttila (2009), Alzheimer's caregivers are more likely to encounter stressors which eventually lead to mental and physical health problems. A recent study noted that informal caregivers reported twice as many instances of diabetes, arthritis, heart disease, and depression as

noncaregivers (Cangelosi, 2009). Caucasian caregivers are more likely to complain of stress and depression than African-American caregivers, but less than Hispanic caregivers (Elliott, Burgio, & DeCoster, 2010; Janevic & Connell, 2001). However, African-American caregivers report higher instances of physical health problems than Caucasian caregivers (Kaufman, Kosberg, Leeper, & Tang, 2009).

Nearly 30% of caregivers have obtained a high school diploma, while an additional 30% have completed some college (National Alliance for Caregiving, 2004). Understandably, households with caregivers who have obtained college degrees earn more annually than households with caregivers who have not. Thus, the financial strain of caregiver responsibilities correlates to caregivers' socio-economic status (Family Caregiving Alliance, 2010). Oftentimes, caregivers must offset this strain by remaining active in the workforce. Almost 60% of all caregivers of adults over age 50 maintain full or part-time employment (National Alliance for Caregiving, 2004). These individuals must juggle the demands of their jobs with their caregiving responsibilities, a feat which may seem nearly impossible at times.

Caregiver Burden

Caregiver burden occurs when an individual becomes overwhelmed by his or her caregiving responsibilities (Cangelosi, 2009). Factors that exacerbate caregiver burden may be physical, socio-emotional, or financial (Brangman, 2006; Hayslip, Han, & Anderson, 2008). As Alzheimer's disease progresses, a growing inability to communicate with loved ones also impacts caregiver burden (Egan, Berube, Racine, Leonard, & Rochon, 2010). Moreover, lack of sufficient sleep increases the likelihood of burden among caregivers, while also contributing to emotional and physical distress (Rowe, Kairalla, & McCrae, 2009). Caregivers facing heightened levels of burden frequently exhibit symptoms associated with anxiety and depression,

as well as various somatic illnesses (Brangman, 2006; Elliott, Burgio, & DeCoster, 2010; Hayslip, Han, & Anderson, 2008; Valimaki, Vehvilainen-Julkunen, Pietila, & Pirttila, 2009). Quite often, caregivers become preoccupied with their caregiving duties and less focused on maintaining their own mental and physical health. Thus, caregiver burden impedes one's ability to fulfill the caregiver role effectively.

A recent study noted that caregivers of elderly patients with dementia experience higher degrees of burden than caregivers of patients with other conditions (Gaugler, Kane, & Newcomer, 2007). Burden has a considerable impact among Alzheimer's caregivers, and it often diminishes the quality of care provided. As previously discussed, burden is associated with numerous stressors, which cause an inability to balance the unyielding demands of the caregiver role. Further exploration of caregiver burden will more accurately depict the tremendous sacrifice required of Alzheimer's caregivers. This thesis utilizes the terms burden and strain interchangeably.

Definition. According to Takano and Arai (2005), burden is a perceived strain on the emotional, physical, social, or financial status of a caregiver, as a result of fulfilling caregiver responsibilities. The severity of perceived strain among Alzheimer's caregivers may fluctuate based upon the patient's stage in the disease process (Yeager, Hyer, Hobbs, & Coyne, 2010). Burden is further defined as an individualized measure of stressors associated with the caregiver experience. This experience varies based upon the caregiver's exposure to emotional, physical, or financial strain (Gallagher et al., 2011). Germain et al. (2009) defined burden as an encounter that is influenced by factors related to the patient, the caregiver, and interaction between the two. For the purpose of this discussion, caregiver burden is defined as the negative effect of prolonged physical, emotional, social, or financial strain among Alzheimer's caregivers.

Health Effects. Research has well-documented the impact of burden on caregiver health. For instance, Pinquart (2003) reported that dementia caregivers are at greater risk of developing mental or physical health problems than non-dementia caregivers, due to increased levels of stress associated with caregiver responsibilities. Moreover, researchers noted a 23% increase of stress hormone and 15% decrease in immune system antibodies among dementia caregivers (Vitaliano, Zhang, & Scanlan, 2003). Hence, dementia caregivers are more likely than non-caregivers to suffer from sleep disturbance, heart disease, cancer, diabetes, and death (National Family Caregivers Association, 2010). According to Ho, Collins, Davis, and Doty (2005), the number of dementia caregivers who reported having a chronic illness in comparison to non-caregivers is almost double.

On the other hand, emotional health problems among dementia caregivers are also common. The Center for Disease Control (2009) stated that caregiving is associated with an increased incidence of depression and anxiety, as well as use of medications to reduce these symptoms. In fact, 31% of Alzheimer's caregivers reported high levels of emotional stress in a recent study (National Alliance for Caregiving, 2004). Previous research has identified a positive correlation between depression among Alzheimer's caregivers and increased caregiver responsibilities, as the disease reaches its advanced stages (Shua-Haim, Haim, Shi, Kuo, & Smith, 2001). However, other studies have determined that depression among Alzheimer's caregivers depends upon each individual's personality traits and ability to cope with perceived stressors (Hayslip, Han, & Anderson, 2008).

