

UNIVERSITY OF CENTRAL OKLAHOMA

Edmond, Oklahoma

Joe C. Jackson College of Graduate Studies and Research

Caregiver burden and chronic illness among aging adults: An analysis of the factors
moderating levels of caregiver burden/ stress in caregivers.

A THESIS

SUBMITTED TO THE GRADUATE FACULTY

In partial fulfillment of the requirements for the degree of

MASTERS OF ARTS

GERONTOLOGY

By

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Edmond, Oklahoma

2014

CAREGIVER BURDEN AND CHRONIC ILLNESS AMONG AGING ADULTS IN U.S.

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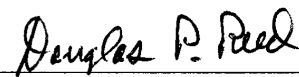
Caregiver burden and chronic illness among aging adults: An analysis of the factors moderating level of caregiver burden/stress in caregivers

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APPROVED FOR THE DEPARTMENT OF
SOCIOLOGY, GERONTOLOGY AND SUBSTANCE ABUSE STUDIES.

May 02, 2014

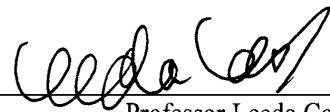
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ABSTRACT

The purpose of this study is to analyze the relationship between chronic illness among the elderly population of United States and the caregiving burden/stress among the caregivers for this population. This study's literature is supplemented by various psychological, sociological and gerontological research. This study analyzes data obtained from political and social research survey data (Thamer, 2000); a national cross-section of adults consisting of 1,663 participants, with a chronic illness and adults who provided informal caregiving services of which 680 were neither chronically ill nor caregivers, 189 were caregivers but not chronically ill, 559 were chronically ill but not caregivers, and 235 were chronically ill caregivers. The objective of this survey was to assess public awareness of chronic care issues and the level of support for chronic care policy initiatives, examine experiences and needs of chronically ill Americans concerning health care and other assistance, and evaluate experiences and needs of informal caregivers.

This study's intent is to extract information related to the relationship between chronic illnesses had long term caregiver's stress/burden in the elderly population of United States. It is anticipated the variables such as gender, race and age have a significant influence on levels of caregiver stress/burden. The relationship between chronic illness and the caregiver stress/burden in caregivers is the focus.

Introduction

The elderly population (people age 65 and older) is the fastest growing population in the United States. The Baby Boomer cohort, population of Americans born between 1946 and 1964, began to turn 65 in 2011 (Jacobson, Kent, Lee & Mather, 2011). According to the U.S. Census Bureau (2012), 35 million Americans, or 13% of the U.S. population, were aged 65 or older in 2010. They have estimated this population to reach to 70.1 million, or 20% of the population by the year of 2030. This means that the population of Americans over the age of 65 will nearly double in the next sixteen years.

Over 44 million Americans were experiencing chronic illness in 2010, and over half of them were over the age of 65 (Wu & Green, 2000). Chronic illnesses are responsible for almost eighty percent of the health care expenses in United States (Parchman, Noel & Lee, 2005). Seven out of ten Americans die each year from chronic diseases such as heart disease, stroke and cancer. Among these chronic illnesses, cancer accounts for greater than 50% of all deaths yearly (Wu & Green, 2000). Chronic illness is stressful and demanding on both physical and psychological levels. It can be very challenging, demanding and stressful for both care recipients and the people giving care to people with chronic illness. There are many factors associated with the experience of the illness that could affect their lives.

Fredman et al., (2010) describe caregiving as a “chronic stressor because of persistent and often physically demanding caregiving tasks and the emotional toll of caring for a loved one with debilitating illness” (p.937). The caregivers have to be competent and compassionate with the ill person as they experience the long, painful and distressing journey along with the care recipients and their illness. The caregivers also have to deal with the stress and coping personally along with the chronically ill. Support has a big impact on life and positive support helps the care recipients with stress while negative interactions have

negative impact on their stress levels (Mohr et al., 2003).

The most essential thing while working with the chronically ill is that there has to be flexibility and comfort between the caregiver and the care recipients. They should engage in meaningful conversations that encourage their self-reflection for solving issues and seeking advice (Weingarten, 2013). The experience can be especially hard for the caregivers/spouses as they are experiencing the suffering of their loved ones which can be very overwhelming, often leading to fear, powerlessness and discouragement (Weingarten, 2013).

Curry et al. (2010) studied the chronic illness and family caregivers interaction model and deduced that people suffering from chronic illness and their caregivers are inseparably connected. Both groups experience similar processes e.g. coping with costs, losses (financial, functional, social and emotional), grieving along with loneliness, stress, fatigue, sorrow, powerlessness, etc. These experiences help both the caregivers and the care recipients with their personal growth (Curry et al.).

The type of care provided and the intensity of the work typically influences lives of caregivers extensively. There are physical and emotional costs related to caregiving experiences and these costs can sometimes decrease the overall quality of life for the caregivers (Sewitch, McCusker, Dendukuri & Yaffe, 2004).

Caregivers who devote a large amount of their time in their caregiving role face many financial and emotional problems. It is hard for them to maintain a normal workload, which decreases their earnings and costs them financially and emotionally. This can also put adverse effects on their health. The care recipients have their own struggles. These people with chronic illnesses have to rely on the caregivers for their day-to-day survival and they struggle with loss of their autonomy (Gardner & Kramer, 2009). Many care recipients start to feel themselves as being a burden to the family (Gardner & Kramer, 2009). The people

suffering from chronic illness could be receiving adequate care, affection and lots of support from the caregivers, but the nature of their illness could still prevent them from understanding the caregiver (Ampalam, Gunturu & Padma, 2012).

As the life expectancy of our population increases, the need for care of this aging population increases too. The rising life expectancy means that as people get older, they are more prone to chronic illnesses. Looking at the current population trends, we can anticipate a huge increase in the people suffering from chronic illnesses in near future. Given the prevalence of chronic illness in older adults and the caregiver stress associated with caregiving, it is important for us to understand the factors that influence the caregiving stress while caring for the elderly. Chronic illness not only has impact on the people suffering from the illness but also significantly impacts the caregiver's life.

The current project was created to gain a better understanding of the relationship between the length of chronic illness and caregiver stress/burden in the United States elderly population. There are many studies that have examined and analyzed the relationship between these two variants but more research is needed to clarify the aspects of caregiving and its association with the level of caregiving stress/burden while caring for the chronically ill older adults. This project will add support to the research literature on this topic.

This project seeks to determine the influences of gender, age and race of the caregivers and chronically ill affecting their caregiving burden/stress. The study will look at how caregiving stress affects the stress level in caregivers. Numerous studies have analyzed the relationship between chronic illness in the elderly and caregivers stress in the caregivers but they fail to implement a theoretical rationale for their hypotheses. This study will include multiple theories and rationale to support the development of the hypotheses, thus differentiating the study from the previous literature on this topic.

