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ASSOCIATIONS OF RELIGIOUS INVOLVEMENT AND CULTURAL JUSTIFICATIONS WITH DEPRESSIVE SYMPTOMS AND BURDEN AMONG CAREGIVERS

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ASSOCIATIONS OF RELIGIOUS INVOLVEMENT AND CULTURAL JUSTIFICATIONS WITH DEPRESSIVE SYMPTOMS AND BURDEN AMONG CAREGIVERS

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DEVELOPMENTAL PSYCHOLOGY

ABSTRACT

With the advancement of medicine, life expectancy has increased globally. As a result, the need for a caregiver by an older adult has also risen. A caregiver is often a spouse, child, or friend of an older adult that assists an older adult that is experiencing changes in their ability to complete activities of daily living and/or instrumental activities of daily living. Caregivers are often unpaid for their assistance and can be at heightened risk for negative mental health outcomes. This study used the Stress Process Model to investigate the associations of high levels of religious commitment or involvement (RCI) and cultural justifications for caregiving (CJC) as potential buffers for caregiver depressive symptoms and burden. As far as RCI, it was hypothesized that higher scores on RCI would be associated with lower scores on caregiver depressive symptoms and caregiver burden; Black/African American caregivers would have higher rates of RCI; and race would be a moderator of the relationship between RCI on depressive symptoms and caregiver burden. Hypotheses for CJC were identical. Participants completed a survey detailing their caregiving experiences and the final sample size was 83 with 51 Black/African Americans and 32 White caregivers that had a mean age of 47.08(13.72). Average scores for depressive symptoms, burden, RCI and CJC were 15.60(11.75), 34.04(16.50), 40.82(17.89), and 32.88(6.63) respectively. Results indicated that neither

RCI nor CJC were associated with caregiver depressive symptoms or burden, Black/African American caregivers did not have higher rates of RCI or CJC, and race did not moderate the relationship between RCI and CJC with caregiver depressive symptoms and burden. However, older age was associated with higher rates of RCI and fewer depressive symptoms. Additionally, spouse and child or child-in-law caregivers experienced higher rates of caregiver burden. Next, having more income security was associated with fewer depressive symptoms. Finally, Black/African American caregivers experienced less burden. Results can help identify caregivers most at risk of negative mental health outcomes while serving in their role. Results also have implications for medical providers and mental health professionals working with caregivers of older adults.

Keywords: aging, caregiving, depressive symptoms, burden, religion, culture

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CHAPTER ONE

INTRODUCTION

Caregiving has been related to a plethora of negative psychological experiences including anxiety, depression, isolation, and a lowered quality of life (Liu et al., 2017). In some samples, 60% of informal caregivers developed a depressive and/or an anxiety disorder while in the caregiving role (Joling et al., 2015). While family caregivers have been associated with a higher prevalence of psychological disorders, this risk can be even higher in spousal caregivers (Joling et al., 2015; Markey, 2015). The risk is also increased in those providing care for a person with cognitive impairment. Family members that provide care to a person with a form of dementia can also experience high rates of depression, anxiety, and reduced life satisfaction in comparison to those that care for a person without a form of cognitive impairment and the general population (Fei Sun et al., 2010; Loh et al., 2017). This study explores potential buffers to the negative effects that serving as a family caregiver may have through the lens of Pearlin's Stress Process Model.

In today's world, the likelihood of becoming an informal caregiver or a care recipient is continually growing. In the 2020 Companion Report, the National Caregiver Alliance estimated 41.8 million Americans have provided care to an adult that is at least 50 years of age in the previous year. The report also noted an increased prevalence of adult caregivers up from 14.9% to 16.8% between 2015 and 2020 (AARP Family Caregiving & National Alliance for Caregiving, 2020). This could be partially related to the growing number of older adults within our society and increase of life expectancy. Research has previously estimated that adults aged 55 and over constitute 29.4% of the United States (U.S.) population and it is expected that women aged 65 years old will live another 20.5 years while a man of the same age is only expected to live an additional 18 years (Skarupski et al., 2021).

Caregiver Definition

A caregiver in the most basic terms can be defined as a person who aids another. Additionally, caregivers are typically self-identified and provide care for those that are chronically ill, disabled, and/or cognitively impaired who are unable to provide for themselves (Musich et al., 2017; Pearlin et al., 1990; Prevo et al., 2018). There are two types of caregivers- those that are a paid professional, hired to provide assistance (formal) and those that provide similar unpaid services such as a family member or friend (informal) (Batista et al., 2014). An informal caregiver is most often a spouse, family member, or friend that voluntarily delivers support and typically “provide the overwhelming majority of disability-related assistance to older adults” (Batista et al., 2014; Musich et al., 2017; Wolff & Spillman, 2014). For this thesis, the focus was on the role of unpaid, informal caregivers.

While serving as an informal caregiver, several duties may arise based on a care recipient’s current mental, cognitive, and physical status. This is typically the result of a decline or impairment in physical functions, cognitive fluctuations, or conditions deemed to be musculoskeletal, neurological, circulatory, or sensory (Edemekong et al., 2022).

Informal caregiving duties may include providing supervision or assistance with activities of daily living (ADLs) and/or instrumental activities of daily living (IADLs). ADLs is a phrase that describes “fundamental skills required to independently care for oneself”, such as: ambulating, feeding, dressing, completing personal hygiene tasks, continence, and toileting (Edemekong et al., 2022). The inability to complete such tasks can lead to not only dependance on others, but unsafe conditions and poor quality of life (Edemekong et al., 2022). In comparison, IADLs are activities considered to require more complex thinking and organizational skills (Edemekong et al., 2022). More concrete examples can include the ability to: drive and/or manage transportation, shop, prepare meals, upkeep a home, and/or manage one’s medications, finances, and communication with others (Edemekong et al., 2022). According to the Centers for Disease Control and Prevention (CDC), it can be expected that as an individual’s health declines, the need for assistance will continue to increase (*Caregiving for Family and Friends — A Public Health Issue*, 2019).

Caregiver Prevalence

There have been several attempts to capture the number of informal caregivers in our society. One example, The Health and Retirement Study, included nationally representative data, however, the respondents in this study only identified informal caregivers that assisted with ADLs and IADLs (Friedman et al., 2015). As a result, the measure of caregivers within this investigation “likely underestimate[d] the extent of help received by older adults” as caregivers that provided “general supervision and assistance” were excluded (Friedman et al., 2015). It can be assumed that similar limitations are found across other studies attempting to identify the prevalence of caregivers. Additionally, studies have found that multiple caregivers support older adults (Ali et al., 2022; Ellis et al., 2022). The presence of more than one caregiver can also complicate the estimation of all-cause caregivers in our society.

A 2020 national caregiver report on U.S. caregivers conducted by the National Alliance for Caregiving and the by AARP Family Caregiving estimated that there are 41.8 million U.S. caregivers providing care to an adult that is at least 50 years old (AARP Family Caregiving & National Alliance for Caregiving, 2020). The report originates from 2019 data collection from an online survey completed by 1,392 informal caregivers that were at least 18 years old providing care for an ongoing medical condition, short-term condition, emotional or behavioral problems, or developmental problems (AARP Family Caregiving & National Alliance for Caregiving, 2020). The data was used to estimate the prevalence of caregiving individuals in the U.S. and included those that identified as White, Black/African American, Asian, or another race/ethnicity. Additionally, the report found that 24% of respondents cared for multiple older adults. Other studies have also attempted to provide a prevalence of the number of caregivers in our society. As an example, it was estimated that there are 11 million Alzheimer’s caregivers (Alzheimer’s Association, 2023). Additionally, a 2023 study on cancer caregivers with respondents aged 51 and above estimated that there are 6 million cancer caregivers (Bradley et al., 2023). Lastly, heart failure studies have estimated a global prevalence of 64 million caregivers for those with this condition (Groenewegen et al., 2020; Schutz & Walthall, 2022). The aforementioned differences in caregiver prevalence rates with the possibility of a care recipient having multiple caregivers reflect the unsuccessfulness of attempts to calculate the number of people providing care to older adults.