Impact on Recipients. Factors related to the Alzheimer's patient, such as impaired cognition and problem behavior, have a significant impact on emotional strain and caregiver burden. These factors vary, depending upon the patient's stage in the disease process. Gallagher

et al. (2011) determined that caregivers who experienced burden while caring for patients in earlier stages of Alzheimer's disease are affected by patients' decreased independence and functioning. Conversely, caregivers who experienced burden while caring for patients in later stages of Alzheimer's diseases are impacted by behavioral disturbances such as hallucinations and delusions (Gallagher et al., 2011).

In addition, Robinson, Adkisson, and Weinrich (2001) noted that caregiver depression increases as symptoms of depression, wandering, and agitation among Alzheimer's patients increases. Hence, emotional distress and depression seems to be shared among Alzheimer's caregivers and patients. Although impaired cognition among patients has been linked to caregiver burden, it is not as significant as previously mentioned factors (Germain et al., 2009). Language disturbance is the most notable cognitive impairment that has been linked to caregiver burden in recent studies (Egan et al., 2010). Caregivers' ability to successfully manage problem behaviors and language disturbances among Alzheimer's patients may actually impact patients' behavior and functioning (Robinson, Adkisson, & Weinrich, 2001). In other words, caregivers who are less agitated and depressed are also less likely to encounter agitation and depressive symptoms among Alzheimer's patients (Gonzalez-Salvador, Arango, Lyketsos, & Barba, 1999). Thus, identifying and addressing caregiver burden is a necessity, not only for the caregiver, but also for the loved one or spouse with Alzheimer's disease.

Coping and Appraisal

Alzheimer's caregivers experience continual strain which may impede their ability to manage caregiving responsibilities successfully. Due to the steady incidence of burden reported by those who assume the caregiver role, it is important to consider the strategies Alzheimer's caregivers utilize to manage psychosocial stressors. Caregivers who employ successful coping

strategies perceive smaller degrees of burden and are less likely to experience its negative effects. On the other hand, caregivers who are unable to apply healthy coping techniques may experience feelings of being overwhelmed more frequently throughout the caregiving process.

Definition

Coping is required when individuals do not have the physical, emotional, or financial resources readily available to meet an immediate need (Souza-Talarico, Chaves, Nitrini, & Caramelli, 2009). Coping techniques aim towards minimizing the existing problem and regulating one's emotions (Matson, 1995). According to Matson (1995), coping is defined as premeditated thought processes that help individuals overcome emotionally taxing situations. Moreover, Cooper, Katona, Orrell, and Livingston (2008) defined coping as attempts to lessen the effect of negative stressors through modifying behavior and cognition.

This thesis utilizes Lazarus and Folkman's (1984) definition of coping and appraisal. For the purpose of this discussion, coping is defined as cognitive and behavioral responses to adverse conditions (Lazarus & Folkman, 1984). These responses vary based upon an individual's perception of a stressful event as manageable or not manageable (Lazarus & Folkman, 1984). Individuals must appraise each stressor and determine whether they have the resources or skills to meet this new demand (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). Hailey et al. (1996) noted that positive appraisal of stressful encounters and increased self-efficacy reduces the incidence of caregiver burden.

The most popular methods of coping are commonly associated with defense mechanisms, or unconscious attempts to deal with stress (Freud, 1946). Freud (1946) identified a number of defense mechanisms, which include denial, dissociation, withdrawal, humor, and altruism. A recent study noted that defense mechanisms most commonly used by caregivers include avoiding

unpleasant thoughts about the care-recipient and refusing to acknowledge the care-recipient's current mental or physical state (Timmerman, Naziri, & Etienne, 2009). Moreover, this research determined that caregivers utilize defense mechanisms, such as attributing their own pessimistic thoughts and emotions to their loved ones and converting their emotions from negative to more socially acceptable, in conjunction with coping strategies in order to manage caregiver burden (Timmerman, Naziri, & Etienne, 2009). Researchers have conducted numerous studies on coping that explore the use of reactive coping via unfavorable defense mechanisms (Ouwehand, de Ridder, & Bensing, 2008). However, it is also important to consider the impact of proactive coping strategies.

Proactive Coping. Proactive coping consists of behaviors that allow individuals to maintain some degree of control in their lives through problem-solving and planning efforts (Bode, de Ridder, Kuijer, & Bensing, 2007). Ouwehand, De Ridder, and Bensing (2008) stated that men and women who have obtained higher levels of education are more likely to engage in proactive coping. According to Papastavrou, Kalokerinou, Papacostas, Tsangari, and Sourtzi (2007), males are more successful at problem-solving and employing coping strategies successfully. Treatment interventions focusing on caregiver education about proactive coping have decreased burden by teaching caregivers to set realistic goals and to seek help from referral agencies (Bode, de Ridder, Kuijer, & Bensing, 2007).

Other examples of proactive coping strategies include seeking social support and relying upon spiritual beliefs (Cooper, Katona, Orrell, & Livingston, 2008). Researchers reported that spirituality is similar to social support in terms of coping and mediating negative stressors (Ai, Tice, Peterson, & Huang, 2005). This parallel correlates one's relationship with God to relationships with friends and family. In addition, Sterritt and Porokny (1998) noted that some

caregivers claim God as their primary social support. The reader may gain a clearer understanding of these phenomena by exploring the role of spirituality in coping and successful adaptation.

