

**RICE UNIVERSITY**

**Who Cares: The Mental Health of Older Adults Serving as Caregivers**

by

**Lynn M. Fahey**

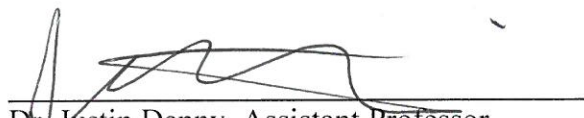
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## ABSTRACT

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Using data from the 2010-2011 wave of the National Social Life, Health, and Aging Project (NSHAP), this study explores caregiving and mental health among older adults using stress process as a theoretical framework. Regression models are used to investigate how mental strain relates to caregiving characteristics among older adult caregivers, and additionally, whether these relationships vary by gender. Descriptive results show that in general, older caregivers tend to be women, retired, and well networked. Additionally, the descriptive analyses revealed that women report more mental strain and provide more hours of care per week, while men are more educated and make up a significantly larger percentage of caregivers who are married or cohabiting. Multivariate regression results indicated that among caregivers, a number of aspects of the caregiver relationship are related to emotional strain, and that a greater number of aspects of the caregiving relationship predicted emotional strain among men.

# Who Cares: The Mental Health of Older Adults Serving as Caregivers

## 1.1 Introduction

The US population is aging rapidly. According to recent projections from the US Census Bureau (2012), the population of adults aged 65 and older will more than double in size by 2060 (from 43.1 million in 2012 to 92.0 million). As a result, more than ever it is critical to consider the implications of this change, one of which is the caregiving that will be necessary for older adults, and the health implications for other older adults who provide this care given the rising age of caregivers in the United States (National Alliance for Caregiving 2009).

From a stress process standpoint, caregiving in later life is worrisome since stress and strain are common among caregivers (see Vitalino, Zhag and Scanlan 2003 for review), and studies have linked adverse health outcomes (Pinquart and Sorensen 2003; Son et al. 2007) to caregiver status. At the same time, a large body of research documents stressful life circumstances as an antecedent to subsequent status-based health disparities, including those based on gender (Ingersoll-Dayton et al. 1997; Pearlin et al. 2005; Cornwell et al. 2009). While much of the previous work on caregiving has focused on sample of middle-aged adults, the literature documents that historically, women have provided the bulk of care to the elderly (see Pinquart and Sorensen 2006 for review), suggesting that women may experience greater exposure to caregiving-related stresses and strains in later life. Furthermore, research also indicates that women report greater stress and strain from caregiving as compared to men who provide care (Yee and Schulz 2000), suggesting that women may be particularly vulnerable to this type of stress. More generally, studies have documented gender differences in mental health (Kawachi and Berkman 2001), and in other characteristics of older adults lives (work, family,

etc.) that may influence the relationship between caregiving and mental health and emotional well-being (Pinquart and Sorensen 2006).

By drawing on data from the National Social Life, Health, and Aging Project (NSHAP), which contains rich information on the health and social lives of older adults (aged 63+ at Wave 2), this project explores these issues by asking the following questions. First, among older adults, what are the characteristics of caregivers? In other words, who cares – and do the characteristics of caregivers differ among older men and women? Second, do specific aspects of the caregiving relationship (e.g. frequency of care provided) predict emotional strain among older adult caregivers? And third, given the gendered nature of caregiving as well as established gender-based disparities in mental and emotional health, does the caregiving-emotional strain relationship differ between older men and women?

## **1.2 Caregiving and Mental Health**

Although a number of past studies have explored the impact of caregiving on mental health (e.g., Pruchno and Potashnik 1989; Butterworth, Pymont, and Rodgers 2013; Wadhwa et al 2014), the growing aging population in the U.S. highlights the importance of re-visiting this link. Not only is the population of older adults increasing, but the number of older caregivers is increasing as well. Approximately 65.7 million adults (roughly 29% of the US adult population) report that they have provided care for a sick or disabled family member in 2007 (National Alliance for Caregiving 2009), a large increase from the estimated 15 million adults who provided care to family members in 1993 (Shulz 1995). Recent reports also show that both caregivers and recipients of care are getting older: the mean age of caregivers rose from 46.4 to 49.2 years between 2004-2009, an increase largely attributed to the rising number of caregivers aged 50-64 (National Alliance for Caregiving 2009). At the same time, the allocation of time

spent caregiving appears to increase with age among older adults. Overall, some 20% of adults aged 45-59 are caregivers (the highest incidence of any age group), but older adults ages 80-89 have the highest level of time commitment in caregiving compared to other age groups (Dahlberg, Demack, and Bambra 2007). Thus, while older adults do not necessarily make up the bulk of persons who are caregivers, caregiving frequency is quite high among older caregivers.

Age is not the only relevant status characteristic in determining “who cares.” Perhaps unsurprisingly, studies have long documented that a greater proportion of women than men provide caregiving services to others (Lee and Tang 2013; Miller 1990; Miller and Cafasso 1992), and that women are increasingly likely to become caregivers as they age, a trend that occurs across birth cohorts (Moen, Robinson, and Fields 1993). Partially explaining the higher proportion of women who are caregivers is “gender matching”, wherein adult children have a higher likelihood of providing care to parents of their own gender, and older adults have a higher likelihood of receiving care from children of their own gender (Lee, Dwyer, and Coward 1993). This notion of “gender matching” is meaningful, given that the large proportion of older adults who require care are mothers and, thus, older women may be more likely to be involved in caring for their aged parents (or their children or siblings) than older men.