Caregiver Likelihood

While there is not a specific number for the presence of informal caregivers in our society, there are differences noted within the number of caregivers previous literature has captured. These differences of caregiving experiences include not only relationship to care recipient, but, race, time spent providing care, age when becoming a caregiver, and levels of burden while serving as a caregiver. As an example, informal caregivers are often family members as they “play an integral role in the health of older adults” (Ali et al., 2022). Research has also found these differences to be a result of members of disadvantaged groups being “less able than members of advantaged [groups] to access formal care services and are forced to rely on family members for care” (Friedman et al., 2015).

Several studies have highlighted the likelihood of varying ethnicities to become a caregiver of an older adult and racial/ethnic differences of caregiving experiences. Several research studies have shown that those who identify as a part of a racial/ethnic minority group are more likely to serve as family caregivers due to an increase in aging minority adults, and minorities experiencing a disproportionate burden of preventable disease and disability (Centers for Disease Control and Prevention, 2023; Falzarano et al., 2021; Moon et al., 2020; Richardson et al., 2019). More specifically, minorities are more likely to provide intensive care to family members with dementia (Friedman et al., 2015).

Additionally, Black/African American informal caregivers are more likely to begin serving as a caregiver at an earlier age and provide care for longer periods of time compared to their White counterparts (Cohen et al., 2019; Falzarano et al., 2021; Moon et al., 2020; Powers & Whitlatch, 2016). Some studies that investigated associations of ADLs, IADLs, burden, and hours of caregiving per month estimated that Black/African American female caregivers provide an average of at least 28.5 more hours of care per month in comparison to White caregivers that assist an older adult (Cohen et al., 2019; Rhodes, 2021). Additionally, studies indicate that Black/African American informal caregivers who engage in more demanding caregiving duties, are less likely to have adequate caregiver resources, and spend a higher percentage of monthly income on care recipients with a dementia diagnosis (Ejem et al., 2022; Wells et al., 2017). Reasons for the differences in likelihood and time spent serving as a caregiver to an older adult can be related to differences in morbidity -especially cardiovascular diseases- and disability among racial and ethnic minorities (Moon et al., 2020; Siegler et al., 2010).

A second group that is more likely to become an informal caregiver are those with female assigned as their sex at birth; studies have found the role of caregiving is predominantly taken by women (Skarupski et al., 2021). Some studies estimate that "1 in every 4 women is a caregiver and nearly 75% of caregivers are female" (Rhodes, 2021). The likelihood of a daughter serving as a caregiver to an adult with difficulties has even been found to be related to the cognitive status of the care recipient, as those with cognitive impairment are more likely to have a daughter rather than spouse caregiver (Friedman et al., 2015). The findings are amplified for Black/African American daughters providing care to a person with a form of cognitive impairment (Powers & Whitlatch, 2016). The daughter-parent caregiving relationship has been linked to increased risk of compassion fatigue and uncertainty and doubts on how to best care for their parents (Day et al., 2014).

Changing Demand

The need for informal caregivers is rising. One reason related to the increased demand for this type of caregiver could be related to changes in life expectancy and advances in modern medicine. According to Pearlin et al., (1990) "people live longer; the longer they live, the more at risk they are for chronic ailments that impair their ability to care for themselves". Additionally, medical advances allow those with impaired functioning and disabilities to live longer lives despite their health problems (Markey, 2015; Pearlin et al., 1990). However, it can be expected that as an individual's health declines, the need for assistance will continue to increase. As an example, the 2014 analysis of Medicare beneficiaries conducted by Wolff and Spillman found that older adults who required assistance with both physician visits and medications, were older, and in worse health than their counterparts that did not require such assistance (Wolff & Spillman, 2014). As older adults continue to live longer with chronic illnesses and disabilities, family members will be increasingly relied upon to provide care (Falzarano et al., 2021). A high cost of institutional care can also lead millions of Americans to serve as an informal caregiver (Markey, 2015). More specifically, the National Council on Aging reported that as of the time of completion of the Genworth 2021 Cost of Care

Survey, the median cost of nursing home care was $7,908 and $9,034 per month respectively for a shared and private room (Kate Van Dis, 2023).

One should note that some researchers have estimated that reliance on informal caregivers may be unsustainable as the population ages (Friedman et al., 2015). This may be due to shrinking family sizes and increases in the number of women- who are more likely to be caregivers-being and remaining in the workforce (Alzheimer's Disease Facts and Figures Special Report More than Normal Aging: Understanding Mild Cognitive Impairment, 2022; Spillman et al., 2021). One reason for shrinking family sizes could be related to lower fertility rates (Skarupski et al., 2021). Regardless of the reason, caregiving is a growing area of concern for our society.

Costs Associated with Caregiving

Average Hours Spent Per Day/Week as a Caregiver

Family caregivers are an important asset to the American healthcare system and economy. It is estimated that family caregivers save the U.S. economy between $221 and $642 billion dollars that would otherwise be used to cover the costs of formal care in an institution (Cohen et al., 2019). The analysis by Wolff and Spillman concluded that adult caregivers of those requiring assistance with medications and physician visits, provided an average of 45.4 hours of help per week (Wolff & Spillman, 2014). In comparison to adult caregivers that only assisted with just one of the above mentioned activities, or did not provide assistance specifically with medications and physician visits, their 45.4 hour per week time expenditure was twice as high (Wolff & Spillman, 2014). Other studies have reported that informal caregivers can spend up to 75 hours of care per week (Powers & Whitlatch, 2016). Differences in the number of hours spent within their caregiving roles can also vary by diagnosis. One area with notably higher hours spent giving and receiving care, is within the realm of cognitive impairment. Adults in this category, according to the researchers, received 171 hours of monthly informal care versus 89 hours for cognitively impaired adults without dementia and 66 hours for cognitively normal adults (Friedman et al., 2015).When estimating the costs associated with a dementia diagnosis, as of 2021, the Alzheimer's Association estimated that $1271.6 billion dollars per year were spent providing care; a lifetime cost of $377,621 per person living with dementia (Alzheimer's Disease Facts and Figures Special Report More than Normal Aging: Understanding Mild Cognitive Impairment, 2022). Additionally, as much as "84% of this is attributable to long-term services and supports, many of which are provided by relatives and friends of the person with dementia" (Friedman et al., 2015). Other estimations for time spent proving informal care for illnesses prevalent in older adults include cancer with studies reporting an average of 6.6 hours per day or a range of 20-40 hours per week proving care and stroke with a median of 35 hours per week (Adashek & Subbiah, 2020; Sohkhlet et al., 2023).

Stress Process Model

What Is It?

One model used to describe the common experiences of caregiving has been coined by Pearlin et al., (1990) as the Stress Process Model (SPM). This model not only differentiates caring and caregiving, but also outlines the variety of factors that can contribute to stress endured while serving as an informal caregiver. More specifically, “researchers use the stress process framework to analyze the process through which people respond to challenging life circumstances” and “to analyze the social origins of distress” (McLeod, 2012). The model explains caregiving as a source of stress, and if this stress is appraised by the caregiver as a burden, the role can lead to negative outcomes (Ice et al., 2012). An adapted version of the SPM specific to this study is labeled below as Figure 1.