Spirituality

According to Smith and Harkness (2002), every person is a spiritual being, despite the presence or absence of belief in a higher power. The use of spirituality as a coping strategy and treatment intervention can be traced back hundreds of years (Theis, Biordi, Coeling, Nalepka, & Miller, 2003). Although scientific healthcare approaches have led modern-day practitioners to overlook spirituality in healing, the field of gerontology has embraced holistic efforts (Theis et al., 2003). Nevertheless, researchers offer unclear distinctions about key constructs, spirituality and religion. Since both terms are non-scientific, definitions of the two are usually vague.

Definitions

Spirituality and religion are closely related, yet they are not the same (Gough, Wilks, Prattini, 2010). While religion generally refers to worship behaviors of a group, spirituality refers to an individualized experience (Stuckey, 2001).

Religion. Stuckey (2003) defined religion as a form of socialization in which individuals adopt societal norms. For example, religious and cultural norms among multi-ethnic groups are often intertwined and evident in every aspect of their daily lives (Levkoff, Levey, & Weitzman, 1999). Stuckey (2001) further defined religion as faith-based practices that regulate organized gatherings and lifestyle choices. Burgener (1994) differentiated between formal and informal participation in religious activities. Formal religious participation is organized and takes place outside the home, while informal participation is unorganized and occurs within the home (Burgener, 1994).

Religion may have an indirect effect on caregivers' physical well-being, since it promotes taking care of oneself and refraining from unhealthy behaviors (Rabinowitz, Mausbach, Atkinson, & Gallagher-Thompson, 2009). In addition, religious coping strategies are closely associated with optimism and positive appraisal of perceived stressors (Miltiades & Pruchno, 2002). Religious beliefs, such as life after death and the occurrence of miracles, help to shed light on life circumstances that might not otherwise be explained. Theis et al. (2003) identified key religious coping behaviors, which include obtaining support from clergy, going to church services, and reading faith-based materials.

Spirituality. According to Farran, Paun, and Elliott (2003), spirituality is most frequently associated with one's internal connection to God. Spiritual encounters are usually informal, and focus is directed inward rather than to large, organized groups (Farran, Paun, & Elliott, 2003). Sterritt and Pokorny (1998) defined spirituality as a quest for meaning and strength from within. The authors further stated that spirituality is a continuum that ranges from uncertainty and doubt to unshakable faith in a higher power (Sterritt & Pokorny, 1998). Spirituality elevates individuals beyond physical existence through practices such as meditation and private prayer (Wilks & Vonk, 2008). It also buffers individuals from emotional burden and fosters resilience (Ai, Tice, Peterson, & Huang, 2005).

Bauer-Wu and Farran (2005) conceptualized spirituality as a continuous search for purpose, fulfillment, and meaning in one's daily activities. It involves developing an awareness of self and others by maintaining a connection with God and nature (Bauer-Wu & Farran, 2005). According to Shah, Snow, and Kunik (2001), lack of spiritual awareness or belief in a higher power correlates with feelings of hopelessness and despair. For the purpose of this discussion, spirituality is defined as an inner quest for meaning, strength, and existence beyond the physical

realm through self-awareness and prayer. However, the terms religious coping and spirituality will be used interchangeably, since these constructs do overlap.

Scope. According to Gallup and Lindsay (1999), 90% of Americans believe in the effectiveness of private prayer or the existence of a higher power. Due to such prevalence, prudent researchers should consider the impact of spiritual coping on resilience and successful adaptation. This statement certainly applies to caregivers. Alzheimer's caregivers are less likely to seek social support outside the home and more frequently engage in private prayer (Burgener, 1994). Furthermore, caregivers solicit religious counseling from clergy more often than non-caregivers (Burgener, 1994). Alzheimer's caregivers most commonly engage in spiritual practices such as *praying and seeking God's help, hoping for a miracle, and daydreaming* (Papastavrou, Kalokerinou, Papacostas, Tsangari, & Sourtzi, 2007).

Prevalence. Many Alzheimer's caregivers report that spirituality allows them to find divine purpose throughout the caregiving experience (Rabinowitz, Mausbach, Atkinson, & Gallagher-Thompson, 2009). Chang, Noonan, and Tennstedt (1998) stated that caregivers who utilize religious coping techniques report more enjoyable interactions with their care recipients. Likewise, Pratt, Wright, and Schmall (1987) reported an inverse relationship between caregiver burden and spiritual support. Researchers noted a decrease in perceived burden among Alzheimer's caregivers as spiritual support increases (Pratt, Wright, & Schmall, 1987). Conversely, Shah, Snow, and Kunik (2001) indicated that negative feelings about religion and spirituality are associated with increased burden among caregivers.