The Problem

Chronic Illness and Caregiver Stress

Chronic illnesses do not only have undeviating consequences for the older adults suffering from chronic illness but they also bring on huge life-changes to the people who are caregivers for these older adults (Limpwattana et al., 2013). In this study, the effects of the length of caregiving for chronic illness on caregiver stress/burden will be assessed. In addition, gender, age and race/ethnicity of the participants will be considered to see if they make any changes in caregiver stress/burden.

Our medical system has become more accustomed and oriented toward treatment of acute illnesses rather than paying attention toward chronic illness, which is more common in the general population (Anderson & Knickman, 2001). Medicare does not cover all prescription drug costs needed by the patients suffering from chronic illnesses. Our society demands rapid results and wants to see quick improvement in the patients. However physical therapy treatments are limited by the system, because the patients do not show any improvement. There is a failure to realize that these therapy sessions are meant to slow the progression of the disease and maintain the current state of wellbeing and mobility. Without proper care for one chronic illness, aging can influence other chronic conditions that act together. This puts more responsibility on the caregivers and the need for caregiving services are lengthened. Physicians have been known to ignore the interrelationships between these types of conditions and only give attention to the immediate reason of the patients visit (Anderson & Knickman).

Personal care and household tasks are the most demanding and time consuming while providing care for the chronically ill (Lackey & Gates, 2001). Many aspects of the caregiver's personal and professional life are impacted as the side effects of the caregiving

experience. Caregivers report high burden/stress when they are unable to adapt to the caregiving role and are in need of assistance to perform their daily tasks in the caregiving environment (Garlo et. al., 2010). Social support and help from various sources become imperative resources for the caregivers who are providing ongoing care to the chronically ill older adults. The caregivers are dependent on these social support resources to provide them with emotional support and affirmation, information and personal support, which help them cope with the strain associated with caregiving (Monahan & Hooker, 1997).

Perkins et al. (2013) did a population based study on a large national sample, which studied perceived caregiving strain in relation to all-cause mortality among cohort of men and women aged 45 and older. These people were providing ongoing care to a family member with chronic illness or disability. The study revealed that caregivers who reported high caregiving stress are more likely to suffer from higher mortality rates regardless of the caregiver's race, sex or their relationship with the chronically ill. The educational status of caregivers, the severity of their illness, and caregiver's relationship with the patient were important variables that increased the burden on the caregivers (Perkins et al., 2013).

This indicates that high caregiving stress has significant health concerns and the caregivers providing care to the chronically ill should be targeted for appropriate mediations.

Caregivers and Chronic Illness

Research done by Roseland et al. (2013) on U.S. population regarding disease management revealed findings that stated that 100 million U.S. adults or forty four percent of their respondents are helping a family member or a friend with their chronic disease management.

Networks of family and friends are very important to illness management. The partners and close family make the highest contribution in illness management. People

receive help from wide range of relationships and the characteristics of these relationships (e.g. relationship type, contact frequency, proximity, etc.) impact the amount of contribution and help in illness management (Vassilev et al., 2013).

With changing family dynamics the network also includes a lot of extended family and friends too. It is seen that a very small percentage of older adults rely on the care they receive from their siblings and adults only perceive sibling help in event of a crisis (Connidis, 1994). Sibling support however might be very crucial in near future when there is going to be an increasing demand for informal caregivers and a shortage of the traditional informal caregiver (spouse and children). Along with the changing family dynamics, stepchildren of the baby boomers can have a greater impact on informal caregiving for them (Ryan et al., 2012). Looking at the changing family dynamics it is likely that more step children will be taking care of their step-parents and being an active part of their caregiving process.

Gender and Chronic Illness

Older adults understanding of the physical and shared realities of multiple chronic conditions in their later life are experienced in a distinctly gendered way. Clarke and Bennet (2013) suggested that in order to achieve a realistic flow of their experiences, the elderly try to normalize their illness and make social comparisons based on their understanding. Men are very forthcoming in their frustration over the loss of their independence/freedom but they hang on to their resilience, self-sufficiency, physical prowess and masculine standards of control. On the other hand women lament over their diminished physical appearances and are dismayed by their changing bodies, worrying about the effects of their chronic illness on their significant others. Women also tend to display the feminine norms of self-sacrifice and thoughtfulness to others (Clarke & Bennet).

Janssen et al. (2012) conducted a study in Netherlands to assess caregiver burden as

well as positive aspects of family caregiving in advanced chronic obstructive pulmonary disease, chronic heart failure, and chronic renal failure using the Family Appraisal of Caregiving Questionnaire for Palliative Care. The results showed that female partners of the participating patients are the most common caregivers. The patient's symptoms and the presence of co-morbidities and the fact of being the spouse of the patient influences the experience of caregiving (Janssen et al., 2012). Research indicates that women tend to have longer lives than men and are most likely to be the recipients of long-term chronic illness care (Hooyman & Gonyea, 1999).

Race and Chronic Illness

A study conducted by Zhang et al., (2012) highlights that foreign born Hispanics as well as U.S. born Hispanics have lower rates of major chronic diseases (exceptions include diabetes and high blood pressure) as compared with the white and black population. Their health advantage was more pronounced when the researchers controlled for the other variables such as socio economic status, gender and age.

Another study found that African-Americans perceived greater disease severity than their white counterparts. The authors associated this revelation with the fact that culture plays a big role in perception of subjective well being and the experiences that people have through gender differences as well as racial differences are varied (Silverman et al., 2009).

Hooyman and Gonyea (1995) reported that the largest proportion of the population that suffers from chronic disease and disability are the poor and minorities. This is likely because they have less access to formal services. This can be blamed on the inequities in social structures when compared to the white population.

Age and Chronic Illness

Due to the population trend of people living longer, the average age of the recipients

receiving care for different types of chronic illness has increased from 67 to 69 (Shapiro, 2010). Takagi et al., (2013) make a distinction among the elderly receiving care for chronic illness and divide them into groups of young old and old-old. Their study revealed that the oldest old (adults who are 85+) are more prone to use long-term caregiving services. They require more care as they are more susceptible to functional and cognitive limitations. However, the oldest-old population shows lower prevalence of chronic illness (with the exception of dementia) even though they have extensive ADL (activities of daily living) and IADL (instrumental activities of daily living) limitations (Takagi et al.).

Research Question

This study will analyze the relationship between the length of caregiving for chronic illness in United States older adults and the caregiver stress associated with care giving responsibilities among those individuals. The effects of the variables gender, race and age of the respondents will be analyzed to see if they have any significant link to the stress experienced by the caregivers while providing care for the care recipients.

Prior research indicates that gender has a significant impact on the caregiving responsibilities and age has a significant impact on the caregiver's stress/burden while providing extended care for chronically ill (Arber & Ginn, 1995). Also, race and the cultural background related to the race has a significant impact on what type of care is provided and how it influences the caregiving experience for the long term caregivers (Del-Pino-Casado et al., 2012). Gender, age and race all have individualistic impact on the level of caregiving stress and burden. These factors influence both the chronically ill as well as the caregivers for the chronically ill and thus have a wide range of influences depending on a particular variable.