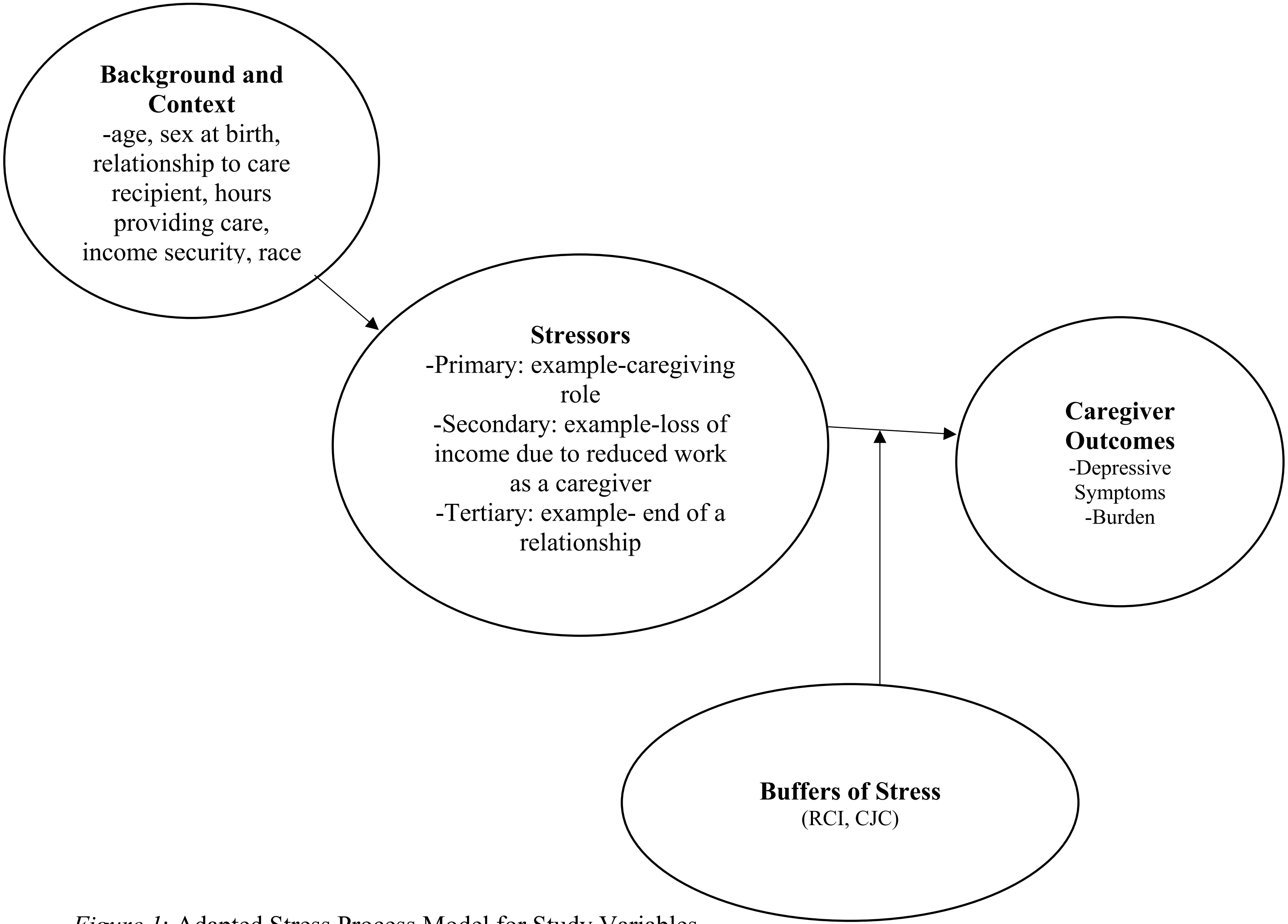

Figure 1: Adapted Stress Process Model for Study Variables

There are four domains that generate the SPM: the background and context of stress, the stressors and appraisals of stress, the moderators or buffers of stress, and the outcomes or manifestations of stress (Pearlin et al., 1990). The background and context of the SPM inform that a series of statuses such as age, gender, ethnicity, education level, and socioeconomic and employment status can have consequences on level of stress experienced within the caregiving role. The effects of stressors can vary based on a person's access to social and personal resources, including social support and self-concept (McLeod, 2012).

Within the SPM, stressors are divided into primary, secondary, and tertiary stressors. Primary stressors are directly related to an individual's role as an informal caregiver, have five categories, are expected to intensify over time as the care recipient's illness progresses, lead to secondary stressors, and can have effects on outcomes of well-being (Judge et al., 2010; Pearlin et al., 1990). This expected intensification over time could be related to physical and emotional duties within the caregiving role. Such assistance can occur through both ADLs such as bathing, IADLs such as managing finances, or even providing companionship and emotional support. The first three categories are objective and include: issues with managing relationships throughout disease progression, reactions to the care recipient's behaviors, the number of activities the care recipient depends on the caregiver to complete. The final two categories are the exploration of caregiver burden and overload and relational deprivation that separates a caregiver from their family and friends (Pearlin et al., 1990).

Secondary stressors in the SPM are categorized as role strains and intrapsychic strains; they are a result of primary stressors, but should not be considered secondary in importance (Judge et al., 2010). Secondary stressors include three dimensions-acknowledgement of differences in beliefs about level of impairment in the care recipient, disagreements over “the amount and quality of attention” provided to the care recipient, and “amount of attention and acknowledgement accorded the caregiver for the care that person gives to the relative (Pearlin et al., 1990). Additionally, these stressors can reflect ways in which caregivers produce stress in areas including employment. As an example, caregiving can negatively impact a person’s employment status through reduced quality of work provided, reduced hours of work, and decisions to leave the workforce to provide care entirely (Cohen et al., 2019). Tertiary or extrinsic stressors have the power to effect appraisals of burden experienced by caregivers as well as their health outcomes. However, tertiary stressors are not directly related to being in the role of a caregiver. An example of a tertiary stressor would be the death of a pet, the end of a relationship, or some other event unrelated to the care recipient’s needs.

Appraisals of Stressful Events

The SPM includes appraisals of stress which can be explained as a person’s evaluation of the effect a stressor will have on their life (Clay et al., 2013). There are differences across how caregivers appraise stress; although caregivers may collectively be in a caregiving role, they may appraise the meaning of their stressors quite differently (Swore Fletcher et al., 2012). In some instances, serving as a caregiver can be a life-altering experience (Epps, 2014). Unfortunately, if caregiving is appraised as a burden, it can bring distress to the caregiver (Ice et al., 2012). Appraisal of stress can even be influenced by one’s culture (Fider et al., 2019). The buildup of negative physical and mental outcomes has been linked to caregiver burden and burnout especially if the caregiver is a family member of the care recipient or has multiple conditions or disabilities (Akosile et al., 2018; Musich et al., 2017). Caregiver burden is defined as “the extent to which caregivers perceive that caregiving has had an adverse effect on their social, emotional, financial, physical, and spiritual functioning” (Musich et al., 2017). Unfortunately, those considered Black/African American experience higher burden from family caregiving than caregivers that are considered to be White (Richardson et al., 2019). Burnout is related to being emotionally exhausted, depersonalization to one’s role, and having reduced personal accomplishment. (Yıldızhan et al., 2019).

Caregiver Outcomes or Manifestations of Stress

Next, we will further discuss the negative effects of stress under the lens of the SPM. In a study on stroke caregivers, it was found that caregiver depressive symptoms and burden were closely related (Hu et al., 2018). Furthermore, serving as an unpaid caregiver is associated with high levels and increased risk of emotional distress, poor physical health strain and outcomes, negative impacts on social health, and increased mortality (Heo, 2014; Parker et al., 2022; Rhodes, 2021; Skarupski et al., 2021; Zarit et al., 2014). When a person does not have a choice in becoming a caregiver, rates of negative outcomes can be even higher (Schulz et al., 2012). Such exposures have an effect on physiological homeostatic systems that could increase the risk of illnesses and mental health problems (Zarit et al., 2014). In terms of physical and physiological health, long caregiving hours and constant, and sometimes extreme assistance with ADLs can lead to muscle strain or skeletal injury, back injury, and sleep disruption throughout the duration of the care recipient's life (Amankwaa, 2017; Parker et al., 2022; Prevo et al., 2018). Some caregivers of adults with difficulties are so engrossed in their roles that they neglect their physical activity and dietary needs that can lead to a breakdown of the immune system or engagement in unhealthy behaviors related to diet, alcohol consumption, and lack of exercise (Amankwaa, 2017; Epps, 2014).