Despite the evidence that historically women have been the ones who care and that female caregivers perform more tasks and spend more time on caregiving than male caregivers (see Pinquart and Sorensen 2006 for review), some evidence suggests that this general pattern may not be true among older adults. For example, studies have demonstrated that no gender differences exist among older adults aged 65 and over in terms of intensity of caregiving tasks (see Ingersoll et al 1996 and Maher and Green 2002 for examples). Furthermore, a study by Dahlberg and colleagues (2007) demonstrated that while women committed more time to

caregiving as compared to men at earlier time points in the life course, this pattern reversed after age 70, wherein older men committed greater time to caregiving than women -- underscoring the role that age plays in determining the gender pattern in caregiving. This may be a reflection of changing demographic patterns and norms as well as an age or cohort difference, given that recent statistics do show a steady increase of male caregivers overall, rising from 25 to 39 percent of adults between 1987 and 2004 (National Alliance for Caregiving 2004). While changes in the population and the cohorts who are taking on caregiving as a role may be shifting, and exploration of this is an important descriptive endeavor, equally important are the questions that emerge after determining who cares. Specifically, it is critical to establish if caregiving is a role that is positive or negative in its relationship to the lives of caregivers themselves.

### **1.3 Caregiving as a Stress Process**

A prevailing explanation for why caregivers might lag behind their non-caregiving counterparts in terms of mental and emotional health status is stress. An ever-evolving literature provides evidence about the mechanisms through which psychosocial stressors accumulate and damage health and well-being across the life course (Pearlin 1989; Thoits 2010). Overall, this body of work suggests that a stress proliferation process, in which stressful circumstances give rise to additional stress, is a key vehicle through which stress damages both physical and mental health and shapes the aging process (Pearlin 1999; Pearlin et al. 1981, 2005; Thoits 2010; Turner et al. 1995; Wheaton 1999). It is important to note that the burden of caregiving and subsequent stress induced is multidimensional and reflects a constellation of complex relationships (Zarit 1989). Within the caregiving literature, scholars view stress as a product of interconnected factors ranging from social characteristics (e.g., socioeconomic status) as well as the stressors caregivers are exposed to across a variety of dimensions (including both role-related stressors

and stressors not related to caregiving; see Pearlin et al. 1990). As described by Thoits (1995), three major forms for stressors identified in the literature are life events (acute changes that occur in a relatively short period of time), chronic strains (more pervasive demands that persist over a long period of time), and strains and daily hassles (smaller events that occur in a given day). Presumably, the caregiving role could encompass any of these three. For example, caring for someone in mental decline, such as someone who has Alzheimer's, would be an example of a type of caregiving that likely includes chronic strain given the duration with which people suffer from these conditions. Additionally, merely knowing that someone close to you is in failing health or experiencing decline can cause strain (Amirkhanyan and Wolf 2003; Schulz, O'Brien, Bookwala and Fleissner 1995).

The notion of caregiving as a stress process has been long established (Pearlin et al. 1990) and a large body of work has concluded that caregivers report higher levels of stress, strain, and depression as compared to their non-caregiving counterparts (Schulz, Wisintainer and Williamson 1990; Schulz et al 1995; Pinquart and Sorensen 2003). Further, caregiving stress has been linked to a host of mental health outcomes, including depressed mood (Marks et al 2002; Lu and Wylke 2007) and poorer overall psychological health (Bookwala 2009), and rates of clinical depression are significantly higher among caregivers as compared to the general population (Neundorfer 1991; Wright Clipp and Geore 1993). The stresses and strains experienced by caregivers straddle multiple domains of their health and social lives. For example, caregivers often report strains such as feeling of tiredness, trouble with sleep, and emotional resentment (Grbich, Parker, and Maddocks 2001). Financial strains are also common among caregivers. A study of those providing care with moderate-to-high needs indicated that about 10% of family income, on average, was directed towards health care related costs



(Emanuel, Fairclough, Slutsman, and Emanuel 2000). Notwithstanding, the mental and emotional cost of caregiving is quite high and, among caregivers, their work has been linked to both depressive symptoms and social isolation (Sherwood et al. 2005). The isolation experienced by caregivers is particularly concerning, given the link between social support and health (Gruenewald and Seeman 2010), both directly and as a buffer to difficult life circumstances and stress (Kawachi and Berkman 2001).

Studies have built upon this general stress and strain framework and have also found that gender is salient in determining health outcomes among caregivers. Some research conducted with middle aged adults has shown that women experience higher costs to mental health as a result of caregiving when compared to men (Ingersoll-Dayton and Raschick 2004), a finding that applies across multiple dimensions including burden, stress, and depression (Neal et al 1997; Yee and Schulz 2000). A review of caregiving studies found that middle aged women caregivers reported more psychiatric symptoms compared to their male counterparts (Yee and Schulz 2000). Overall, these patterns suggest that women experience greater burden and psychological distress as compared to male caregivers (see Miller and Cafasso 2002; Montgomery 1992; Stoller 1992, Yee and Schulz 2000 for reviews) a difference that may be driven by the fact that lower status groups, including women, are often coerced into the caregiving role (Glenn 2010) and as such may feel burdened by a role they didn't choose. While this overall trend of deleterious effects to mental health associated with caregiving is enduring (by gender and among caregivers in general), the vast majority of studies (including those cited here) focus on caregivers who are predominantly middle aged; as such, it is unclear if these findings are applicable to older adults serving as caregivers.