Minority caregivers frequently engage in private prayer to reduce the effects of perceived stressors (Levkoff, Levey, & Weitzman, 1999). Recent research noted that females and African-American Alzheimer's caregivers employ religious coping strategies more frequently than males

and Caucasian caregivers (Theis, Biordi, Coeling, Nalepka, & Miller, 2003). Religious coping and spirituality is culturally accepted among African-American caregivers as a means of managing burden (Miltiades & Prucho, 2002). Morano and King (2005) indicated that African-American caregivers rely on God for social support in the same manner they rely on family, friends, and support groups.

Spiritual Support Scale

The Spiritual Support Scale is a test instrument originally designed by Dr. Amy Ai of Florida State University and her colleagues. The measure is intended to assess the use of spirituality as a form of coping among various populations. The Spiritual Support Scale was initially utilized to identify the use of spiritual coping among graduate and undergraduate students after the terrorist attacks of September 11th, 2001 (Ai et al., 2005). Original research concluded that the Spiritual Support Scale has sound psychometric properties among this sample group.

Theoretical Framework: Positive Psychology

Alzheimer's caregivers encounter burden and reward as they strive to meet the needs of their loved ones. While burden may seem overwhelming at times, some caregivers effectively navigate their stressors by remaining optimistic and focusing on rewards. For example, many individuals find meaning in their own lives by serving others. In addition, people often develop inner strength as they grow through adversity. The reader should explore positive psychology, a theory which explains how caregivers remain optimistic while coping with burden.

Definition

Positive psychology is defined as the study of personal growth and resilience beyond the maladaptive, clinical context (Davis & Asliturk, 2010). It has become an increasingly popular

field of study over the last decade (Yen, 2010). The theory is largely attributed to Martin Seligman and Mihayl Csikszentmihalyi, due to their extensive research on successful adaptation and well-being (Azar, 2011). This branch of psychology asserts that individuals thrive by developing their personal strengths to overcome adversity (Wong, 2011). Positive psychology is rooted in the study of *eudaimonia*, a Greek word which means a state of happiness and inner virtue (Woolfolk & Wasserman, 2005). The contemporary theory focuses on optimism and adaptation instead of the traditional focus on emotional maladjustment (University of Pennsylvania, 2007). Positive psychologists seek to establish a balance between negative and positive to conquer life stressors effectively; therefore, negative stressors become the catalyst through which individuals accept and transcend emotional obstacles (Wong, 2011).

According to Hart and Sasso (2011), the main constructs of positive psychology are *resilience, virtue, meaning, and well-being*. While resilience is closely associated with coping, the remaining constructs have humanistic roots. Catalano, Chan, Chiu, and Muller (2011) defined resilience as one's ability to adapt and overcome perceived stressors. On the other hand, virtue is one's quest for morality and inner goodness. Meaning is considered the search for life's purpose, and well-being is the ultimate quest for happiness (Hart & Sasso, 2011). All of these elements combine to form a theoretical premise that promotes individual strengths and healthy lifestyle choices.

Applications

Positive psychology has a number of practical applications that warrant continued exploration. For example, Kobau et al. (2011) reported that coupling positive emotions with a strengths-based perspective is essential for promoting and maintaining mental health. In fact, mental health professionals believe that negative stigma associated with mental illness will

decrease with public education and awareness of positive psychology (Kobau et al., 2011). In addition, Davis and Asliturk (2010) stated that resilience, virtue, meaning, and well-being are achieved through evaluation of possible negative and positive outcomes. Finally, Salsman, Brown, Brechting, and Carlson (2005) identified additional constructs of the modern-day theory, which include social support and spirituality. A recent study suggested that social support and spirituality function as mediators which lessen the negative effects of psychosocial stressors (Salsman, Brown, Brechting, & Carlson, 2005).

Positive psychology is a framework which describes the emotional and cognitive state necessary for successful adaptation of Alzheimer's caregivers. To overcome burden, caregivers must work to find meaning in their caregiving experiences. In addition, the framework asserts that caregivers achieve a sense of morality by striving to do what they feel is right for their loved ones. In many cases, doing what is right requires personal sacrifice and stringent commitment to caregiving duties. Moreover, positive psychology explores the impact of spirituality and social support on perceived emotional strain. The framework suggests that spirituality and social support may help to mediate the devastating effects of caregiver burden.

Coping and Spirituality

As previously mentioned, Lazarus and Folkman (1984) stated that successful coping is based upon positive appraisal, perception, and belief that one is capable of managing a stressor. Consequently, positive psychology also emphasizes the importance of optimism in the face of adversity. According to Mayton (2011), optimistic individuals are more likely to maintain social support and to remain confident in their ability to overcome hardship. Maddi (2006) identified a significant link between optimism, courage, and hardiness. Furthermore, positive emotions are

closely associated with emotional and physical well-being among individuals coping with burden (Greenglass & Fiksenbaum, 2009).

According to Joseph, Linley, and Maltby (2006), both positive psychology and spirituality encourage individuals to display kindness, forgiveness, and an appreciation of others. In addition, Saroglou, Buxant, and Tilquin (2008) correlated individuals' belief in a higher power to positive emotions among those coping with hardship. Hence, individuals who have strong spiritual beliefs are often those who find virtue, meaning, and well-being in adverse situations (Saroglou, Buxant, & Tilquin, 2008). In addition to spiritual development, these individuals are also more likely to foster close social interactions and to think positively about the future (Askay & Russell, 2009).