Associations of Views of Caregiving with Caregiver Outcomes

Additionally, in some studies, Black/African American informal caregivers have scored higher than Whites on scales that reflect cultural motivations for providing care and expressed stronger feelings of caregiving being their duty (Powers & Whitlatch, 2016). It has also been indicated that race and ethnicity are associated with varying attitudes toward family responsibility potentially leading to different patterns of caregiving (Spillman et al., 2021). One emerging theme for Black/African American adult child caregivers under cultural justifications has been reciprocity. Reciprocity can be seen as or agreement with statements such as "it is what my people have always done", "I was raised to believe care should be provided in the family", or "by giving care to frail or older family members, I am giving back what has been given to me" (Powers & Whitlatch, 2016). The differences in views of caregiving between race and depressive symptoms could explained by meanings attached to caregiving based on one's culture (Brummett et al., 2012).

Caregiver Resources and Buffers of Stress

The next component of the SPM addresses a series of factors that may protect a caregiver from stress experienced while serving as a caregiver. The SPM defines this possibility as moderators or buffers of stress, which can explain outcome variability for the way stress affects caregivers (Pearlin et al., 1990). Two potential buffers of stress are religious involvement and cultural justifications for caregiving. Some caregivers use religion as a coping mechanism and previous studies have indicated that caregivers often find comfort in religion while serving in their role and that the use of religion can decrease negative caregiver outcomes (Heo, 2014; Heo & Koeske, 2013; Skarupski et al., 2021). More specifically, religious coping, participation in religious activities that are public, rating religion as important, and frequency of prayer have been linked to mental health (Fider et al., 2019; Garssen et al., 2021; Rathier et al., 2015). Additionally, religion may provide caregivers with a set of beliefs and values that lead to positive appraisals of stress and better caregiver adaptation (Heo & Koeske, 2013; Koenig et al., 2016). Rates of religiosity have been shown to change throughout the lifespan, with older adults having higher rates of religious involvement (Bengtson et al., 2016; Zimmer et al., 2016).

Associations of Religion and Spirituality with Caregiver Outcomes

Religiosity is a potential buffer of stress which can be defined as "one's beliefs and practices related to God or a religious affiliation" (Epps, 2014). This is a result of religion being a great comfort and giving meaning to the caregiving role that may surround informal caregivers with a sense of support from their community during a difficult and isolating period in their life (Koenig et al., 2015; Skarupski et al., 2021). A person's religious beliefs may even motivate some to serve as a caregiver for frail older adults. This is due to the finding that providing care to a family member has been linked to religious values and many religious belief systems characterize responsibility and care for others (Epps, 2014). Religion has been associated with effective coping mechanisms for caregivers of other adults, with crises including terminal illness and, has been associated with improved mental health in those experiencing stress (Heo, 2014; Rhodes, 2021). Specifically, religious involvement and church attendance potentially provided spiritual as well as psychological benefits to dementia caregivers (Fei Sun et al., 2010). However, racial differences have been found in religion serving as a buffer to stress. In prior studies, those considered Black/African American have been more likely to have higher levels of religiosity, report frequent church attendance, use of prayer, rate religion as having more importance, depend on their faith in God, and cope with caregiving difficulties with religious activities (Koenig et al., 2015; Rhodes, 2021). In this same study, White participants had the lowest level of religious coping and highest levels of caregiver burden appraisal (Rhodes, 2021). In another study, informal caregivers identifying as White reported higher burden, were less likely to use religious coping, and less likely to engage in organized religion than Black/African American caregivers; church attendance significantly buffered the racial differences on caregiving burden (Fei Sun et al., 2010).

Associations of Cultural Justifications for Caregiving with Caregiver Outcomes

Cultural justifications for caregiving are related to the cultural reasons, beliefs, and values that a person may choose to serve as a family caregiver (Dilworth-Anderson et al., 2005). Culture is believed to play a role in the caregiving experience and this, paired with family roles, perceptions about illness and aging, and race and ethnicity can help form beliefs and motivations for providing care (Powers & Whitlatch, 2016). Similarly, some groups report higher endorsement of familism -feelings of loyalty, dedication, reciprocity, and attachment to family members and relationships- which can predict more positive caregiving appraisals (Falzarano et al., 2021; Sayegh & Knight, 2011). Specifically, when investigating the outcomes of caregiver depressive symptoms and burden, mixed findings have been found on their effectiveness. As an example, higher levels of familism have been related to improved well-being under the realm of experiencing fewer depressive symptoms and having higher life satisfaction (Fuller-Iglesias & Antonucci, 2016). Additionally, studies of Mexican American caregivers found higher levels of familism to be associated with fewer depressive symptoms (Ayón et al., 2010; Keeler et al., 2014). However, this relationship was not found in other studies of Spanish and Hispanic family caregivers (Koerner & Shirai, 2012; Losada et al., 2010). With caregiver burden, significant relationships have been found for higher levels of familism and decreased caregiver burden in Mexican American as well as White caregivers (Mehdipanah et al., 2024). Lastly, a 2011 study found that higher levels of cultural justifications for caregiving was related to active coping, has also been tied to improved mental health outcomes (Sayegh & Knight, 2011). A diagram of the adapted

Stress Process Model that includes the potential buffers discussed above investigated for this specific study can be found labeled below as Figure 1.

Aims and Hypotheses

The current investigation had 2 aims: 1) to assess the associations of religious commitment or involvement (RCI) with depressive symptoms and informal caregiver burden and; 2) to assess the associations of cultural justifications for caregiving (CJC) with informal caregiver depressive symptoms and caregiver burden. The current investigation had these hypotheses: 1a) higher scores on RCI will be associated with lower scores on caregiver depressive symptoms; 1b) higher scores on RCI will be associated with lower scores on caregiver burden; 1c) Black/African American participants will report higher scores on RCI compared to White participants; 1d) race will be a moderator of the relationship between RCI and caregiver depressive symptoms with an expectation of these relationships being stronger in Black/African American caregivers compared to White caregivers; and 1e) race be a moderator of the relationship between RCI and caregiver burden with an expectation of these relationships being stronger in Black/African American caregivers compared to White caregivers; 2a) higher scores on CJC will be associated with lower scores on caregiver depressive symptoms; 2b) higher scores on CJC will be associated with lower scores on caregiver burden; 2c) Black/African American participants will report higher scores on CJC compared to White participants; 2d) race will be a moderator of the relationship between CJC and caregiver depressive symptoms; 2e) race will be a moderator of the relationship between CJC and caregiver burden. Specifically, we expected the associations of CJC with caregiver depressive symptoms and CJC with caregiver burden to be stronger in Black/African American caregivers compared to White caregivers.

CHAPTER TWO

METHODS

Participants

This project was a cross-sectional secondary data analysis derived from the University of Alabama at Birmingham project known as the Caring for Adults with Difficulties (CFAD) Study; an Institutional Review Board approved survey of caregivers across the United States conducted by Dr. Olivio Clay in the a Comprehensive Life course approach to Aging Yields Success (C.L.A.Y.S.) Lab. To participate in this study, caregivers must meet 5 criteria: 1) provide at least five hours of care per week 2) the care provided must be to a person with difficulties at least 45 years of age, 3) the care recipient cannot reside in any form of a facility or assisted living that includes assistance from paid caregivers, 4) provide consent for contact and participation, and 5) be at least 18 years old.

Procedures

To recruit for this study, a variety of methods were used to enroll a convenience sample. The first method was the use of recruitment fliers; fliers were be posted across the Birmingham, Alabama metro area. The second recruitment style for this study was via word-of-mouth. The study was discussed at various community events, community centers, invitational events, and through casual conversations. The last recruitment method was digital through social media outlets including YouTube and Facebook as well as electronic mail. The digital methods included digital postings of the recruitment flier.