Beyond establishing that caregivers experience higher levels of strain and poor mental health relative to caregivers, research to date also indicates that the link between caregiving and mental health is dependent on a number of features of the caregiving relationship. For example, with respect to relationship type (e.g. spousal, sibling, parent-in-law), Marks and colleagues (2002) show that caregivers to parent-in-laws do not experience negative mental health outcomes (a finding which held true for both women and men caregivers), whereas providing care to a parent was associated with increased depression in women but not men. Other work also finds that providing care to parents is associated with depression among women but not men (Amirkhanyan and Wolf 2006; Schultz 1995). Studies documenting gender differences in mental and emotional health linked to caregiving relationship type do seem to be limited to work on parents or parents-in-law; however, other work that has not taken into account variation by gender has explored how caregiving relationship type and strain are linked. Indeed, beyond providing care for parents, studies show that caring for a child can uniquely result in strain, given that this is often a life-long obligation (i.e., a chronic strain) and as such is a cumulative burden that has been described as a chronic sorrow (Boss 1999; Pejlert 2001). Further, those caring for someone closer to their own age, such as a sibling, may incur strain secondary to balancing other concurrent roles, including potentially caring for their own children and aging parents (Hatfield and Lefley 2005). This notion is supported by work that has found that siblings reported more burden than those who care for a child (Greenberg, Seltzer, Krauss, & Kim, 1997). Altogether, these studies suggest that the type of caregiving relationship older adults report may be differentially associated with reports of emotional strain.

When considering the reason for providing care, studies have found differences between the mental health outcomes of Alzheimer's/dementia and non-Alzheimer's/dementia caregivers –

specifically, that Alzheimer's/dementia caregivers have significantly higher likelihood of depression as compared to their non-caregiver counterparts (Dura, Stukenber, & Kiecolt-Glaser 1991). While those who provide care to a person with dementia experience differential health outcomes, they also tend to provide more hours of care and report greater strain than non-dementia caregivers (Ory et al 1999), illustrating that features such as intensity of care provided might explain why this type of caregiving has been negatively linked to mental health.

Among those who are Alzheimer's/dementia caregivers, gender differences in mental health outcomes also appear to exist. One study of spousal Alzheimer's caregivers found that wives experienced significantly worse mental health than husbands (Hooker et al 2000). More generally, studies have consistently shown that women who are Alzheimer's caregivers report greater burden as compared to their male counterparts (Lutzsky and Knight 1994; Rose-Rego, Strauss and Smyth 1998; Williamson and Schulz 1990; Akpınar, Küçükgüçlü, and Yener 2011). However, it should be noted that these studies examined adult caregivers in general, not giving specific attention to whether and how these patterns hold among older adults.

#### **1.4 Data and Methods**

To explore relationships between caregiving and mental health among older adult caregivers, I draw on a sample of older adults using the second wave of data from the National Social Life, Health and Aging Project (NSHAP), collected from August 2010 through May 2011. The NSHAP is a nationally representative, population-based study that includes information about health and social factors among a sample of community-dwelling (those who reside in non-nursing home, hospital, or other institutional dwellings) older Americans (Waite et al 2008). Survey data was collected via in-person interviews and a leave behind questionnaire. A multistage area probability design with oversampling by age and gender was used to select

respondents; this process resulted in comparable distributions across gender and three age categories (Cornwell et al 2008). Information collected included physical health and functioning, mental health, social relationships and other social factors, and demographic information. Wave 1 of the NSHAP was excluded from this analysis for two key reasons. First, Wave 2 data included an additional measure of emotional strain among caregivers that was not present at the initial wave. Further, initial examination of both the Wave 1 and 2 data showed that older adults in the sample experienced few changes on the variables of interest across the two waves of data collection – as such, an analysis focusing on change across waves was not feasible.

In all, 3,377 interviews were conducted with older adults aged 63 and older at Wave 2; however, for all analyses I limited the sample only to those who identify as caregivers (n=533). Missing data on variables relevant to this study were handled using multiple imputation (MI) in Stata 13.0 via chained equations to generate 10 MI datasets which were used for all reported descriptive statistics and regression models, guided by the assumption that the values are missing at random or missing completely at random (see Little and Rubin 2002).<sup>1</sup>

#### **1.4.1 Measures**

The dependent variable for this study is self-rated mental or emotional strain related to caregiving. This measure is based on a single question, posed only to those who self-identified as a caregiver, that asked respondents to rate how much mental or emotional strain they experienced specific to their role as a caregiver (where 0= no strain, 1=some strain, and 2= a lot of strain).

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<sup>1</sup> Missing values were under 10% of cases for all but the household income measure (where missing cases = 24.3%). Consistent with prior work (see Langkamp et al. 2010), multiple imputation was used since it is a preferred technique with the percentage of cases with missing values fall in this range.

The independent variables of interest are *caregiving characteristics*. This includes the age of the person cared for (continuous, top coded at 85+) and the reason care needs to be provided (1=Alzheimer's/Dementia, 0=non-Alzheimer's/Dementia). A measure of frequency of care provided is also included as the number of hours per week that care is provided (range: 1-56). This measure was calculated by multiplying the respondent's reported days per week of care provided by their reported hours per day of care provided. Finally, a measure of the relationship to the person being cared for is included with dummy variables (parent [reference], spouse, child/grandchild, and other).