It is believed that women are the ones who are providing the majority of informal

formal care for the chronically ill. Women also live longer and they are more likely to receive care for chronic illness. The age of the caregivers and the care recipients influences the length of the chronic illness which has a significant impact on caregiver stress depending on how much they have to sacrifice from their personal lives to be able to provide long term caregiving services. Race, on the other hand determines the type of caregiving a family provides (as it relates to their cultural trends). It also dictates the norms of the particular community on the issue of caregiving, having a significant impact on how a person perceives a situation and the burden and stress it places on the caregivers.

This study was designed to investigate the relationship between length of chronic illness and level of caregiver stress/burden on the caregivers for the people with chronic illness in the adult population in United States. The hypotheses will specifically analyze the relationship between length of chronic illness in the elderly population and the level of caregiver stress on the caregivers providing care throughout the illness. It is hypothesized that caregiver stress/burden among caregivers of the elderly population is high because of the physical, mental and social stresses associated with caregiving duties overtime. By analyzing this relationship, the study will ascertain if length of caregiving for chronic illnesses is significantly associated with levels of caregiving burden/stress. The results of the study will add to literature on this subject, which has conflicting findings on this relationship. The research will also look at the interaction of different variables such as gender, age and race on the caregiving stress/burden levels for the caregivers of the chronically ill care recipients.

Review of Literature

Historical Perspective

A study of Medicare recipients predicted a finding that by 2020, an estimated 157 million Americans will be suffering from one or more chronic conditions and they will

account for almost eighty percent of the total health care spending in the United States (Anderson & Knickman, 2001). This means that the need for healthcare professionals in this field will increase drastically. As time passes, informal caregivers will become a critical resource to the people suffering from chronic illness.

Toseland and McCallion (1997) conducted caregiving interventions research on individual family and group intervention programs to assist caregivers in taking better care of care recipients. The study shows that there has been a tremendous growth in quality, breadth and depth in the caregiving field in the last two decades. This is because of rapidly developing new caregiver intervention programs, which are also likely to continue developing in the future. Also, there is a growing importance of family caregivers and informal caregivers due to the rapid increase in older adult population. They are playing an increasingly important role in enabling older adults to continue living in community settings (Toseland & McCallion).

Caregivers

Caregivers can be defined as an individual who is responsible for the physical and psychological needs of another person, dependent on them for care and support can be deemed their caregiver (Ampalam, Gunturu & Padma, 2012). Almost 22.4 million households in 2007 were providing caregiving services for someone aged 50 and older, suffering from a chronic condition that is disabling. This number is expected to increase in the future (Carter, Mikan & Simpson, 2007).

Mbanaso et al. (2006) defined formal caregiving in reference to the professional caregivers who are working with the elderly in a formal setting i.e., hospitals, institutions, old age homes, etc., while an informal caregiver is someone near to the care recipient i.e., spouses, children, relatives, etc. With the forthcoming huge influx in the elderly population,

the demand for informal caregivers will rise extensively. Informal caregiving has been divided into intergenerational caregiving and intragenerational caregiving. Intergenerational caregiving is when a younger person is providing care for an older person typically includes children and younger people in the family (son/daughter in law, grandchildren, etc.) and intra-generational caregiving is when someone older in age is providing care for an older person (e.g. spouse, siblings, etc.)(Mbanaso et al.).

Informal caregivers are generally the people who live with the care recipients or near to them so that they can provide appropriate care to the recipients in a timely fashion. According to Keith (2009), when caregivers live in close proximity with the care recipients suffering from chronic illnesses, they have a greater involvement in direct on-site care and thus are more associated with the healthcare system. Larsson and Silverstein (2004) reported that people with children are more likely to have more access to informal care than people who do not have any children.

According to Ryan, Smith, Antonucci and Jackson (2012), the availability of informal caregivers is largely dependent on the marital history, geographic proximity, fertility decisions, availability of children, longevity and availability of alternative extended families. Informal caregivers also consist of other willing informal caregivers. There is a higher rate of non-married people in the baby boomer cohort than their parent's cohort, which makes it harder for them to have access to informal caregivers. The researchers made a projection for 2030 and determined that 19% to 36% of the people aged 75 years and older will not have a child living in close proximity (10 miles or less) revealing that the boomer population is less likely to have access to care from spouse and adult children (Ryan et. al.).

Gender and Caregiving

According to Arber and Ginn (1995), women are generally the ones who perform the

majority of the caregiving services for all age groups throughout their life. It is estimated that in later life husbands provides similar amounts of caregiving services as the wives do because spouses are given preference as caregivers, performing 25% of all the informal caregiving (Arber & Ginn).

Hooyman and Gonyea (1999) revealed from their study on caregivers that daughters are more likely to provide caregiving services and share a household with a dependent parent. Men only tend to get involved when there are no female relatives available.

A secondary analysis on informal caregivers who served older individuals conducted in Spain revealed that the relationship between gender and the amount of care provided had no significant gender differences. The authors reported that countries with low familism experience gender differences in their intensity of care (Del-Pino-Casado et al., 2012).

Research regarding gender and caregiving has two different findings, women provide 66% of caregiving services and women often have to put their career/financial future on hold to provide caregiving services (Shapiro, 2010).

Race and Caregiving

Race and cultural diversity (directly influenced with race) can have a great influence on the relationship in between generations. This accounts for the amount of care they provide to their elderly. Del-Pino-Casado et al. (2012) found no significant relationship between duration of caregiving, satisfaction of caregiving and gender differences; however they seem to differ from the caregiver's personal attributes.

Spira and Wall (2009) conducted a qualitative research study looking at narratives of participant life stories, depicting the experiences of elderly and their children in different cultures. They found a powerful influence of culture on how each generation responds to their older members declining health. Factors such as immigration, assimilation, life events

and relationship between people also influence the responses. It is evident that change in their cultural values accommodates their past rituals, present experiences and future behaviors (Spira & Wall).

Age and Caregiving

Family mobility, change in the population content and changes in the healthcare system in the United States are underlying causes that have resulted in an increase in the number of caregivers aged 18 and younger who are caring for adults with chronic physical illnesses in their homes (Lackey & Gates, 2001).

Data from 3163 care recipients from a 2004 national cross-sectional survey was used to find that the oldest-old (85+) adults are most likely to experience different cognitive and functional limitations. This population requires the most care and their primary caregivers are their adult children or their spouses. Spouses and children were generally the sole caregivers in this situation and thus experienced more stress while caregiving (Takagi et al., 2013).

Additional studies have confirmed that caregiver stress tends to increase as the duration of the illness of the care recipients gets longer and likewise the caregiver stress also grows along with the increased age of the caregiver (Ampalam et al., 2012, Limpawattana et al., 2013).

From the results of these studies, it can be concluded that age has a very profound effect on caregiver stress/burden. With increased age of the patients, their chronic illnesses are likely to increase which puts more burden on the caregivers. As the patients age, the caregivers are getting older too and are at an increased risk of having health and financial problems. Taking care of the chronically ill can put the caregivers at greater risk for mental and physical strain. The long term caregivers are more likely to experience stress because of their own dwindling health.