After expressing interest for this study via e-mail or secure voice messaging to researchers, participants were contacted via phone to discuss consent, eligibility, payment procedures, and to answer any questions related to the survey. Contacting interested participants also helped ensure that participants expressing interest via e-mail were humans rather than bots. A bot can be defined as an automatic software program that completes a survey through randomly selecting responses and providing general responses to open-ended questions. Participants were also informed that a tax identification number was required for registration within the payment system. Repeated use of tax identification numbers was not allowed for this study and helped discourage the use of bots to complete the survey multiple times. The online survey for this study was then distributed to participants via electronic mail through the University of Alabama at Birmingham's (UAB) Qualtrics program. Participants also had the option to participate via phone; researchers will administer all instruments at a scheduled time with the informal caregiver. Regardless of method, informed consent was obtained from each participant before they began the study. Qualtrics was used to keep track of survey distribution, completion, and responses. Upon completion, participants were then contacted again to discuss payment procedures. Each participant that completed the survey received a $20 incentive through GreenPhire's ClinCard. Participants had to be registered in the ClinCard system to receive their payment. Completed survey data was downloaded and imported into IBM's statistical software SPSS to be analyzed.

At the time of data analysis, 99 attempts of this survey were completed, however, not all participants completed the survey in its entirety. The survey included 85 (85.86%) complete cases and 14 (14.14%) incomplete cases. Therefore, incomplete cases were not included in final data analyses. Additionally, two participants that did not identify as Black/African American or White were removed. The final dataset included 83 participants.

Measures

Demographics

A series of demographic information was collected for this study. These variables included: age, sex at birth (male or female), income security (1=not enough to make ends meet, 2= gives you just enough to get by on, 3= keeps your comfortable, but permits no luxuries, 4=allows you to do more or less what you want), race (Black/African American, White, other), number of years of education, and relationship to care recipient. These variables helped us understand the demographics for the participants of this sample.

Caregiver Depressive Symptoms

To measure depressive symptoms, the primary outcome of this study, the Center for Epidemiological Studies- Depression (CES-D) was used (Radloff, 1977). This scale is composed of 20 items that inquire about frequencies in which depressive symptoms were felt. The symptoms include loneliness, appetite issues, and sleep dysregulation within the past week. Example statements include “I was bothered by things that usually don’t bother me” and “I had crying spells” (Radloff, 1977). The scale asks participants to rate how often they felt each symptom within the past week using the responses of “rarely or none of the time” up to “most of the time” (Radloff, 1977). Scores for this scale range from 0-60, with higher scores indicating a larger presence of depressive symptoms (Radloff, 1977). A score of 16 indicates an individual is at-risk for clinical depression. The scale is considered reliable as Cronbach’s alpha was at least .80 in all subgroups used in the development of this scale (Radloff, 1977). For this study, Cronbach’s alpha was .928.

Caregiver Burden

To measure caregiver burden, the main predictor of this study, this investigation uses the revised version of Zarit Burden Interview Scale. The revised scale includes 22 items that asks caregivers to rate how often they experience feelings of burden. Example questions include “do you feel that your relative asks for more help than he/she needs?” and “do you feel that you will be unable to take care of your relative much longer?” (Zarit et al., 1980). The items are assessed on a 5 point scale ranging from “never” to “always” and has burden scores ranging from 0-88 (Zarit et al., 1980). Higher scores on the scale reflect higher levels of caregiver burden. For this study, Cronbach’s Alpha was .939.

Religious Commitment or Involvement

To measure a person’s views of religion as well as commitment and participation in religion within the sample, the Belief into Action Scale (BIAC) scale was used. The BIAC was created with the goal “to develop a comprehensive measure of religious involvement for those affiliated with monotheistic religious traditions that fully captures the centrality of religion in life” (Koenig et al., 2015). The scale is composed of 10 items with a total score potentially ranging from 10 to 100 aimed to assess four themes within a caregiver’s religious practices. These themes are “1) what a person truly prizes in life (‘relationship with God’ being one of many possible priorities); 2) the extent to which a person has consciously chosen to surrender life to God or otherwise confirm life to their religious beliefs; 3) how much time within a 24-hour period is actually spent on religious activity (religious practices, including volunteering; and 4) what proportion of one’s finances is given to support religious causes” (Koenig et al., 2015). The items used on this scale ask caregivers to what extent they have surrendered to their religion, how often they attend religious services, amount of money used for religious tithing, and how much time per day is spent in various religious activities. In the initial analysis, the BIAC was often completed in less than five minutes, despite differences on education level and race (Koenig et al., 2015). This scale is considered reliable as the Cronbach’s alpha is .89 when originally tested. For this study, Cronbach’s alpha was .837.

Cultural Justifications for Caregiving

To measure cultural justifications for caregiving, this investigation used the Cultural Justifications for Caregiving Scale (CJCS). This scale is comprised of 10 items designed to asses a caregiver's cultural reasons and expectations for providing care (Dilworth-Anderson et al., 2005). Caregivers are asked to rate how strongly or loosely they agreed that they have decided to provide care for cultural reasons. Examples of statements within this instrument include "it is my duty to provide care to elderly family members" and "I was raised to believe care should be provided in the family" (Dilworth-Anderson et al., 2005). Scores on the CJCS range from 10 to 40 with higher scores indicating stronger cultural reasons for serving as a caregiver (Dilworth-Anderson et al., 2005). Culture can be defined as a series of shared symbols, beliefs, and customs that shapes individual, as well as group behavior; it provides guidelines for speaking, doing, and evaluating actions and reactions in life (Dilworth-Anderson et al., 2005). This investigation incorporates culture into this analysis due to the belief that a person's culture is a factor that plays a role in the caregiving experience (Powers & Whitlatch, 2016). The first study to use the CJCS had Cronbach's alpha of .86 indicating the scale is reliable. For this study, Cronbach's alpha was .896.

Analysis Plan

Descriptive statistics were utilized to characterize the sample. Specifically, means and standard deviations were computed for continuous measures and frequencies and percentages were computed for categorical variables. To assess Aim 1, hypotheses 1a and

1b, separate multiple regression models (Models 1 and 2) were conducted to investigate the covariate-adjusted associations of RCI with depressive symptoms and RCI with caregiver burden. Age, sex at birth, relationship with care recipient, hours spent providing care, income security, and race served as covariates in these models. To assess Aim 1, hypothesis 1c, a multiple regression model (Model 3) was conducted to investigate the covariate-adjusted association of race on RCI. Age, sex at birth, relationship with care recipient, hours spent providing care, and income security served as covariates in this model. To assess Aim 1, hypotheses 1c and 1d separate multiple regression models (Models 4 and 5) were conducted to investigate race as a moderator of the relationship between RCI and caregiver depressive symptoms and RCI with caregiver burden. These models included a race by RCI interaction with age, sex at birth, relationship with care recipient, hours spent providing care, income security, and race as covariates.

To assess Aim 2, hypotheses 2a and 2b, separate multiple regression models (Models 6 and 7) were conducted to investigate the covariate-adjusted associations of CJC with depressive symptoms and CJC with caregiver burden. Age, sex at birth, relationship with care recipient, hours spent providing care, income security, and race served as covariates in these models. To assess Aim 2, hypothesis 2c, a multiple regression model (Model 8) was conducted to investigate the covariate-adjusted association of race on CJC. Age, sex at birth, relationship with care recipient, hours spent providing care, and income security served as covariates in this model. To assess Aim 2, hypotheses 2d and 2e, separate multiple regression models (Models 9 and 10) were conducted to investigate race as a moderator of the relationship between CJC and caregiver depressive symptoms and CJC with caregiver burden. These models included a race by CJC interaction with age sex at birth, relationship with care recipient, hours spent providing care, income security, and race serving as covariates.