*Demographic characteristics* include gender (1 = female, 0 = male), age at interview (range: 63-85+), and self-reported race/ethnicity (non-Hispanic white [reference], non-Hispanic black, and all others). I also adjust for a number of other potential confounders in my regression models; given that past works document financial strain among caregivers, as well as the importance of SES characteristics in shaping mental health outcomes more generally, I include three measures of *socioeconomic status*: education (less than high school [reference], high school graduate, some college, and college graduate), total household income (based on respondent self-report and measured continuously), and retirement status (1 = currently retired, 0= otherwise).

Additionally, I include measures of *stress and stress-related behaviors* that extend beyond the caregiving relationship itself. This includes two measures of behavior that are related to stress coping, since prior work has documented that although men and women report greater psychological distress when faced with high stress (Turner and Lloyd 1999), the stress coping process differs by gender. Specifically, women are more likely to internalize psychological distress while men are more likely to externalize psychological distress (which partially explains why men are more likely to smoke or use drugs or alcohol as stress exposure increases; see

Rosenfield and Mouzon 2013). Additionally, the bulk of studies find that men participate in health behaviors that are more harmful than women, including smoking and heavy drinking (Read and Gorman 2010). As such, I control for smoking status (contrasting former smokers and current smokers against nonsmokers), and alcohol use (contrasting respondents who abstain from alcohol [reference] from those who describe themselves as former drinkers or current drinkers). I also include a measure of general stress to account for the internalization of stress, which is a modified version of Cohen's Perceived Stress Scale (see Shiovitz-Ezra et al. 2009). The measure is a constructed average of four questions ( $\alpha = .63$ ) that asked how often respondents felt, during the past week, that they were unable to control important things in their life, to handle personal problems, that difficulties were piling up, and that things were not going their way (where 1 = most of the time, and 4 = rarely or never).

Last, I control for measures of *social networks and support*, since studies have shown that these factors can influence the consequences of caregiving for mental health (Thompson et al 1993; Erg et al 2002). This includes marital status (married or cohabiting [reference], divorced or separated, widowed, and never married), as well as the number of friends and the number of close family members reported by the respondent (range for both measures: 0-5, where 0=none, 1=1, 2=2-3, 4=4-9, and 5=10-20+).

### **1.4.2 Analyses**

Following a descriptive analysis of the sample of caregivers (pooled and stratified by gender), I used ordered logistic regression (reporting odds ratios) to test how caregiving characteristics relate to emotional strain. This allowed me to examine whether the characteristics of the caregiving experience (e.g. frequency of caregiving, reason care is provided) are related to emotional strain among older adults who are themselves caregivers. As with the descriptive

analyses, the ordered logistic regression models were run with both the pooled sample and with gender stratified samples. All analyses were weighted and run in Stata 13.0, using SVY commands to adjust for the complex NSHAP sample design.

## **1.5 Results**

### **1.5.1 Sample Characteristics**

Table 1 presents sample characteristics (weighted means and percent values) in three columns: the full caregiver sample (n=533), male caregivers (n=232), and female caregivers (n=301). Looking first at emotional strain related to caregiving, we see that the average reported within the full sample is about 0.7, indicating relatively low strain on average among older adult caregivers. However, this value does differ significantly between men and women, with women reporting higher strain (0.8) and men reporting slightly lower strain (0.5) related to caregiving.

In terms of caregiving frequency, care is provided an average of about 14.4 hours per week, with women providing significantly more care than men (15.7 and 12.7 hours respectively). Most caregivers are also providing care for a person with a condition other than Alzheimer's or dementia. Table 1 also shows that the most common caregiving relationship type is actually to someone listed as "other" (perhaps a more distant relation, at 38.6%), but that said about one-third are providing care to a spouse. There is no statistically significant difference by gender in caregiving relationship type. The mean age of those they care for is about 76 years of age, again, with no evidence of difference by gender on this variable.

In terms of demographic characteristics, 56.8% of older caregivers are women. The mean age of the full sample of caregivers is 70.8, just six years younger than the mean age for those they care for, and the age gap between men and women caregivers, while small, is statistically significant, with men being slightly older than women. Additionally, some evidence of gender

difference exists among the measures of socioeconomic characteristics. In particular, 69.1% of respondents are retired, with significantly higher rates of retirement seen among male caregivers than female caregivers (77.4% and 62.9% respectively). The majority of the caregivers have at least a high school education, and perhaps unsurprisingly for the cohort, a significantly larger percentage of men are college graduates (31.5%) compared to women (18.1%).

In terms of measures of stress and stress related behaviors, the mean general stress level is 2.3 among caregivers (scale 1-4), corresponding to moderate-to-low stress. Across the behavioral measures of stress, we see that 32.4% of caregivers are former drinkers and 50.1% of caregivers are current drinkers, while 42.6 % of the full sample is a former smoker and 15.1% of the sample is a current smoker. Across all levels of the smoker and drinker status variables, there are significant differences by gender such that a higher percentage of men are current or former drinkers or smokers than women.

For coping related networks and resources, similar to other studies of older adults we see that while the bulk of caregivers are married or cohabitating (77.1%), this percentage is significantly higher among men (85.4%) than women (70.8%). This gender difference is reflected by the significantly higher percentage of women who have transitioned to widowhood (18.3% of women compared to only 4.6% of men). In addition, on average caregivers in the sample report 2.9 on the close relatives scale and 3.6 on the close friends scale, corresponding to about four or more friends and family members each. There is little variation in the composition of social networks by gender as men and women report comparable number of close friends and family members and the slight differences in these values are not significantly different.