Caregiver Stress

Research shows that caregivers are more stressed than non-caregivers and are at a greater mortality risk than the non-caregivers. High stress among caregivers can result in greater mortality risks and increased health declines in the older caregivers (Fredman et. al., 2010).

Caregivers reporting high caregiving strain were likely to have significantly higher adjusted mortality rates than both the caregivers experiencing no strain and some strain. Race, sex or the type of caregiving relationship did not seem to have any effect on the mortality effects of caregiving strain rather high perceived strain is seen to be associated with increased mortality and constitutes significant health concerns (Perkins et. al., 2013).

The majority of caregivers experience more burden that can be measured by the amount of psychosocial distress they experience (Garlo et. al., 2010). Caregivers are also more likely to encounter symptoms of depression, anxiety along with caregiver burnout, which is likely to happen when the caregiver experiences symptoms that are beyond exhaustion or depression (Ampalam et. al., 2012).

Depression

Depressive symptoms can influence how individuals look at the world around them and themselves as well. Caregiver burden can have a very significant impact on the psychological state of a person. A community based study done by Ampalam et. al. (2012) found that 18-47 % of caregivers suffer from depression. The majority of caregivers experience more burden along with time. Research has shown that caregiver burden can be measured by the amount of psychosocial distress they experience with time (Garlo et. al., 2010). Caregivers are most likely to encounter symptoms of depression and anxiety along with caregiver burn out which is likely to happen when they are beyond exhaustion.

Researchers found that caregivers for care recipients who are suffering from psychiatric illness are at a higher risk of being exposed to psychological health concerns such as depression, anxiety and caregiver burnout (Ampalam et. al, 2012).

Older adults experience compound chronic illness, functional deterioration and increasing threat of mortality when they are lonely (Theeke & Mallow, 2013). Their study revealed high mean scores on loneliness had a positive relationship with mood disorders such as depression. The loneliness was pointedly correlated along with over-all number of chronic illnesses experienced by the patients and the medicine use among them (Theeke & Mallow).

Gender and Caregiver Stress

In a study of caregivers for the Oldest-Old conducted by Takagi, Davey and Wagner (2013) findings indicate that daughters experienced and expressed greater levels of physical strain than sons; however the spouse's gender did not make a difference in physical strain level during caregiving.

Women who are caregiving for older people suffering from chronic illness are more likely to be unmarried and spend more time caregiving (Keith, 2009). They care for the recipients and assist with their daily activities, coordinating their health and medical care (Keith, 2009). The amount of time spent caregiving could account for the caregivers stress among different genders.

In study by Ampalam et al. (2012), the gender of the caregiver did not make any difference in the level of burden but an increase in age of the caregiver along with the duration of the caregiving made a difference. Other research by Carter et al. (2007) found that male and female caregivers respond differently to the stressors and female caregivers tend to have a stronger relationship with poor quality of life and health related issues in caregiving.

Age and Caregiver Stress

According to Ampalam et al. (2012), an increase in age of the caregiver reduces their ability to cope with physical and mental stress. Caregiver stress increases significantly during a certain extent of initial caregiving years and then it gradually starts to come down as the caregivers adapt and modify themselves to the recipient's needs and lifestyles (Ampalam et al., 2012).

Race and Caregiver Stress

Research suggests that the caregiving burden on the caregivers of minority ethnic or racial status differs systematically from white caregivers. The high burden experienced by the minority could be a result of a caregiver's inability to cope with their caregiving role and not the recipients need (Garlo et al., 2010).

Racial differences in caregiving are explained by personal rewards that an individual receives while providing support and also accounts for the cultural beliefs about support of parents (Fingerman, VanderDrift, Dotterer, Birditt & Zarit, 2011).

Informal Caregivers and Caregiver Stress

Family and friends can be an important source of help and recovery support for older adults with chronic diseases. Informal caregivers include different family members, friends and neighbors (in some cases) living in close proximity to the chronically ill older adults. Roseland et al. (2013) conducted a study on U.S. population of potential and current disease management supporters using a nationally representative survey. The findings revealed that forty-four percent of the U.S. population is helping a family member or a friend suffering from chronic disease and most are willing to assist with key tasks of disease management, such as use of medications and communicating with care providers.

Spousal caregivers of the oldest old reported more stress when they were caring for

people with more instrumental activities of daily living (IADL) disabilities (Takagi et al., 2013). Takagi et al. (2013) examined the 2004 National Long-term care data and compared the demographics and health characteristics of the oldest old with the young old. The oldest old are more likely females who are widowed thus needing more intergenerational support. They have extensive basic activities of daily living (BADL) and instrumental activities of daily living (IADL) losses, but they tend to rate their health better as they are more resistant to their chronic illness. The researchers found that young old suffered more from paralysis, numbness and are more prone to diabetes than the cohort of oldest old. Almost 40 percent of people in the oldest old cohort are more likely to experience dementia, which usually occurs in advanced age. The oldest old cohort have more trouble with their BADL which require more extensive care and signifies greater physical disability resulting in more utilization of formal care support than the young old cohort (Takagi et al., 2013).

Formal Caregivers and Caregiver Stress

Formal caregiving refers to the professional caregivers who are working with the elderly in a formal setting (i.e. hospitals, institutions, old age homes etc) (Mbanaso et al., 2006). With the forthcoming influx in the population of our elderly, the demand for informal caregivers will rise extensively. Formal caregiving services are more likely to be used by the oldest-old population (Takagi et al., 2013).

Research conducted by Ku, Liu and Wen (2013) on the trend and the factors influencing the use of informal and formal caregiving among disabled elders in a community in Taiwan revealed a significant rise in the use of paid help compared to informal help between 1999 and 2007. Factors associated with higher likelihood of paid help use included better socio-economic status and activities of daily living (ADL). However, those living with spouse only were much less likely to use paid help than those living with adult children (Ku

et al., 2013).

Theory and Rationale

Theorizing Lifestyles

The concept of lifestyles is defined by Hendricks and Hatch (2006) as “distinctive attributes or recognizable patterns of behaviors reflecting shared interests and life situations incorporating related values, attitudes and orientations that create characteristic identities”(p. 303). Bengston, Gans, Putney and Silverstein (2009) say that lifestyles are affected by different memberships, personal references and different life choices through out your life course shaping the experience of aging. These life style choices and interpersonal relationships make up our social capital, which acts as social resources and paves the way for cooperative action and shared goals along with shaping the cognitive and social development of people. They make up our personal resources and social-familial dimension that revolves around support networks made up of family and extra familial network. Gender and ethnicity along with other forms of diversity affects our lifestyles too (Bengston et al.).

Social Support Theories

The term social support was conceptualized by Uchino (2004), and he defined social support as a result of the functions that social relationships provide to a person. The social support theories link health outcomes with the social support provided by relatives. Uchino (2004) divided social support theory into two distinct theories: direct effect and stress-related. Direct effect theory is based on social identity model, social control model or the loneliness model to highlight the benefits of social support a person receives. Stress related theories focus on the role of social support and its effect on health of a person and the stress related processes. This theory looks at stressors such as bereavement and other daily problems affect the health of a person through psychological process and can be alleviated

through the means of social support. Social support is very necessary for health as it can prevent people from being exposed to stressors and negative life events and he called it a stress-prevention model (Uchino).