CHAPTER THREE

RESULTS

Preliminary Analyses

This study's variables were investigated for any violation in the assumptions of multiple regression- linearity, normality of errors, homoscedasticity of errors, independence of errors, and multicollinearity. To test for violations in the linearity assumption, visual observation of the scatterplots of models with depressive symptoms and burden as outcomes were observed. With this observation, it was found that the assumption was not violated as there was an equal spread of residuals above and below zero. To test normality of errors, visual and statistical evaluation methods were used. Histograms and scatterplots showed normal distributions, however, the Shapiro Wilk statistical values were mostly less than .05 indicating a violation in the normality of errors assumption. Since appropriateness of Shapiro Wilk can vary based on sample size, skewness and kurtosis values were then observed for individual independent and dependent variables. When evaluating homoscedasticity of errors, no violation was found as scatterplots with depressive symptoms and caregiver burden had similar variance among residuals. With independence of errors, no violation was found as Durbin Watson values fell between 1.5-2.5 in models with depressive symptoms and caregiver burden as outcomes. The assumption of multicollinearity was then tested through tolerance and VIF values; no violations were found as all tolerance value were above .40 and VIF values were under 2.5. All variables were also assessed for both univariate and multivariate outliers. No multivariate outliers were identified based on Mahalanobis distance. However, univariate outliers were found in the cultural justifications for caregiving variable. Multiple regression is robust for violations of assumptions. Therefore, the cultural justifications for caregiving variable was utilized without modification.

Sample Characteristics

Survey responses from 83 individuals were used in this analysis that included 51 participants reporting their race as Black/African American (61.45%) and 75 (90.36%) reported their sex at birth as female. Participants ranged in age from 22-78 and on average were 47.08(SD=13.72) years old. It was found that participants spent an average of 48.53(*SD*=44.5) hours per week providing care to the care recipient. Additionally, 14 (16.87%) respondents were a spouse/partner caregiver, 40 (48.19%) were a child or married to the child of the care recipient, and 29 (39.94%) were classified as “other” including friends or neighbors. Income security was divided into four categories, and 18 (21.7%) respondents reported not having enough income to make ends meet, 19 (22.9%) reported income that was just enough to get by on, 25 (30.1%) described their income as keeping them comfortable, but permitting no luxuries and, and 21 (25.3%) reported having income that more or less allowed them to do as they please. Chi-square testing indicated a significant difference in income security between Black/African American caregivers and White caregivers; White caregivers had more income security. On average, participants in this study had 16.01(*SD*=2.64) years of education.

The average score for depressive symptoms on the CES-D was 15.60 (*SD*=11.75) while average burden scores on the ZBI were 34.04 (*SD*=16.50). A score of 16 or more on the CES-D indicates that a person is at risk for clinical depression (Radloff, 1977). Thirty-seven (44.58%) caregivers scored a 16 or above on the CES-D; 24(64.86%) of these caregivers were Black/African American and 13(35.14%) were White indicating a risk for clinical depression. With caregiver burden, a score of 0-21 reflects no to mild burden, 21-40 is representative of mild to moderate burden, a score of 41-60 is considered moderate to severe burden, and a score higher than 61 indicates severe caregiver burden (Zarit et al., 1980). With these cutoffs, 12/83(14.46%) caregivers were in the no burden to mild burden range. All of the caregivers in this category were Black/African American. The mild to moderate range included 23(27.71%) of caregivers in which 11(47.83%) were Black/African American and 12(52.17%) were White caregivers. The moderate to severe burden included 14(16.87%) of caregivers in which 7(50%) were Black/African American and 7(50%) were White caregivers. For the severe range of caregiver burden, 4(4.82%) fell into this category with 1(25%) of those caregivers being Black/African American and 3(75%) being White. According to an independent samples t-test, scores on the ZBI were significantly different for Black/African American caregivers compared to White caregivers; Black/African American caregivers reported lower levels of burden. Finally, average scores on the BIAC to measure RCI were 40.82 (*SD*=17.79) and CJC scores were on average a 32.88(*SD*=6.63). More detailed descriptives for this sample's characteristics are included in Table 1 and Table 2.

Table 1

Descriptive Statistics by Means for Continuous Variables

	Overall n=83	**White** n=32	**Black** n=51
Age			
M(SD)	47.08(13.72)	48.41(14.75)	46.25(13.12)
Years of Education			
M(SD)	16.01(2.64)	15.91(2.57)	16.08(2.71)
Caregiver Depressive Symptoms			
M(SD)	15.60(11.75)	15.84(11.30)	15.45(12.14)
Caregiver Burden			
M(SD)	34.04(16.50)	42.23(13.36)	28.03(16.16)**
Religious Commitment and Involvement			
M(SD)	40.82(17.89)	36.47(43.55)	43.50(15.36)
Cultural Justifications for Caregiving			
M(SD)	32.88(6.63)	32.88(4.52)	32.88(7.71)
Hours Providing Care			
M(SD)	48.53(55.50)	56.22(50.13)	43.71(40.35)

Note: *p < .05, **p < .01, ***p < .0001

Table 2

Descriptive Statistics by Proportion for Categorical Variables

	Overall	**White**	**Black**
	n=83	n=32	n=51
Female Gender			
n(%)	75 (90.4%)	28(87.5%)	47(56.63%)
Relationship to Care Recipient			
n(%)			
1	14(16.9%)	9(28.12%)	5(9.8%)
2	40(48.2%)	15(46.88%)	25(49%)
3	29(34.9%)	8(25%)	21(41.2%)
Income Security			
n(%)			
1	18(21.7%)	4(12.5%)	14(27.5%)*
2	19(22.9%)	8(25%)	11(21.6%)
3	25(30.1%)	15(46.9%)	10(19.6%)
4	21(25.3%)	5(15.6%)	16(31.4%)

Note: for relationship to care recipient, 1=spouse/partner, 2=daughter, daughter-in-law, son, or son-in-law, 3=other; for income security, 1= not enough to make ends meet, 2= gives you just enough to get by on, 3= keeps you comfortable, but permits no luxuries, 4= allows you to do more or less what you want; *p < .05, **p < .01, ***p < .0001

Bivariate Associations

A correlation matrix to test for bivariate associations for all variables within this study was completed. With age, there was a weak positive correlation between age and hours providing care *r*(81)=.251 , *p*<.05; weak positive correlation with RCI *r*(81)= .301, *p*<.01; and a weak positive correlation with caregiver burden *r*(81)=.231 , *p*<.05. There was also a moderate positive correlation between years of education and income security *r*(81)=.491 , *p*<.01 as well as a weak negative correlation between years of education and depressive symptoms *r*(81)=-.267 , *p*<.05. The number of hours per week a caregiver provides had a weak negative correlation with CJCS *r*(81)=-.248 , *p*<.05 while there was a positive weak correlation between hours providing care and caregiver burden *r*(81)=.329 , *p*<..01. There was a. negative weak correlation between income security and depressive symptoms *r*(81)=-.398 , *p*<.01. Finally, there was a moderate positive correlation between depressive symptoms and caregiver burden *r*(81)=.445 , *p*<.01.

Table 3

Correlations Among Key Variables

Variable	1	2	3	4	5	6	7	8	9	10
1.Age	1									
2. Sex at Birth	0.05	1								
3. Years of Education	0.095	0.064	1							
4. Race	-0.077	0.077	0.032	1						
5. Hours Providing Care	.251*	0.2	-0.122	-0.138	1					
6. RCI	.301**	0.056	0.064	0.194	0.093	1				
7. CJC	-0.187	-0.043	-0.129	0.001	-.248*	0.055	1			
8. Income Security	0.151	0.027	.491**	-0.048	0.016	0.084	-0.17	1		
9. Depressive Symptoms	-0.214	-0.064	-.267*	-0.016	0.072	-0.165	-0.026	-.398**	1	
10.Caregiver Burden	.231*	0	0	0.064	.329**	-0.044	-0.133	-0.061	.445**	1

Note: *< 0.05; **p<.01. RCI= religious commitment or involvement; CJC= cultural justifications for caregiving

Covariate-Adjusted Associations of Religious Commitment or Involvement and Caregiver Depressive Symptoms

In covariate-adjusted Model 1(Table 4), the relationship between RCI and depressive symptoms was not significant, contrary to hypothesis 1a. However, in this same model, income security had a significant association with depressive symptoms indicating that a one unit decrease in income security was associated with a 3.742 unit increase in caregiver depressive symptoms (p=.001).