### **1.5.2 Regression Models: Full Sample of Older Caregivers**

Next, I present odds ratios from the ordered logistic regression models for the full sample of older caregivers in Table 2. The baseline model (Model 1) includes only characteristics of the caregiving relationship and shows that being an Alzheimer's/dementia caregiver, providing a greater number of hours of care, and caring for a spouse or child/grandchild (relative to caregiving for a parent) are all positively associated with emotional strain.

Model 2 adds demographic characteristics to Model 1, and we see that the positive association between being an Alzheimer's/dementia caregiver persists. The positive association between providing a greater number of hours of care, and caring for a spouse or child/grandchild, also remains significant. Additionally, Model 2 reveals that being female is significantly and positively associated with emotional strain. In Model 3, I add controls for socioeconomic characteristics; being a high school graduate is marginally, but significantly, related to emotional strain when compared to those who did not finish high school. However, adding these controls did not explain away the main effects described above for caregiving characteristics, or gender, on emotional strain.

Next, in Model 4 I add controls for measures of stress and coping-related behaviors; none are significant predictors of emotional strain related to caregiving in the full sample. Finally, in Model 5 I add measures of coping-related resources and see that only the number of close relatives significantly (although marginally so) predicts emotional strain, such that having a higher number of close relatives is associated with lower emotional strain. This model (the full additive model) also reveals that the relationship between emotional strain and serving as an Alzheimer's/dementia caregiver, as well as caregiving for either a spouse or child/grandchild, are not explained-away by the inclusion of any of the measures listed in Table 2.

### 1.5.3 Regression Models: Differences by Gender

Following the main effects presented in Table 2, I also tested whether the relationship between caregiving status and mental health is dependent on gender (i.e., that the relationship operates differently for older men and women). To do this, I stratified the sample by gender and in Table 3 display odds ratios predicting emotional strain using the same model building sequence discussed above. Post hoc tests for the equality of coefficients were also run to determine if the odds ratios for men significantly differed from the odds ratios for women across models (Clogg, Petkova, and Haritou 1995); significant gender differences between any given odds ratio are reflected with bolded coefficients in the corresponding model for men.

The results in Table 3 provide evidence of gender difference in three key areas of caregiving: reason care is provided, age of the person being cared for, and relationship type. First, in row one we observe the effects of being an Alzheimer's/dementia caregiver, where results show men are strained more than women by performing this caregiving task. Indeed, across models we see that serving as an Alzheimer's/dementia caregiver is significantly and positively associated with greater emotional strain, and that post hoc tests for the equality of coefficients confirmed that these odds ratio for men differ significantly for the corresponding odds ratios for women (where Alzheimer's/dementia caregiving was not significantly related to emotional strain in any model). Further, while none of the measures in Table 3 explained-away the relationship between caring for a person with Alzheimer's/dementia among men, we do see some main effects of these measures on emotional strain for older men and women.

Second, we observe the effects of the age of the person being cared for. Here, we note that among men, older age of a person being cared for is associated with significantly lower odds of emotional strain. Further, tests of equality of coefficients confirmed that these values do differ

significantly from those shown in the models for women (none of which were significant). This result makes sense when coupled with the third main finding of Table 3: the link between mental strain and relationship type. Here, we see difference in the gender pattern of significance between the adjusted and unadjusted models. Namely, we see an effect that is significant for women in the unadjusted model, but after adding controls, this pattern flips and is significant for men. Thus, while both men and women experience higher odds of emotional strain when caring for either a spouse, child/grandchild, or “other” category person (as compared to a parent), these odds ratios are only significant among men. However, it should be noted that the cell sizes are quite small and as such, these results here are tentative and need replication by another study.

Further, additional tests revealed that the values for child/grandchild and “other” category caregiver do significantly differ by gender.

In general, Table 3 does confirm the patterns shown in Table 2 for hours of care provided (i.e., that more frequent care is positively associated with emotional strain among older men and women) – although note that the smaller samples sizes for models here relative to the results of Table 2 complicates the patterns of significance somewhat, but post-hoc tests confirm no gender difference in these relationships to emotional strain. However, more robust evidence of gender difference is found among the control measures for socioeconomic characteristics, stress and stress-related behaviors, which are significant only in models for men (and post hoc tests confirm this gender difference across models in how these characteristics relate to emotional strain). Thus, in sum, Table 3 shows that the key differences between older men and women caregivers in how aspects of caregiving associate with emotional strain are the reason care is provided, the age of the person being cared for, and relationship type. However, perhaps the most major difference relates to men’s heightened vulnerability to emotional strain when they provide care

to a person suffering from Alzheimer's or dementia – a risk not experienced by older women caregivers in this sample.

## **1.6 Conclusion**

Given the rapid aging of the U.S. population it is more important than ever to consider aspects of the lives of older adults. Because recent work suggests that the age of caregivers is increasing (National Alliance for Caregiving 2009) and that older adults experience significant time commitments related to caregiving (Dahlber, Demack, and Bambra 2007), I explored how aspects of the caregiving relationship related to emotional strain among older adults serving as caregivers. I also investigated whether these relationships operate differently by gender, given the established gender differences in likelihood to providing care (Miller 1990; Moen, Robinson, and Fields 1993), and in mental and emotional health more generally (Ingersoll-Dayton and Raschick 2004; Neal et al 1997; Yee and Shulz 2000).