Social support theories are very helpful in recognizing how the acquisition of social resources a person collects through life can help in the happiness of a person during their later years along with management of their chronic illness as well as mental health wellbeing. Social support theory has been criticized for its limitations on explaining how social support affects the physical health and research points out that the process of caregiving such as administering medications and feeding may have a direct influence on a patient's health while social support can only provide indirect benefits of psychological wellbeing (Cho, 2007).

Radical Feministic Perspective.

Radical feminist theory is referenced at the base of this research to support the hypothesis regarding caregiving and gender. Based on this theory the roles of gender and ethnicity held in the length of caregiving and caregiver stress, women are expected to be the primary caregivers and thus suffer from higher caregiver stress and other financial problems.

Willis (1984) describes radical feminist perspective as grounded in two basic principles; power exercised by men over women for their own social, economic and sexual self-interest, also known as sexual class struggle and women's acceptance of their condition is in their self-interest, a rational way to their immediate material conditions (oppression).

Caregiving service for the chronically ill is a central feministic issue because of the prominence of women in caregiving roles, as well as the fact that these services are largely unpaid and unsupported. The recipients needing these services are also overwhelmingly women, especially the very old. The feminist approach recognizes that this population of

caregivers needs support and have been historically oppressed in the job market as well as their own homes. The care of older adults with chronic illness is a central feminist issue not only because this work remains largely unpaid and unsupported care of women, but also because the recipients of this care are overwhelmingly female, especially the very old. Women are expected to be primary caregivers and relatively little notice is paid to the psychological and financial effects on women's lives (Hooyman & Gonyea, 1999).

Feminist gerontology was spurred by the women's movement in the 1980's, in response to the failure of theories in relation to the inequality underlying gender differences (Hooyman & Gonyea, 1999). Feminist gerontology emphasizes on the fact that gender is a social construct and is structured by the dynamic, constructed and institutionalized process of gender relations by which people orient their behavior to the ideals of the society thus influencing their life chances (Hooyman & Gonyea, 1999).

Rationale for racial differences

To support the hypothesis regarding racial differences among the Americans providing care for the elderly suffering from chronic illness and the caregiver stress associated with the caregiving, the study will look at the cultural differences among the White, Black and Hispanic population. Racial differences in caregiving are rationalized by personal rewards and these rewards vary through different cultural beliefs about support of parents and the aging (Fingerman, VanderDrift, Dotterer, Birditt & Zarit, 2011). The resources and demands within families among different races also place different structural parameters on provided support (Fingerman et al., 2011).

Statement of Hypothesis

Hypothesis 1

This study was designed to identify the relationship between length of chronic illness

in older care recipients and the caregiver stress/burden on their caregivers. The first hypothesis will specifically analyze the relationship between the two variables, length of chronic illness and level of caregiver stress experienced by the caregivers. It is hypothesized that extent of chronic illness (12 months or more) will share a positive relationship with the extent of caregiver stress/burden experienced by the caregivers. The study is trying to analyze the relationship to ascertain whether the amount of caregiving being given to the people experiencing chronic illness is associated with the level of caregiver stress. The findings of this study will add to the literature already available on the relationship of these two variables.

Hypothesis 2

Hypothesis two seeks to determine if gender influences the relationship between caregiving for chronic illness and the level of caregiver stress/burden experienced by the caregivers. This hypothesis looks at the gender perspective of the caregiving role i.e., if being male or female has any significant impact on caregiving roles as such putting direct impact on the caregiver stress/burden in the caregiving role. Based on theory and research, it is hypothesized that being a female should make them more accountable to provide caregiving roles to the family members thus putting them more at a risk of experiencing greater caregiver stress/burden than the male members of the family. The results will add to the literature and findings on this relationship.

Hypothesis 3

Hypothesis three seeks to determine if race has any influence in the relationship between caregiving for chronic illness and the level of caregiver stress/burden experienced by the caregivers. This hypothesis looks at different races in the United States divided into whites and nonwhites. Based on theory and research, it is hypothesized that whites and

nonwhites have different caregiving roles and minorities provide more caregiving services and they tend to experience more caregiver stress/burden. The results will add to the literature and findings on this relationship.

Methods

Procedures

This study's statistical analysis and findings will be based on a pre-existing data set. The original data set was collected by Harris Interactive Inc. on behalf of the Robert Wood Johnson Foundation through John Hopkins University, and partnership for solutions. The data set was collected through a survey, which was conducted from March 17, 2000 to November 22, 2000.

This data set was chosen for numerous reasons. First, the sample collected for this data set was nationally representative of the United States adult population. A very good data set representing the elderly population of the United States is created after pulling out the valid participants for the current study. Second, the study oversampled the chronically ill and the caregivers to account for a more representative data set, which will be very useful for the current study. Third, the sample size of the data was relatively large consisting of 1490 adults. The final sample used for this project consisted of 548 valid participants with 236 participants aged 55 to 64 and 312 participants aged 65 and older. The participants from age 55-64 were included in the current study to account for the younger cohorts who are acting as caregivers to elderly chronically ill patients. Lastly the original survey consisted of over 1600 questions, which enables more selections for questions included in the final analysis.

After selecting the variables that are relevant to the current research questions the statistical program, statistical package for the social sciences (SPSS) will be used. By

entering the data into this program it will give the ability to determine which, if any, of the hypothesized relationships are statistically significant.

Participants

The original data set encompassed a national cross-section of 1,490 adults. The sample was a random probability sample collected through a survey conducted by Harris Interactive Inc. Individuals with chronic illness and adults who provided informal caregiving services were oversampled and the data was weighted to adjust for the oversample. The interviews consisted of 1,663 subjects of which of which 559 were chronically ill but not caregivers, 189 were caregivers but not chronically ill, 680 were neither chronically ill nor caregivers, and 235 were chronically ill caregivers.

The current study looks at the participants in the survey aged 55 and above. After careful hand deletion of the unwanted data, the final sample for this research consisted of 548 participants. Of these eligible individuals 236 subjects were aged 55 to 64 and 312 participants were aged 65 and above. The study includes participant's aged 55 to 64 for data maximization. The inclusion of the 55 to 64 aged population increases the data by 39.6%. This population is also included to account for the younger caregivers who are providing care for the young-old.

Measures

Chronic illness

Chronic illness was assessed by asking the chronically ill patients about the type of chronic illness they were suffering from. The respondents who were caregivers also stated the type of illness their loved ones were suffering from for whom they were providing caregiving services. The researchers were provided a list of chronic illness and they recorded the participant's answers according to the list. If the participants stated any illness not on the

list a separate space was provided to record the illness. The study is looking at length of the chronic illness and the effect it has on caregiver stress. The study asks the respondents to state how long they had been providing help to the patient to access the extent of chronic illness. The number of years was recorded as stated and 0 was used for services provided for less than a year. The study also asks the respondents to state how many hours per week have they been providing help to the patients. The number of hours per week was recorded as stated. The study is looking at the interaction of years of care provided multiplied by the hours of care provided as “severity of stress”. This new variable will be useful in verifying if the extent of caregiving services provided makes any difference to the level of caregivers stress/burden.