Table 4

Covariate-Adjusted Associations of Religious Commitment or Involvement (RCI) with Caregiver Depressive Symptoms

	Caregiver Depressive Symptoms b (SE) n=83
Constant	35.509 (7.243)
Age	-.188 (.103)^
Sex at Birth	-3.509 (4.219)
Child or In-Law	1.486 (2.790)
Spouse or Partner	5.714 (4.493)
Hours Providing Care	.021 (.031)
Income Security	-3.742 (1.133)*
Race	.564 (2.616)
RCI	-.045 (.074)

Note. ^p<.10, **p*<.05. b= unstandardized beta coefficient. SE= standard error.

Covariate-Adjusted Associations of Religious Commitment or Involvement and Caregiver Burden

In covariate-adjusted Model 2 (Table 5), RCI was not found to be associated with caregiver burden. This is also contrary to hypothesis 1b. In this same model, being a child or child-in-law versus “other” caregiver, hours spent per week providing care, and race were significant. This indicated that caregivers who are children or a child-in-law of the care recipient have more caregiver burden than those categorized as “other” for relationship to care recipient, they had burden scores 9.969 units higher (*p*=.039). Additionally, a one unit increase in hours providing care was associated with a .131 unit increase in caregiver burden (*p*=.012), and those that are Black/African American had burden scores 13.513 units lower compared to White caregivers (*p*=.002).

Table 5

Covariate-Adjusted Associations of Religious Commitment or Involvement (RCI) with Caregiver Burden

	Caregiver Burden b (SE) n=83
Constant	50.718 (12.017)
Age	.185 (.182)
Sex at Birth	-6.058 (7.521)
Child or In-Law	9.696 (4.546)*
Spouse or Partner	5.351 (6.781)
Hours Providing Care	.131 (.050)*
Income Security	-2.477 (1.807)
Race	-13.513 (4.072)*
RCI	-.099 (.109)

Note. ^p<.10, **p*<.05. b= unstandardized beta coefficient. SE= standard error.

Covariate-Adjusted Associations of Race on Religious Involvement Commitment or Involvement

In covariate-adjusted Model 3 (Table 6) contrary to hypothesis 1c, there were no associations between race and RCI. However, a one unit increase in age was associated with a .469 unit increase in RCI for this model (*p*=.003).

Table 6

Covariate-Adjusted Associations of Race on Religious Commitment or Involvement (RCI)

	Religious Commitment or Involvement b (SE) n=83
Constant	5.289 (11.327)
Age	.469 (.152)*
Sex at Birth	2.169 (6.603)
Child or In-Law	-1.363 (4.366)
Spouse or Partner	-10.628 (6.929)
Hours Providing Care	.047 (.049)
Income Security	.319 (1.774)
Race	6.695 (4.023)

Note. *p<.05. b= unstandardized beta coefficient. SE= standard error.

Race as a Moderator of the Relationships Between Religious Commitment or Involvement and Caregiver Depressive Symptoms

Contrary to hypothesis 1d, race did not serve as a moderator of the relationship between RCI and depressive symptoms in Model 4 (Table 7). However, this covariate-adjusted model reflected a one unit decrease in income security was associated with a 3.436 unit increase in caregiver depressive symptoms (p=.003) and a one unit increase in age was associated with a .205 unit decrease in caregiver depressive symptoms (p=.049).

Table 7

Race as a Moderator of the Relationships Between Religious Commitment or Involvement (RCI) and Caregiver Depressive Symptoms

	Caregiver Depressive Symptoms b (SE) n=83
Constant	22.494 (10.855)
Age	-.205 (.103)*
Sex at Birth	-3.477 (4.176)
Child or In-Law	1.404 (2.761)
Spouse or Partner	7.052 (4.525)
Hours Providing Care	.009 (.032)
Income Security	-3.436 (1.138)*
Race	9.782 (6.328)
RCI	.297 (.226)
RCI X Race	-.228 (.143)

Note. **p*<.05. b=unstandardized beta coefficient. SE= standard error.

Race as a Moderator of Relationship Between Religious Commitment or Involvement and Caregiver Burden

Contrary to hypothesis 1e, race did not serve as a moderator of the relationship between RCI and caregiver burden in Model 5 (Table 8). However, this covariate-adjusted found a being a child or child-in-law of the care recipient was associated with a 11.260 unit increase in caregiver burden (*p*=.003).

Table 8

Race as a Moderator of the Relationships Between Religious Commitment or Involvement (RCI) and Caregiver Burden

	Caregiver Burden b (SE) n=83
Constant	43.682 (14.350)
Age	.100 (.136)
Sex at Birth	-4.359 (5.520)
Child or In-Law	11.260 (3.651)*
Spouse or Partner	13.715 (5.982)
Hours Providing Care	.060 (.042)
Income Security	-1.623 (1.504)
Race	-10.150 (8.365)
RCI	.015 (.299)
RCI X Race	-.016 (.189)

Note. **p*<.05. b=unstandardized beta coefficient. SE= standard error.

Covariate-Adjusted Associations of Cultural Justifications for Caregiving and Caregiver Depressive Symptoms

Covariate-adjusted Model 6 (Table 9) revealed CJC was not associated with caregiver depressive symptoms as stated in hypothesis 2a. However, income security was associated with caregiver depressive symptoms; a one unit decrease in income security was associated with a 3.907 unit increase in depressive symptoms (*p*=.001). Additionally, a one unit increase in age was associated with a .215 unit decrease in depressive symptoms (*p*=.030).

Table 9

Covariate-Adjusted Associations of Cultural Justifications for Caregiving (CJC) with Caregiver Depressive Symptoms

	Caregiver Depressive Symptoms b (SE) n=83
Constant	42.099 (10.652)
Age	-.215 (.097)*
Sex at Birth	-3.457 (4.209)
Child or In-Law	1.160 (2.816)
Spouse or Partner	5.807 (4.435)
Hours Providing Care	.014 (.031)
Income Security	-3.907 (1.143)*
Race	.107 (2.569)
CJC	-.168 (.193)

Note. **p*<.05. b=unstandardized beta coefficient. SE= standard error. CJC= cultural justifications for caregiving.

Covariate-Adjusted Associations of Cultural Justifications for Caregiving and Caregiver Burden

Covariate-adjusted Model 7 (Table 10) also compared child or child-in-law and spousal caregivers to caregivers listed as “other” for hypothesis 2b. In this model, CJC was not associated with caregiver burden. Other findings in this model included being a child or child-in-law to the care recipient having burden scores 11.168 units lower compared to caregivers listed as “other” (*p*=.003) and Black/African American caregivers has burden scores 10.921 units less than White caregivers (*p*=.002).

Table 10

Covariate-Adjusted Associations of Cultural Justifications for Caregiving (CJC) with Caregiver Burden

	Caregiver Burden b (SE) n=83
Constant	46.520 (13.877)
Age	.095 (.127)
Sex at Birth	-4.340 (5.483)
Child or In-Law	11.168 (3.668)*
Spouse or Partner	13.612 (5.777)*
Hours Providing Care	.059 (.041)
Income Security	11.691 (1.489)
Race	-10.921 (3.347)*
CJC	-.048 (.252)

Note. **p*<.05. b=unstandardized beta coefficient. SE= standard error. CJC= cultural justifications for caregiving.

Covariate-Adjusted Associations of Race on Cultural Justifications for Caregiving

In covariate-adjusted Model 8 (Table 11), contrary to hypothesis 2c, there were no associations between race and CJC. There were no significant findings in this model for any of our predictors.

Table 11

Covariate-Adjusted Associations of Race on Cultural Justifications for Caregiving (CJC)

	Cultural Justifications for Caregiving b (SE) n=83
Constant	40.573 (4.312)
Age	-.038 (.058)
Sex at Birth	.887 (2.514)
Child or In-Law	-2.303 (1.662)
Spouse or Partner	-2.269 (2.638)
Hours Providing Care	-.029 (.018)
Income Security	-.893 (.676)
Race	-.937 (1.532)

Note. **p*<.05. b=unstandardized beta coefficient. SE= standard error.