I began the analysis by first descriptively evaluating the characteristics of older caregivers. While there is a lack of consensus in the literature about the gender pattern in caregiving by age, when it comes to answering the question “who cares?” among this sample of older adults, the majority of caregivers are women and are married. This gender pattern is consistent with work that documents about 65% of family caregivers in the U.S. are women (National Alliance for Caregiving and AARP 2009) as is the finding that caregivers are typically married (Clark and Weber 1997). Further, given that most caregivers in this sample are providing care for a more distant relation or friend (i.e., someone other than a spouse, parent, or child/grandchild), and are likely to be married, this perhaps suggests that older adults are a different kind of caregiver. As shown in Table 1 they enjoy relationships with both friends and relatives, which is consistent with work on the full NSHAP sample (see Cornwell, Laumann, and

Schumm 2008 for example). The data from this study suggests that these social relationships are important enough to the respondents that they are willing, in significant numbers, to provide care to more distant relatives and friends.

The descriptive analyses also revealed gender differences in the characteristics of who provides care in later life. Particularly, women caregivers reported significantly higher emotional strain related to caregiving, and they provided significantly more hours of care per week as compared to men who caregive, a finding consistent with past research (National Alliance for Caregiving and AARP 2009; Pinquart and Sorensen 2006). The higher strain reported by women is perhaps unsurprising given that women caregivers in this sample lagged behind men in almost all measures of SES, and in particular a significantly lower percentage of women are retired. Thus, women in this sample may experience strain from serving both as caregivers and labor force participants. Further, a significantly higher percentage of women were widowed, which may further explain their higher reported strain since prior work documents that factors associated with widowhood influence psychological distress (Umberson, Wortman, & Kessler, 1992). Thus, there are many aspects of the lives of women who care, from their social network composition to their economic circumstances, which may contribute to their greater reported strain as compared to men who care.

In addition to the descriptive aims of this paper, I also tested whether caregiving characteristics were significantly related to reports of emotional strain among caregivers. Pooled models revealed that an increased odds of emotional strain is associated with the frequency of care provided, the type of care provided (i.e., when the care provided is for those experiencing substantial mental decline), and the person that care is being given to (i.e., when the person is a child/grandchild or spouse). These findings are perhaps unsurprising given the specific nature of

this outcome (namely, emotional strain tied directly to caregiving) and because other works (not focused on older adults) have also established a link between caregiving and emotional strain (Pierce et al 2012). Further, this is in line with previous work that documents caregiving as a stress process (Pearlin et al. 1990), but it also relates to work on specific aspects of the caregiving relationship. Studies of Alzheimer's/dementia caregivers have shown that these caregivers provide more hours of care, experience greater subsequent strain, and suffer from poor mental health (Dura, Stukenber, & Kiecolt-Glaser 1991; Ory et al 1999). Findings such as these show that the reason care is being provided, and the amount of care being provided, are linked.

Additionally, the present study builds upon previous projects and demonstrates the importance of examining the complexity of the caregiving relationship beyond being a caregiver per se when evaluating emotional health outcomes; namely, the complexity with the respect to the person for whom care is being provided. As noted above, older adult caregivers are likely to be well networked, married older adults. Thus, the effect of experiencing greater strain if the person you care for is close to you (as in a child/grandchild or spouse) may be related to the difficulty of caring for someone inside of your immediate network. In these cases, caregivers may experience loss of the usual social support, accounting for some of their strain.

The gender implications of this project, discussed in the descriptive findings, were again highlighted in the regression results. Particularly when looking at the reason care is provided, surprising results were found as being an Alzheimer's/dementia caregiver predicted greater emotional strain for men than women, which is different than the gender pattern found in studies of middle aged caregivers (e.g., Yee and Schulz 200). Thus, it seems that who cares (in terms of caregiver age) when coupled with why they care is meaningful enough to shape the gender

patterns for mental health outcomes. While studies among samples of primarily middle aged respondents have consistently shown that women who are Alzheimer's caregivers report greater burden than men (Lutzsky and Knight 1994; Rose-Rego, Strauss and Smyth 1998; Williamson and Schulz 1990; Akpınar, Küçükgüçlü, and Yener 2011), the role of coping may explain why in this study older men appear to be more harmed by their role as an Alzheimer's dementia caregiver. Studies of Alzheimer's caregiver have documented that men and women caregivers make use of different coping strategies (Parks and Pilisuk 1991), that women use more effective coping strategies to deal with psychological problems (Barusch and Spaid 1989), and that men who are Alzheimer's/dementia caregivers report more emotional investment as compared to women serving as Alzheimer's dementia caregivers (Pruncho and Resch 1989). As such, it may be that men in this sample were more emotionally invested than their female counterparts in providing this type of care, but simultaneously ill equipped to cope with their role as Alzheimer's/dementia caregivers. As a result, while women do report overall worse mental strain, men suffer more deleterious effects specific to this type of (often intensive and chronic) care.

Another explanation for this finding may lie in the cross-sectional nature of this study. Longitudinal studies of Alzheimer's/dementia caregivers have found that while women report worse mental health outcomes early on, men experience a worsening of their mental health over time while women's mental health remains relatively stable (Schulz and Williamsn 1991; Zarit, Todd, and Zarit 1986). Thus, due to the chronic nature of the stresses involved with Alzheimer's/dementia care, it may be that the current findings for men reflect outcomes associated with long-term care among this group. Thus, an important (but unavoidable) limitation of this study is that the relationship between caregiving characteristics and emotional

strain is evaluated at just one point in time. More generally, the NSHAP did not ask respondents how long they have been caregivers. Thus, I have no way of truly establishing causal order between caregiving and mental/emotional health.