Purpose and Research Questions

The purpose of this thesis is to re-evaluate the psychometric properties of the Spiritual Support Scale using a sample of Alzheimer's caregivers (Wilks, Little, Gough, & Spurlock, 2011).

1. The study aims to determine the factor structure of the Spiritual Support Scale.
2. In addition, the thesis will evaluate the reliability of the Spiritual Support Scale.
3. Finally, the thesis will assess the validity of the Spiritual Support Scale.

Chapter 3. Methods **Design and Sampling**

Design

The research design utilized in this study is a secondary data analysis. All data were previously collected and evaluated by Wilks, Little, Gough, and Spurlock (2011). The study was approved by the Louisiana State University Institutional Review Board.

Sampling

This thesis overviews information about sampling as previously reported by Wilks, Little, Gough, and Spurlock (2011). Researchers collaborated with the program director of Alzheimer's Services of the Capital Area (ASCA). This collaborative effort required initial feedback from staff and targeted caregivers. All parties joined together to form a focus group. The purpose of the focus group was to critique the study's survey, which measured caregiver resilience among a broader caregiver population. Each focus group participant completed the survey and evaluated its content and clarity. Group members provided feedback and discussed strategies for recruiting African-American caregivers for the study sample, who are unlikely to attend support groups at ASCA.

After making the necessary revisions, researchers disseminated the resilience survey across the state. Each study participant was offered \$20 as incentive and compensation. The program director at ASCA received numerous packets, which included cover letters, the surveys, and self-addressed, stamped envelopes. Facilitators of support groups at ASCA offered packets to caregivers who attended these meetings. Completed surveys were collected and mailed to the researchers for review. Caregivers who attended outreach programs at ASCA were also provided surveys to complete, in an attempt to recruit a more diverse population sample. In addition, researchers utilized quota sampling to ensure a sample of African-American

participants that is proportional to the general population. The sample was defined as the total number of caregivers who completed a survey. Researchers maintained all data obtained from the survey in secure files and office spaces.

Measures

This thesis overviews measurement of data as previously reported by Wilks, Little, Gough, and Spurlock (2011). However, this study solely focuses on measurement of data relevant to demographics, coping, resilience, and spiritual support.

Demographics

Initially, the test instrument collected demographics of the sample. Non-parametric measurements included marital status, gender, ethnicity, caregiver relationship, recipient's Alzheimer's disease stage. Demographics also included a parametric measurement of age.

Coping

Participants then completed a 21-item measurement of coping, the situational Coping in Task Situations questionnaire. This instrument included three, seven-item subscales with Likert responses ranging from *0 – not at all* to *4 – extremely*. Each subscale measured task-focused, emotion-focused, and avoidance-focused styles of coping. Higher global scores on each subscale indicated one's tendency to utilize that particular style of coping, although it is possible for individuals to utilize more than one style of coping (Wilks, Little, Gough, & Spurlock, 2011). According to Matthews and Campbell (1998), each subscale of the Coping in Task Situations questionnaire has good reliability and validity. The level of measurement of the Coping in Task Situations questionnaire is parametric.

Resilience

In addition, participants completed a 15-item measurement of resilience, the shortened Resilience Scale. This instrument included Likert responses ranging from *1-disagree* to *7-agree* to identify the level of positive appraisal and resilience among each participant. Higher global scores on this instrument indicated one's belief that he or she is highly resilient. According to Wilks (2008), the reliability and validity of the shortened Resilience Scale are good. The level of measurement of the shortened Resilience Scale is parametric.

Spiritual support

Finally, participants completed a 12-item measurement of perceived spiritual support, the Spiritual Support Scale. This instrument included Likert responses ranging from *1-strongly disagree* to *4-strongly agree* to assess the influence of spiritual support on caregiver resilience. Participants with higher scores on this scale perceived a greater degree of spiritual support than participants with lower scores. Ai et al. (2005) indicated the reliability and validity of this scale are good. The level of measurement of the Spiritual Support Scale is parametric.

Data Analysis

For all parametric variables, the study reported descriptive statistics with mean and standard deviation. For all nonparametric variables, the study reported descriptive statistics with frequencies and percentages. To determine the factor structure of the Spiritual Support Scale, the study conducted a confirmatory factor analysis. The study evaluated the reliability of the Spiritual Support Scale by calculating Cronbach's alpha and split-half reliability. Finally, the study evaluated the validity of the Spiritual Support Scale by identifying bivariate correlations between this scale and resilience and coping measures.

Chapter 4. Results **Descriptive Statistics**

Demographics

The sample size evaluated in this study was 691 Alzheimer's caregivers (N=691). Among those study participants who reported marital status, the majority reported *married* (n=426, 61.9%). The second most frequently reported marital status was *divorced* (n=100, 14.5%). The sample was primarily female (n=546, 79.8%). Among participants who reported ethnicity, the majority reported *Caucasian* (n=424, 61.8%). The second most frequently reported ethnicity was *African-American* (n=246, 35.9%). More than half of all study participants reported their caregiver relationship as *child* (n=350, 51.3%). The second most frequently reported caregiver relationship was *other* (n=115, 16.9%). Among individuals in the sample who reported care recipients' Alzheimer's disease stage, the majority reported *late* (n=260, 41.3%). The second most frequently reported stage was *middle* (n=226, 35.9%). The average age of caregivers who participated in the study was 61. For a comprehensive listing of sample characteristic details, refer to Table 1.