Race as a Moderator of Relationship Between Cultural Justifications for Caregiving and Caregiver Depressive Symptoms

The findings of covariate-adjusted Model 9 (Table 12) were contrary to hypothesis 2d; race did not serve as a moderator of the relationship between CJC and caregiver depressive symptoms. However, this model found income security to be significant; a one unit decrease in income security was associated with a 3.822 unit increase in caregiver depressive symptoms.

Table 12

Race as a Moderator of the Relationships Between Cultural Justifications for Caregiving (CJC) and Depressive Symptoms

	Caregiver Depressive Symptoms b (SE) n=83
Constant	70.516 (29.967)
Age	-.194 (.099)
Sex at Birth	-3.148 (4.219)
Child or In-Law	1.319 (2.820)
Spouse or Partner	5.236 (4.469)
Hours Providing Care	.022 (.032)
Income Security	-3.822 (1.146)*
Race	-16.848 (16.909)
CJC	-1.090 (.928)
CJC X Race	.516 (.509)

Note. **p*<.05. b=unstandardized beta coefficient. SE= standard error.

Race as a Moderator of Relationship Between Cultural Justifications for Caregiving and Caregiver Burden

Findings in Model 10 (Table 13) were contrary to hypothesis 2e as race did not serve as a moderator between CJC and caregiver burden. However, the model indicated being a child-or-child in law to the care recipient was associated with a 11.068 unit increase in caregiver burden while being a spouse or partner was associated with a 13.972 unit increase in caregiver burden.

Table 13

Race as a Moderator of the Relationships Cultural Justifications for Caregiving (CJC) and Caregiver Burden

	Caregiver Burden b (SE) n=83
Constant	28.632 (39.250)
Age	.081 (.130)
Sex at Birth	-4.534 (5.526)
Child or In-Law	11.068 (3.693)*
Spouse or Partner	13.972 (5.854)*
Hours Providing Care	.054 (.042)
Income Security	-1.745 (1.501)
Race	-.248 (22.146)
CJC	.532 (1.216)
CJC X Race	-.325 (.667)

Note. **p*<.05. b=unstandardized beta coefficient. SE= standard error.

CHAPTER FOUR

DISCUSSION

This study assessed the associations of RCI with caregiver depressive symptoms and caregiver burden and the associations of CJC with caregiver depressive symptoms and caregiver burden. Findings indicated that RCI did not serve as a buffer for caregiver depressive symptoms for Black/African American or White caregivers. RCI also did not serve as a buffer for caregiver burden for Black/African American or White caregivers. Similarly, CJC did not serve as a buffer of caregiver depressive symptoms or caregiver burden for Black/African American or White caregivers. There were, however, demographic characteristics that were significant, some of which can be considered social determinants of health. As an example, caregivers who were categorized as child or child-in-law reported significantly more burden than caregivers labeled as "other". The finding of being a child or child-in-law of the care recipient and experiencing more burden is consistent with prior studies in older adult informal caregivers (Fenton et al., 2022). This could be potentially related to being a part of a sandwich generation – those who are providing "care, financial support, and emotional support for both their children and parents" (Owsiany et al., 2023). Caregivers that are a spouse or partner of the care recipient compared to "other" caregivers also experienced significantly more burden. Additionally, studies have identified spousal caregivers having higher levels of caregiver burden (Ornstein et al., 2019).

In terms of other social determinants of health, income security, age, and race were significant in some models. More specifically, lower levels of income security were associated with more depressive symptoms. The finding of there being a relationship between income and depressive symptoms has also been previously reported (Saito et al., 2018). In a covariate-adjusted model, older age was associated with higher RCI. Older adults have been found to be more religious in comparison to their younger counterparts in other studies (Malone & Dadswell, 2018). Additionally, there was a trend for the relationship between younger age and more depressive symptoms. This finding was consistent with a study investigating depression age disparities during the COVID-19 Pandemic, the same time period in which data collection for this project began (Collier Villaume et al., 2023). A far as race, being Black/African American was associated with less caregiver burden. This finding is consistent with a 2021 study finding that Black/African American caregivers experienced less burden while serving as a caregiver (Schwartz et al., 2021). Lastly, providing more hours of care per week was associated with higher levels of caregiver burden. In the same fashion, associations between providing a higher number of hours of care per week and increased caregiver burden have been previously found (Ding et al., 2022).

Limitations

As with any study, this study does not go without limitations. Firstly, the study has a small sample size and insufficient power. Therefore, additional findings could be possible with increased sample size and power. Secondly, the study included a sample of individuals with the assigned sex of female at birth, this is not reflective of the overall US population. However, this is reflective of findings that caregivers are more likely to be female (Ding et al., 2022). Next, this study did not include any biological measures of stress or depressive symptoms and relied on self-reported data. This could lead to bias and instances of desirability where participants respond in ways they find might help them appear ideally to researchers. As far as RCI, data collection began during the COVID-19 Pandemic- a time where social distancing and limited capacity within buildings were enforced and many religious services were moved online. It is possible that rates of RCI decreased during data collection as participants potentially did not attend religious services as frequently or in a manner that was previously normalized. Additionally, it is possible that caregiving duties posed as a challenge for caregivers to attend religious services if they were unable to obtain alternative supervision for the care recipient or if the care recipient has varying levels of physical impairment complicating the ability to attend in-person religious services. Finally, it is worth noting that rates of religious commitment or involvement have decreased across the US; rates have dropped below 50% since this measure has been tracked by Gallup- an analytics firm (Gallup Incorporated, 2021).

Conclusions

Implications and Future Directions

The number of older adults in our society will continue to rise and the need for caregivers and caregiver research will continue to remain. These results could be of interest for caregivers of older adults, especially those that have female assigned as their sex at birth as they are more likely to be caregivers and racial and ethnic minorities.

These results add to prior research studies that have found associations between caregiving and negative mental health outcomes. Given the relevance of this topic, additional research on potential buffers to negative outcomes in those in a caregiving role is needed. These continued studies will need larger sample sizes and increased statistical power to also help identify which groups of caregivers are more likely to be affected negatively by their caregiving role. In addition, there were no qualitative measures for caregiver depressive symptoms or burden. It is possible that the use of this method would have allowed caregivers to expound upon their experience- some caregivers may be unaware that they are experiencing these negative outcomes or do not want to blatantly express these outcomes. These results have implications for caregivers and professionals that work with caregivers including physicians, nurses, and mental health providers. Finally, findings from this investigation can be used to help identify caregivers that are at risk of negative outcomes. Specifically, caregivers with White race, low levels of income security, and spousal as well as child or children-in-law of the care recipient are at higher risk for caregiver burden.

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APPENDIX A

IRB APPROVAL FORM

THE UNIVERSITY OF
ALABAMA AT BIRMINGHAM
Office of the Institutional Review Board for Human Use

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Fields, Maizonne

University of Alabama at Birmingham Institutional Review Board
Federalwide Assurance # FWA00005960
IORG Registration # IRB00000196 (IRB 01)
IORG Registration # IRB00000726 (IRB 02)
IORG Registration # IRB00012550 (IRB 03)

10-Feb-2023

IRB-300010382
IRB-300010382-003
Associations of Religious Involvement and Cultural Justifications with Depressive Symptoms and Burden Among Caregivers

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The IRB reviewed and approved the Initial Application submitted on 09-Feb-2023 for the above referenced project. The review was conducted in accordance with UAB's Assurance of Compliance approved by the Department of Health and Human Services.

	Exempt
	4
Determination:	Exempt
Approval Date:	10-Feb-2023
Approval Period:	No Continuing Review

Research Project Title:

ASSOCIATIONS OF RELIGIOUS INVOLVEMENT AND CULTURAL JUSTIFICATIONS WITH DEPRESSIVE SYMPTOMS AND BURDENS AMONG CAREGIVERS