Caregiver stress/burden

Caregiver stress/burden was measured using questions that asked the respondents to rate their level of stress in general. A Likert scale was used to measure the stress level of the respondents ranging from one (not stressed at all) to four (very stressed). We are looking at other questions relating to caregivers stress to see if these factors influence caregiver’s stress. Responses such as not sure and declining to answer were coded as missing variables.

Gender

A binary variable is used to measure older male participants (scored 1) and older female participants (scored 2). The variables were recoded into dummy variables male and female. The female variable measured female participants scored 1 and male participants scored 0. The male variable measured male participants scored 1 and female participants scored 0.

Race

Race was measured nominally where White Participants scored 1, Black participants

scored 2, African American participants scored 3, Asian or Pacific Islander scored 4, Native American or Alaskan native scored 5 mixed racial background scored 6. The new variables were dummy coded into new variable where whites scored 1 and all the other different races were combined into one group the nonwhites, which was scored 0.

Age

Participants were asked to state their month of birth and year of birth to represent their age.

All question used in the study are included in appendix A.

Analytic Approach

Hypothesis 1

The first hypothesis concerning the relationship between length of chronic illness in older care recipients and the caregiver stress/burden on their caregivers will be tested with multiple regressions. Multiple regression analysis will be implemented with level of chronic illness, age, race (Whites and Nonwhite), and gender (Male, Female) as the independent variables and caregivers burden/stress as the dependent variable. This analysis will also look at the amount of time dedicated to the caregiving services per week to determine its influence on caregiver stress.

Hypothesis 2

The second hypothesis seeking to determine if gender (Male, Female) influences the relationship between caregiving for chronically ill and the level of caregiver stress/burden experienced by the caregivers will be tested with multiple regression. Multiple regression analyses will be implemented with level of chronic illness, age, race (White and Nonwhites) and gender (Male, Female) as the independent variables and caregivers burden/stress as the dependent variable.

Hypothesis 3

The third hypothesis that seeks to determine if race has any influence in the relationship between caregiving for chronic illness and the level of caregiver stress/burden experienced by the caregivers will be tested with a multiple regression. Multiple regression analysis will be implemented with level of chronic illness, age, race (White and Nonwhites) and gender (Male, Female) as the independent variables and caregivers burden/stress as the dependent variable.

Ethics Statement

This project is examining information and analyzing data from a secondary data set. To protect the identity of the participants from the study, all the information pertaining to the participants has been de-identified in the data set. The current study was conducted after an institutional review board (IRB) allocation was completed. The project had been considered exempt status and the application did not undergo a full board review as the project deals with a secondary data set analyses. The researcher received correspondence from the IRB and was approved to proceed with the project.

The principle investigator (PI) of this study had to complete Projecting Human Research Participants (PHRP) course that is provided by the National Institute of Health (NIH). The PI took this course online by studying the seven modules and taking the four quizzes that followed these modules. The whole course takes approximately three hours to finish and covers the information regarding history of human subject's researches, regulation and codes. The course provides training about the three principles of Belmont report that is essential for ethical conduct when dealing with human research subjects i.e. respect for people, beneficence and justice. After finishing the course and taking the quizzes, passing scores are required to receive a certificate of completion. The PI's certificate of completion is

included in appendix B.

Results

There are some interesting facts that arise in the descriptive statistics. Appendix C, Table 1 descriptives show that caregiver stress has a mean of 1.6186 which corresponds to a response between “not stressed at all” to “not very stressed”. This measure also has a low standard deviation 1.08445 which shows less variability in responses (note lower numbers mean less caregiver strain). The statistics show that the caregivers spend 23.1143 (mean) hours in an average week providing caregiving for the chronically ill patients. Similarly, the mean number of years spent caregiving is 5.9367 i.e. almost six years. The study shows that 8.8% of respondents are providing caregiving services for more than 40 hours a week and one respondent revealed that they are providing care around the clock stating 168 hours a week of caregiving services for their chronically ill care recipients.

Hypothesis 1

Results regarding the first hypothesis concerning the relationship between length of chronic illness in older care recipients and the caregiver stress/burden on their caregivers are illustrated in Table 2 of Appendix C. It was hypothesized that the length of caregiving services provided to the chronically ill patients will share a positive relationship with the level of caregiving stress/burden i.e. more years spent caregiving results in more burden/stress in the caregivers.

The regression model also revealed a significant relationship between these two variables (Years of care and the level of caregivers stress/burden). The regression found that as the number of years spent caregiving increased, it significantly ($b= 0.010$, $p<. 05$) raised the level of stress/burden on the caregivers. This regression model also revealed the hours spent caregiving for the chronically ill during an average week. The results reveal a

significant relationship between the hours of care (average hours spent caregiving in a week) and caregiver stress. The regression found that along with the increase in the number of hours spent caregiving, there is a significant increase ($b=0.006$, $p<.05$) in the level of stress/burden on the caregivers. The regression is also looking at the interaction of the two variables hours of care and years of care making a new variable severity of care and its relationship with the level of caregiver stress. The relationship is found to be not significant.

Hypothesis 2

Results regarding the second hypothesis that is seeking to determine if gender influences the relationship between length of caregiving for chronically ill and the level of caregiver stress/burden experienced by the caregivers are illustrated in Table 3 of Appendix C. It was hypothesized that females are the ones who provide more caregiving services to the chronically ill care recipients and thus more prone to higher levels of caregiver stress/burden. The regression model did not reveal any significant relationship in between gender and the level of caregiver's stress/burden among the respondents.

Hypothesis 3

Results regarding the third hypothesis that is seeking to determine if race (White and Non whites) influences the relationship between length of caregiving for chronically ill and the level of caregiver stress/burden experienced by the caregivers are illustrated in Table 4 in Appendix C. It was hypothesized that racial differences (White and Nonwhites) would account for the increase in levels of caregiver stress with Nonwhites experiencing more stress.

The regression model revealed no significant relationship between the different races (White and Nonwhites) and the level of caregiver's stress/burden thus rejecting the hypothesis.

Discussion

The purpose of this study was to analyze the relationship between length of chronic illness and level of caregiver stress associated with providing caregiving services to the chronically ill patients in United States population among the elderly. The study used information obtained from the political and social research survey data and the final sample size consisted of 548 participants over the age of 55. Results show significant effect of length of caregiving services provided on the caregiver's burden/stress. The results show no significant interaction between the age, chronic illness/caregiver status, race (White and Nonwhites) and gender (Male, Female) with the level of caregiver's stress/burden in the respondents of this study.