Primary variables

The Coping in Task Situations questionnaire had three subscales. For the task-focused subscale, the mean score was 20.14 (SD=4.998; n=644). The emotion-focused subscale had a mean score of 12.44 (SD=6.532; n=654). The avoidance-focused subscale had a mean score of 7.98 (SD=5.435; n=635). The shortened Resilience Scale had a mean score of 5.84 (SD=.963; n=683). The Spiritual Support Scale had a mean score of 41.75 (SD=7.481; n=665).

Table 1

Sample Demographics

Variable	n	Valid %	M
<i>Marital status</i>			
Married	426	61.9	
Divorced	100	14.5	
Single	94	13.7	
Widowed	68	9.9	
<i>Gender</i>			
Female	546	79.8	
Male	138	20.2	
<i>Ethnicity</i>			
Caucasian	424	61.8	
African-American	246	35.9	
Other	9	1.3	
Hispanic/Latina(o)	6	0.9	
No answer	1	0.1	
<i>Relation to care recipient</i>			
Child	350	51.3	
Other	115	16.9	
Spouse/partner	114	16.7	
Grandchild	45	6.6	
Sibling	30	4.4	
Friend	26	3.8	
No answer	2	0.3	
<i>Recipients' AD stage</i>			
Late	260	41.3	
Middle	226	35.9	
Early	140	22.3	
No answer	3	0.5	

Age

61

Factor Structure

The factor structure of the Spiritual Support Scale was determined by analyzing a rotated varimax solution with unlimited potential factors. The minimum eigenvalue required to be considered a factor in this study was 1.0 (Suhr, 2003). Also, minimum factor loadings were calculated by use of the following formula: $5.152/\sqrt{(N-2)}$ (Wilks, 2008). One factor showed an eigenvalue greater than 1.0 (eigenvalue=9.422). This factor explained 78.5% of the variance among individual items on the scale. In addition, all items on the Spiritual Support Scale loaded on this single factor. For a detailed description of all factor loadings, refer to Table 2.

Reliability

Cronbach's alpha of the Spiritual Support Scale was calculated as 0.974. In addition, Guttman's split-half coefficient was calculated as 0.940.

Validity

The study evaluated the validity of the Spiritual Support Scale through bivariate correlation analysis of this scale, the task-focused coping subscale, the emotion-focused coping subscale, the avoidance-focused coping subscale, and the shortened Resilience Scale. Bivariate correlation identified a statistically significant relationship between the Spiritual Support Scale and the task-focused subscale of the coping measure ($r= +0.119, p<0.01$). Moreover, bivariate correlation analysis identified a significant relationship between the Spiritual Support Scale and the shortened Resilience Scale ($r= +0.253, p<0.01$). A negative, significant correlation existed between the Spiritual Support Scale and the emotion-focused subscale of the coping measure ($r= -0.120, p<0.01$). The relationship between the Spiritual Support Scale and the avoidance-focused subscale of the coping measure was not significant ($r= -0.20, p>0.05$).

Table 2

Confirmatory analysis on Spiritual Support Scale (N=665)

	Confirmatory Factor Analysis
Content Description	Factor 1 loadings *
1. Inward spiritual relationship helps deal with problems	.742
2. Affectionate relationship with higher power	.803
3. Oneness with higher power within the heart	.762
4. Feeling peaceful in the midst of adversity	.830
5. Intimate relationship with higher power	.803
6. Encouragement from higher power helps to withstand adverse conditions	.815
7. Spiritual support gained from one's spiritual beliefs	.515
8. Spiritual faith helps one to sustain in the midst of personal struggle	.796
9. Spirituality or religion has been an inspiration during adversity	.828
10. Spiritual or religious beliefs assist with coping	.848
11. Spiritual or religious faith fosters an inward strength	.842
12. Spiritual or religious faith builds personal strength during a trial	.839

*Loading threshold; $5.152/(\sqrt{N-2})$

Chapter 5. Discussion

Review of Results

Characteristics of the study's sample were consistent with sample demographics reported in previous studies. While 46% of Alzheimer's caregivers are between ages 50 and 64, the mean age among study participants was 61 (Alzheimer's Association, 2010). According to Cangelosi (2009), up to 70% of Alzheimer's caregivers are female, while the percentage of female caregivers in this sample population was 79.8%. The Alzheimer's Association (2011) noted that approximately 66% of Alzheimer's caregivers are married. Similarly, 61.9% of participants in this study reported being married. Moreover, the majority of Alzheimer's caregivers provide emotional and financial support to a parent or grand-parent (Alzheimer's Association & National Alliance for Caregiving, 2004). Among the participants of this study, 51.3% cared for a parent. Nearly 78% of the sample reported that care recipients were in middle to late stage Alzheimer's disease. Prior to participation in the study, members of the sample sought out various means of coping, such as support groups and spirituality, to reduce the burden often associated with these advanced stages of Alzheimer's disease.