Another contribution of this study is the pattern of gender difference found with respect to the age of the person being cared for and the relationship to the person being care for. Results showed that older men experience lower odds of strain as they age of the person they are caring for increases, which dovetails with their higher odds of strain when caring for a child/grandchild or “other” category person (as compared to a parent). Perhaps greater strain is incurred when men are caring for those who they are surprised to have to care for, such as younger siblings or children. Indeed some work has suggested that caring for parents is seen as a normative type of stress (Brody 1985) and thus may not cause great emotional strain. Further, work that has explored caregiving to parents by gender has found that sons do tend to have less stressful caregiving experiences compared to daughters (Horowitz 1983). Coupling this work with the results of the present study, we can perhaps conclude that more normative types of caregiving are less likely to cause strain – and may further extrapolate that this is because the caregiving role is expected or anticipated in these situations. This type of logic may shed light on why women in this study do not seem to experience significantly high odds of emotional strain: women in this sample have likely been anticipating being caregivers and may have resources in place or the emotional fortitude to cope with this social role. While the data prohibits the possibility of exploring this finding further, future work would benefit from data collection efforts that include information on factors such as feelings of readiness to take on the caregiving role or perceived ability to cope with the caregiving role.



There are additional limitations that one should keep in mind when interpreting the findings from this study. First, the sample of caregivers included in the NSHAP is relatively small. Future work should replicate these results by making use of datasets that have larger samples of caregivers to explore how mental health relates to aspects of the caregiving relationship among older adults. Another consideration to note is the age of the sample and who was eligible to interview for the NSHAP at Wave 2 – as the sample is aged 63 and over, only those who are still living and are healthy enough to interview are included in the sample. Thus, the NSHAP sample represents older adults who are perhaps more healthy and resilient than the general population of older adults.

That said, these results do further understanding of who caregivers are among older adults and how aspects of the caregiving relationship relate to emotional health by highlighting relationships that focus on an age group than is typically not specifically considered in caregiving studies: older adults. Although quite a bit of work has explored the relationship between caregiving and mental health (e.g., Pruchno and Potashnik 1989; Butterworth, Pymont, and Rodgers 2013) considerably less has been done with respect to caregivers who are themselves older adults, despite the growing size of this population. This demographic change, coupled with the results of the present project that underscore the role of mental health in relation to caregiving, makes this a timely topic. Further, this study brings to light the notion that gender patterns in terms of who provides care, and the consequences of providing this care observed in studies of middle aged adults, may not be applicable to populations of older adults. Additional studies that continue to consider multiple dimensions of mental health related to the caregiving role among older adults, particularly with respect to gender difference, are needed.

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## Appendix

**Table 1. Sample Characteristics: Percent and Mean Values (Standard Deviations)**

	All Caregivers (n=533)	Male Caregivers (n=232)	Female Caregivers (n=301)
Mental Strain	0.7 (0.6)	0.5 (1.01)***	0.8 (0.6)
<b>Caregiver Characteristics</b>			
Alzheimer's/Dementia Caregiver	11.5%	11.9%	11.2%
Age of Person Being Cared for	76.2 (15.4)	76.2 (15.3)	76.3 (15.6)
Hours per Week Provides Care	14.4 (12.6)	12.7 (12.4)**	15.7 (12.6)
Relationship to Person Caring for			
Spouse	35.2%	34.9%+	35.6%
Parent	17.6%	18.1%	17.2%
Child/Grandchild	8.6%	7.4%+	9.4%
Other	38.6%	39.7%	37.8%
<b>Demographic Characteristics</b>			
Female	56.8%	---	---
Age	70.8 (8.0)	71.8 (7.6)***	70.1 (8.2)
Race/Ethnicity			
Non-Latino White	81.8%	82.1%+	81.6%
Non-Latino Black	12.4%	11.5%+	13.1%
Other Race	5.8%	6.4%	5.4%
<b>Socioeconomic Characteristics</b>			
Education			
Less than High School	16.5%	19.4%+	14.2%
High School Graduate	24.5%	24.2%	24.8%
Some College	35.1%	24.9%***	42.9%
College Graduate	23.9%	31.5%***	18.1%
Income	54317.0 (77959.6)	59275.6 (68906.8)	50547.6 (84262.8)
Retired	69.1%	77.4%***	62.9%
<b>Stress and Stress-Related Behaviors</b>			
General Stress	2.3 (.6)	2.3 (.6)	2.4 (.6)
Drinker Status			
Lifetime Abstainer	17.5%	9.5%***	23.5%
Former Drinker	32.4%	37.4%***	28.6%
Current Drinker	50.1%	53.1%***	47.9%
Smoker Status			
Never smoked	42.3%	32.1%***	50.2%
Former Smoker	42.6%	51.8%***	35.6%
Current Smoker	15.1%	16.1%***	14.3%
<b>Social Networks and Support</b>			
Marital Status			
Married/ Cohabiting	77.1%	85.4%***	70.8%
Divorced/Separated	7.8%	6.5%***	8.8%
Widowed	12.4%	4.6%***	18.3%
Never Married	2.7%	3.5%	2.1%
Number of Close Relatives	2.9 (0.9)	2.9 (1.0)***	3.0 (1.0)
Number of Close Friends	3.6 (1.1)	3.6 (1.1)***	3.5 (1.1)

NOTE: Standard Deviations in Parentheses. Starred values are those that are significantly different between men and women, +p ≤ .10, \*p ≤ .05, \*\*p ≤ .01, \*\*\*p ≤ .001.