This research hypothesized that the length of caregiving services and hours of caregiving services provided to the chronically ill care recipients will share a positive relationship with the level of caregiving stress/burden. This means that more years spent caregiving results in more burden/stress in the caregivers. This study has resulted in statistically significant findings that show a positive relationship in between years of caregiving and caregiver stress burden. The results also show a significant positive relationship between hours of caregiving and caregiver stress/ burden. Studies suggest that the longer you caregive for somebody, the higher your stress levels get. This could account for the stress level in the years spent caregiving and hours spent caregiving and significant impact on the level of caregiver stress/burden.

This study looks at hours spent caregiving and years spent caregiving and also their combined effect (which we coded into a new variable "severity of care") on the level of caregiver stress. Although, the study revealed significant relationship between two variables with level of caregivers stress, their combination does not have a significant effect on the

level of caregiver stress. In other words, severity of care does not influence the level of stress/burden in the caregivers.

It was hypothesized that gender would have a significant influence in the level of caregiver stress/ burden due to the fact that females tend to be the ones providing more caregiving services. This study did not reveal any significant findings on this relationship. While gender may not have had a significant relationship with the level of caregiver stress/burden in this study, however the amount of variance accounted for was in the directionality of rejecting the null hypothesis. On that basis, even though gender as a variable did not have a statistical significance but the directionality of the significance still suggests gender as an important variable.

Literature suggests that women perform majority of caregiving services, providing sixty six percent of caregiving services (Shapiro, 2010). Radical feminist theory regards caregiving service for the chronically ill as a central feministic issue as there is a majority of women in caregiving roles. Based on these implications, we would conclude that gender would have a positive relationship with level of caregiver stress as females are providing more long-term caregiving services. However, it is very important to note that gender is not a significant variable in this study. The descriptives in Appendix C, table1 shows that gender is evenly distributed in the study. Males have a mean of 0.4051 and females have a mean of 0.5949 which means neither gender is oversampled in the study. The result of regression analysis suggests that gender is not an important variable when we are looking at level of caregiver stress/burden. In previous studies the results have been mixed. According to Arber and Ginn (1995), women majority of the caregiving services thus are more prone to caregiver fatigue. On contrary a secondary analysis on informal caregivers done by Del-Pino-Casado et al.(2012) revealed that the relationship between gender and the amount of care provided had

no significant gender differences. This study confirms that a later finding that shows no significant gender differences in the level of caregiver stress/burden.

It was hypothesized that racial differences among White and Nonwhites would reveal significant differences in the caregivers' levels of stress/burden. It was hypothesized that minorities i.e. Nonwhites would be experiencing different levels of stress when compared to the white population. However, the current study did not reveal any significant statistical findings regarding the relationship between race and level of caregivers stress in the respondents of this particular study.

It is important to note that this current study joined all the races Black, Hispanics, Asian, Native Americans and others into a big group called Nonwhites. It could also be accounted as one of the limitations of this study. This was done because the races individually were not significant enough to be used in the regression analysis. The fact that this study did not include all the races of the respondents in the original study but rather restricted it to White and Nonwhite respondents could result in statistical limitation.

This study originally intended to look at the differences between White, Black and Hispanics respondents. It was supposed to include the two largest minorities in United States; however the amounts of respondents on these categories were very insignificant. The original study consisted of various different racial groups in the data but these groups independently did not make a significant portion to be included in the current study and would have watered down the regression model. For the purposes of analysis all the races were combined into one category to try and make the end number significant enough to be included in the study. Future research should include different races residing in United States to account for the unique circumstances each and every different race faces while providing the caregiving services to their elderly. The African American population and Hispanic population should

be given more importance, as they are the two biggest minority populations in United States. It would be interesting to see if these populations have any significant impact on level of caregiver stress.

Another limitation of the study was that it had to be constricted on and data had to be deleted to fit the demographic parameters. The original study was nationally representative and included respondents from 18 years of age. However, for this study's specific data purposes, only participants aged 55 and over were included. This study had to delete the participants aged 18-54 to fit the demographic to our intended age group. In this process we could have deleted some very important overlapping data e.g. the caregivers caregiving for the elderly could have been younger than 55. This could have been a big disadvantage for the study. Future studies should be conducted on the intended demographic to avoid such error.

If the study could be repeated with adequate funding, it would be ideal to conduct a study consisting solely of elderly respondents. It would be a more representative population and contain a bigger study sample. A larger study sample will be helpful for us to gather improved data set that is representative of the target population. Adequate population sample of different races to account should be included for the different racial and cultural impacts on level of caregiver stress. Including various races in the study and acquiring adequate respondents from each race to include characteristic data in the study can be beneficial in considering the racial differences and its effects in level of caregiver stress.

A good research method combines both qualitative and quantitative data analysis. This research can be improved drastically by including qualitative study data. Using qualitative methods to study the caregivers and the chronically ill would give a whole new dimension to the research. In depth interviews with the respondents about their daily personal care chores and household tasks which demand time consuming care for the chronically ill

could help us better access the caregiving conditions and level of caregiver stress. Also, accessing the respondent's financial and emotional problems, because of the caregiving circumstances could only be recognized through one on one personal interview.

Depression is a huge part of a caregiver stress that is not properly diagnosed in this particular study. In further studies, depression should be included as an important variable to look at its effects at the caregiver stress. Depression is often overlooked among the caregivers as much attention is provided to the chronically ill and not enough to the caregivers. Depression has a significant impact on level of caregivers stress and should be included as important determinant.

Conducting one on one personal interviews would give researchers an inside view of the hardships faced by the caregivers, e.g. their stress, loneliness, fatigue, sorrows etc. Thus, qualitative research is very important in research projects. The mixture of qualitative and quantitative data can give this study a new element of importance. It can help understand the unstated hardships of the caregivers that can have a substantial impact on their level of stress.

Conclusions

There are number of other important information to be gathered from this study. It is obvious from this study that years of caregiving services provided by the caregivers has a profound effect on the levels of caregiver's stress/burden.

As the caregivers age, they are more likely to suffer from different ailments themselves. With several years spent on caregiving and the impacts of an aging body, they are more likely to experience stress themselves. This can put adverse effects on their health and contribute to their physical and mental problems. This cycle is very hard to break, as these elderly do not know where to reach out for help. Caregivers are a neglected group in our society.

Knowing the importance of caregivers in a family system, more attention should be given to this group of people. Caregivers are not acknowledged for their hard work and sometimes do not have any contact with the outside world because they are taking care of the patients for long periods of time. This hard work not only puts them at a risk of developing chronic physical illnesses themselves but the loneliness also puts them at higher risk for developing mental illnesses such as depression, anxiety and of course stress (as we can see from this study). Thus, it is of utmost importance to recognize these hard working caregivers who are soon to be the backbone of our healthcare system. With the imminent rise in number of the elderly in near future, we are going to have to rely on informal and formal caregivers to look after our elderly. Researchers need to come up with different measures to help these caregivers alleviate their stress and stay healthier for a longer time.

In closing this study revealed that women are more likely to reach old age than men and the more years caregivers spend providing caregiving services, the more likely they are to experience caregiver's stress/burden.