Furthermore, the study identified similarities between primary variables explored in this study and those previously reported. Current research noted a high probability of the sample utilizing task-focused coping. Matthews et al. (2006) reported a high likelihood of participants utilizing task-focused coping, although the study a sample of young adult psychology students. Wilks (2008) reported that mean score of 3.5 or above on the shortened Resilience Scale indicated a high level of resilience. In this study, Alzheimer's caregivers' high scores on the shortened Resilience Scale suggested the sample was highly resilient. Scores on the Spiritual Support Scale in this study showed that participants were more likely to utilize some form of prayer or spiritual support for coping with caregiver burden. Ai et al. (2005) reported a slightly

lower mean score on the Spiritual Support Scale, among a sample of graduate and undergraduate students.

Bello-Haas, Klassen, Sheppard, and Metcalfe (2011) stated that a scale is internally consistent when reliability is greater than 0.70. In this study, Cronbach's alpha and Guttman's split-half coefficients of the Spiritual Support Scale exceeded this cutoff. Hence, this study confirmed the high reliability of the Spiritual Support Scale. These results were nearly identical to reliability coefficients reported by Ai et al. (2005).

The results of this study's confirmatory factor analysis were consistent with the results of the original Ai et al. study (2005). This study also identified one significant factor within the Spiritual Support Scale. All items of the measurement loaded on this single factor.

As previously discussed in the literature review, spirituality is related to theoretically linked constructs, including resilience, task-focused coping, and emotion-focused coping. Among sample participants, individuals with high levels of resilience also reported they utilized prayer or some form of spirituality to cope with stressors. Similarly, study participants who were more prone to utilize task-focused coping techniques also expressed a tendency to utilize spirituality as a coping measure. In contrast, study participants who reported a high likelihood of emotion-focused coping also reported a low frequency of utilizing spiritual support to cope with caregiver burden.

Social Work Implications

The results of this study indicated the Spiritual Support Scale has sound psychometric properties. Consequently, the Spiritual Support Scale effectively measures the use of prayer and spiritual support as a form of coping. Because the scale is essentially a new instrument, it is necessary to establish its efficacy among diverse populations. Ai et al. (2005) previously

examined the psychometric properties of this instrument among a sample of young students. Additional research among Alzheimer's caregivers and older adults may provide new insight about the role of spiritual support and prayer. The need for such research is readily apparent, since Alzheimer's caregivers continuously attempt to manage caregiver burden. Future research may help practitioners gain a better understanding of the relationship between spiritual support, resilience, and various forms of coping. Practitioners who successfully make the connection between spirituality, resilience, and coping may be better equipped to take a holistic approach while providing services to Alzheimer's caregivers.

As previously stated, caregivers who report a high degree of emotion-focused coping are less likely to use spiritual support as a form of coping. This directly impacts caregivers' perceived burden and resilience. Future research should evaluate the role of spiritual support among populations that tend to feel overwhelmed or burdened by their circumstances. For instance, Ekas, Whitman, and Shivers (2009) noted that parents of children with autism spectrum disorder(ASD) report higher levels of stress due to increased responsibilities and financial strain. In many ways, this stress may be similar to the burden reported by caregivers in the current study. Consequently, spiritual support may prove to be a coping measure that lessens the negative effects of caring for children with ASD. Moreover, Martin and Sachse (2002) reported that patients recovering from recent kidney transplants continuously face dangers associated with possible rejection of the new organ. These patients must rely on drug therapies to reduce the chance of experiencing a life-threatening adverse reaction (Martin & Sachse, 2002). Spiritual coping among this population may be relevant, since individuals faced with their own mortality may benefit from finding meaning in their existence. Hence, future social work research should utilize the Spiritual Support Scale to explore spirituality and coping among other populations.

As previously stated, approximately 90% of Americans possess a belief in private prayer and a higher power (Gallup & Lindsay, 1999). Therefore, social work practitioners should be cognizant of clients' spiritual beliefs and tendency to utilize prayer as a coping technique. Scholarly discussion of spirituality has expanded the realm of social work practice in recent years (Barker & Floersch, 2010; Carrington, 2010). This progression is logical, since spirituality encompasses constructs such as optimism, hope, and a quest for meaning. As this study shows, individuals with spiritual beliefs are often resilient and focused on accomplishing tasks. Further exploration of spirituality in social work may help to uncover additional strengths shared among those with spiritual beliefs.

Limitations and Future Research

Religious orientation of the sample was a notable limitation of the current study. Recruitment efforts were mainly focused on Alzheimer's caregivers in south Louisiana. This region has well-documented ties to Catholicism, and spirituality is an integral part of life for Louisiana residents (Clarke, 1985; Parsons, Cruise, Davenport, & Jones, 2006). The state of Louisiana is currently ranked as one of the five most religious states in the country (Newport, 2012). Study results may have been vastly different in a region of the country where other religious orientations are represented. Future research efforts should explore the role of spiritual coping among caregivers across the nation with different religious beliefs, including Muslim, Buddhist, Jewish, and atheist caregivers. A sample such as this may provide greater insight about the impact of spiritual beliefs, and the lack thereof, on caregiver burden.