**Table 2. Odds Ratios Ordered Logit Models Predicting Emotional Strain Among Caregivers (n=533)**

	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Caregiver Characteristics</b>					
Alzheimer's/dementia caregiver	1.96+	2.26*	2.14*	2.19*	2.23*
Age of person being cared for	1.00	1.00	1.00	1.00	1.00
Hours per week of care	1.03*	1.03*	1.03*	1.04*	1.04*
Relationship (Ref: Parent)					
Spouse	2.22*	2.40*	2.34*	2.40*	2.16*
Child/Grandchild	3.51*	3.19*	3.53*	3.45*	3.71*
Other	2.52	3.09+	3.26+	3.23	3.15
<b>Demographic Characteristics</b>					
Female		2.02*	2.02*	1.97*	2.10*
Age		0.97	0.99	0.98	0.99
Race/Ethnicity (Ref: Non-Latino White)					
Non-Latino Black		0.74	0.82	0.85	0.94
Other Race		0.50	0.58	0.58	0.6
<b>Socioeconomic Characteristics</b>					
Education (Ref: Less than High School)					
High School Graduate			1.98	2.22+	2.10+
Some College			1.49	1.51	1.39
College Graduate			2.22+	2.30+	2.19+
Income			1.00	1.00	1.00
Retired			0.72	0.7	0.7
<b>Stress and Stress-Related Behaviors</b>					
General Stress				1.03	1.00
Drinker Status (Ref: Lifetime Abstainer)					
Former Drinker				0.94	0.94
Current Drinker				0.89	0.87
Smoker Status (Ref: Never Smoked)					
Former Smoker				1.02	1.00
Current Smoker				0.50+	0.49+
<b>Social Networks and Support</b>					
Marital Status (Ref: Married/Cohabit)					
Divorced/Separated					0.74
Widowed					0.83
Never Married					0.71
Number of Close Relatives					0.75+
Number of Close Friends					0.97

NOTE: +p ≤ .10, \*p ≤ .05, \*\*p ≤ .01, \*\*\*p ≤ .001 (two-tailed test).

**Table 3. Odds Ratios from Ordered Logit Models Predicting Emotional Strain Among Caregivers, by Gender**

	Male Caregivers (n=232)					Female Caregivers (n=301)				
	M1	M2	M3	M4	M5	M1	M2	M3	M4	M5
<b>Caregiver Characteristics</b>										
Alzheimer's/dementia caregiver	<b>3.57</b>	<b>3.91***</b>	<b>4.10</b>	<b>4.60***</b>	<b>5.06***</b>	1.21	1.43	1.19	1.30	1.48
Age of person being cared for	<b>0.98</b>	<b>0.98*</b>	<b>0.96</b>	<b>0.96***</b>	<b>0.95***</b>	1.01	1.02	1.02	1.02	1.02
Hours per week of care	1.03	1.04***	1.04	1.05***	1.05***	1.03***	1.03	1.03	1.03	1.03
Relationship (Ref: Parent)										
Spouse	2.57	2.67**	2.69	2.59**	2.57*	2.55***	2.50	2.55	2.94	2.46
Child/Grandchild	<b>3.23</b>	<b>3.08***</b>	<b>3.86</b>	<b>3.31***</b>	<b>3.93***</b>	6.05*	4.50	5.68	6.20	7.02
Other	3.43	<b>3.48*</b>	<b>1.96</b>	<b>2.06</b>	<b>2.53</b>	3.84***	5.56	6.73	6.63	6.53
<b>Demographic Characteristics</b>										
Age		0.98	0.99	0.97	0.97		0.96	0.99	0.98	0.99
Race/Ethnicity (Ref: Non-Latino White)										
Non-Latino Black		0.62*	0.73	<b>0.62+</b>	<b>0.84</b>		0.71	0.77	0.98	1.15
Other Race		0.56+	0.60	0.66+	0.78		0.40	0.51	0.51	0.55
<b>Socioeconomic Characteristics</b>										
Education (Ref: Less than High School)										
High School Graduate			<b>1.39</b>	<b>1.63*</b>	<b>1.35</b>			2.75	4.35	3.89
Some College			1.70	1.87**	1.36+			1.32	1.44	1.27
College Graduate			<b>2.80</b>	<b>3.61***</b>	<b>3.18***</b>			1.71	1.75	1.73
Income			1.00	1.00	1.00			1.00	1.00	1.00
Retired			<b>1.24</b>	<b>1.44</b>	<b>1.49</b>			0.55	0.51	0.49
<b>Stress and Stress-Related Behaviors</b>										
General Stress				<b>0.73*</b>	<b>0.72*</b>				1.25	1.17
Drinker Status (Ref: Lifetime Abstainer)										
Former Drinker				<b>1.82**</b>	<b>1.86**</b>				0.67	0.66
Current Drinker				1.00	0.86				0.94	0.93
Smoker Status (Ref: Never Smoked)										
Former Smoker				<b>0.68*</b>	<b>0.54*</b>				1.24	1.28
Current Smoker				0.37***	0.28***				0.30	0.31
<b>Social Networks and Support</b>										
Marital Status (Ref: Married/Cohabit)										
Divorced/Separated					<b>1.07</b>					0.65
Widowed					<b>1.07</b>					0.82
Never Married					<b>1.54</b>					0.21
Number of Close Relatives					<b>0.55***</b>					0.80
Number of Close Friends					1.13					1.00

NOTE: +p ≤ .10, \*p ≤ .05, \*\*p ≤ .01, \*\*\*p ≤ .001 (two-tailed test). **Bolded** odds ratios are those that are significantly different between men and women.