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Appendix A

Survey questions

Core study measures

Gender

- 1 Male
- 2 Female

What is your month and year of birth

[MONTH RANGE: 01-12]

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[YEAR RANGE: 1900-1982]

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Do you consider yourself...(INTERVIEWER NOTE READ LIST)?

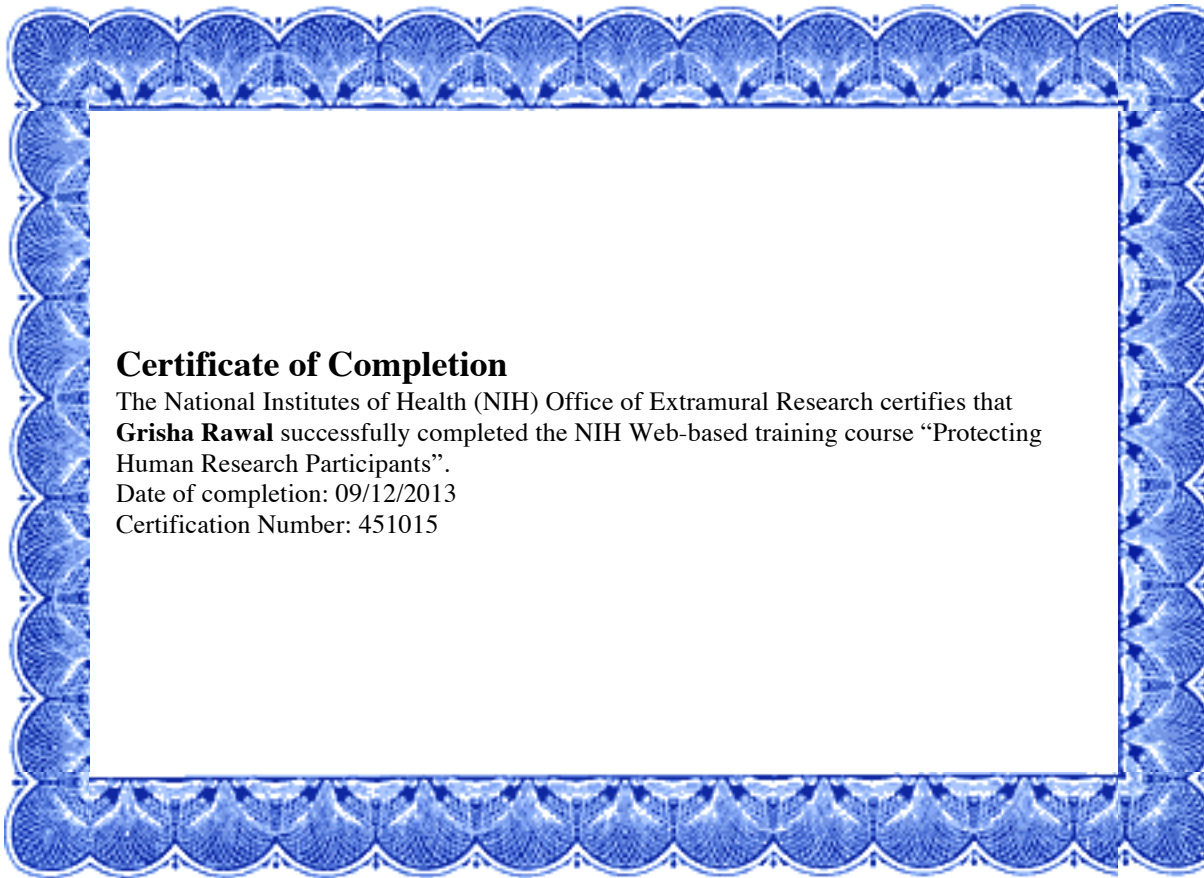
- 01 White
- 02 Black
- 03 African American
- 04 Asian or Pacific Islander
- 05 Native American or Alaskan native
- 06 Mixed racial background

Thinking now about all the kinds of help you provide/provided for your (RELATIONSHIP), about how many hours do/ did you spend, in an average week?
 //// Hours per week (Range 0-168, 998, 999)

In a typical week, how many hours do/did you spend talking on the phone with your (RELATIONSHIP) to provide support and reassurance?
 //// Hours (Range 0-168, 998, 999)

(INTERVIEWER NOTE: CODE 998FOR NOT SURE AND 999 FOR DECLINE TO ANSWER)

Appendix B



Appendix C

Table 1 Descriptive Statistics for Age, Race (Black, White, Hispanic), Length of caregiving (Hours of care, Years of care), Gender (Female, Male), Chronically ill, Caregivers and Caregiver Stress/Burden.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	548	55.00	100.00	68.7737	9.85006
Non White	544	.00	1.00	.2864	.28121
White	544	.00	1.00	.8732	.33310
Hours of care	70	.00	168.00	23.1143	27.37053
Years of care	79	.00	38.00	5.9367	7.40295
Female	548	.00	1.00	.5949	.49136
Male	548	.00	1.00	.4051	.49136
Chronicallyill	548	.00	1.00	.6989	.45915
Caregivers	548	.00	1.00	.2263	.41880
Caregiver stress/Burden	524	1.00	4.00	1.6186	1.08445
Valid N (listwise)	67				

Table 2 Regression Coefficients for the effects of Length of Caregiving on Caregivers Stress/Burden controlling for the influence of Age, Race and Gender (Hypothesis 1).

	<i>Caregiver Stress/Burden</i>
<i>Sociodemographic Controls</i>	
Age	0.001
Race	0.340
Gender	0.114
Chronically ill	0.114
<i>Length of caregiving</i>	
Hours of care	0.006*
Years of care	0.010*
Severity of stress (years of care* hours of care)	-0.7710
(Constant)	3.648
r ²	0.065

*p<.05, **p<.01, ***p<.001.

Table 3 Regression Coefficients for the effects of Length of caregiving on Caregivers Stress/Burden (with Gender interactions) controlling for the influence of Race and Age. (Hypothesis 2).

	<i>Caregiver Stress/Burden Female</i>	<i>Caregiver Stress/Burden Male</i>
<i>Sociodemographic Controls</i>		
Chronically ill	-0.156	0.145
Race	0.159	-0.342
<i>Length of caregiving</i>		
Hours of care	0.006	-0.015
Years of care	-0.007	-0.184
Severity of stress	9.760	0.008
(Constant)	1.385	2.114
r ²	0.045	0.257

*p<.05,**p<.01,***p<.001

Table 4 Regression Coefficients for the effects of Length of caregiving on Caregivers Stress/Burden (with Race interactions) controlling for the influence of Gender and Age (Hypothesis 3).

	<i>Caregiver Stress/Burden White</i>	<i>Caregiver Stress/Burden Nonwhite</i>
<i>Sociodemographic Controls</i>		
Age	0.008	-0.008
Gender	0.008	-1.259
Chronically ill	-0.060	0.568
<i>Length of caregiving</i>		
Hours of care	-0.006	-0.078
Years of care	-0.001	-0.882
Severity of stress	2.158	-0.021
(Constant)	3.064	3.809
r ²	0.050	0.863

*p<.05, **p<.01, ***p<.001