Caregivers who participated in this study were predominately older adult, married women providing informal support to a parent. These participants were primarily recruited from Alzheimer's caregiver support groups. Sample characteristics were consistent with caregiver

characteristics across the general population (Family Caregiver Alliance, 2010; National Alliance for Caregiving, 2004). However, obtaining a more diverse sample of caregivers may have provided insight about resilience, coping, and spirituality among minority groups. In the future, researchers should focus their efforts on recruiting more caregivers of diverse racial and ethnic backgrounds. Although the representation of African-American caregivers in this study is notably high, other racial and ethnic groups are underrepresented. Minority representation should be a focus of future research since Alzheimer's disease has a significant impact on ethnic minorities, namely African-Americans and Hispanics (Alzheimer's Association, 2010). Additional studies may identify a broader population by coordinating more closely with community-based institutions such as local churches to recruit participants. Working intimately with local institutions may grant access to minority groups who may not otherwise seek help in a traditional support setting.

It is also important to note that males are considered a minority in this study, since they comprised only a small percentage of the sample. Perhaps males are less likely to seek support from community agencies such as Alzheimer's Services due to cultural norms. Traditional gender roles suggest that males should exude strength and control, even in high-stress situations (Andersen, 2006). Male caregivers may feel uncomfortable requesting assistance with caregiving-related stress. Thus, social work professionals should make an effort to engage male caregivers in support services such as caregiver support groups and respite care programs. Further exploration of caregiver burden, coping, resilience, and spirituality among male caregivers may provide additional insight about how to address the special needs of this underrepresented group.

Finally, the study conducted a limited examination of spiritual support among Alzheimer's caregivers. While the psychometric re-evaluation confirmed the properties of the Spiritual Support Scale, the study did not explore the effectiveness of spiritual coping among this population. Future research should evaluate the effectiveness of spiritual coping by identifying a relationship between spirituality, coping, and resilience. Additional studies should also measure resilience outcomes among caregivers who utilize various levels of spiritual coping. Determining the difference in resilience outcomes among highly spiritual and less spiritual caregivers will help researchers to identify specific strengths associated with spiritual support. Thus, future research should focus specifically on the role of spirituality as a means to reduce caregiver burden.

Conclusion

The purpose of this thesis was to reevaluate the psychometric properties of the Spiritual Support Scale. The study reviewed previous research about Alzheimer's disease, Alzheimer's caregivers, coping and appraisal, and spirituality. Alzheimer's disease is a progressive brain disorder which impairs memory, cognition, and executive functioning (National Institute on Aging, 2010). Final stages of Alzheimer's disease are characterized by individuals' total dependence of caregivers to perform activities of daily living (Javier, 2010). Consequently, Alzheimer's caregivers play an instrumental role in the lives of loved ones diagnosed with the disorder.

Caregivers must juggle the responsibilities of caregiving as they attempt to manage related stressors. Individuals appraise their experiences as manageable or non-manageable, which significantly impacts how caregivers cope with stress. Those who engage in proactive coping choose to mediate their stressors through social support, spirituality, and other means.

Through the lens of positive psychology, the study established a connection between Alzheimer's caregivers and spirituality. This theoretical framework helped to illustrate complex, inter-relationships between spirituality, coping, and resilience.

According to the Alzheimer's Association (2011), the number of individuals with Alzheimer's disease in the United States will exceed 16 million people by the year 2050. This population will rely heavily on informal caregivers to provide emotional, social, and financial support. While caregivers enriched by the experience incur countless benefits, they also encounter immense burden. Alzheimer's caregivers consistently report caregiver burden more frequently than other caregivers (Wilks & Croom, 2008). Hence, research should continue to explore various means of coping with caregiver burden, in order to lessen the negative effects of associated stressors. By continuing to explore spirituality as a coping measure, researchers will equip caregivers with the most effective tools to reduce perceived strain.

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Vita

Ms. Angela M. Bowman was born in Bossier City, Louisiana. She graduated from Airline High School in May, 1998. She served as a Petty Officer Second Class as an electrician's mate in the United States Navy from 2000 to 2004. In 2007, Ms. Bowman participated in a summer mission trip to Nairobi, Kenya, which serves as the inspiration for her interest in international social work. She earned her bachelor's degree in General Studies in May, 2008 from Louisiana State University in Shreveport, Louisiana. She will obtain her Master of Social Work degree in May, 2012. As a master's student, she has completed professional internships at the Sexual Trauma and Assault Response Center and Our Lady of the Lake Regional Medical Center. She has also completed rotational internship placements at The Department of Health and Hospitals, AARP, St. Joseph's Hospice, and Charlie's Place of Alzheimer's Services of the Capital Area. Ms. Bowman was a co-presenter at the 2012 Alzheimer's Services Annual Education Conference, along with Dr. Scott Wilks, Ms. Katherine Shillings, Ms. Rhonda Jordan, and Ms. Lauren McKinney. She is an active member of several social work organizations, including Alpha Delta Mu Social Work Honor Society, Social Work Student Association, National Association of Black Social Workers, and National Association of Social Workers.