

THE EFFECTS OF CARE RECIPIENTS' COMPANION ANIMALS  
ON THE CAREGIVING EXPERIENCE

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THE EFFECTS OF CARE RECIPIENTS' COMPANION ANIMALS  
ON THE CAREGIVING EXPERIENCE

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a candidate for the degree of Doctor of Philosophy of Human Environmental Sciences, and hereby certify that, in their opinion, it is worthy of acceptance.

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## DEDICATION

This dissertation is dedicated to Mandy Pearson. She was amazeballs.

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## TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	ii
LIST OF ILLUSTRATIONS.....	v
ABSTRACT .....	vii
Chapter	
1. INTRODUCTION .....	1
Companion Animals in the Lives of Older Adults	
The Potential Impact of Care Recipients' Companion Animals	
2. LITERATURE REVIEW .....	8
Informal Caregiving for Older Adults	
Relational Moderators of the Associations between Companion Animals and Caregiver Outcomes	
Research Questions and Hypotheses	
3. METHODS .....	29
Sample and Procedure	
Measures	
4. RESULTS .....	44
Analytic Plan	
Research Question One	
Research Question Two: Direct Effects	
Research Question Three: Moderators	

5. DISCUSSION .....	54
Who Provides Care for their Recipients’ Companion Animals	
The Instrumental Impact of Care Recipients’ Companion Animals	
The Main Effects of Care Recipients’ Companion Animals on	
Caregiving Outcomes	
Relationships as Moderators	
Limitations	
Implications	
Conclusions	
REFERENCES .....	83
APPENDIX	
A. Online Survey Hosted by Qualtrics .....	112
B. Tasks and Activities Performed for Cats .....	141
C. Tasks and Activities Performed for Dogs.....	143
VITA.....	145

## LIST OF ILLUSTRATIONS

Figures	Page
1. THEORETICAL MODEL .....	95
2. HYPOTHETICAL MODEL .....	96
3. TWO-WAY INTERACTION EFFECTS OF CARE RECIPIENT-COMPANION ANIMAL BOND (PRS) ON THE ASSOCIATION BETWEEN PET CARE TASKS/ACTIVITIES AND CAREGIVER SATISFACTION .....	104
4. TWO-WAY INTERACTION EFFECTS OF MUTUALITY ON PET CARE TASKS/ACTIVITIES ASSOCIATION WITH BURDEN .....	106
5. TWO-WAY INTERACTION EFFECTS OF MUTUALITY ON PET CARE TASKS/ACTIVITIES ASSOCIATION WITH MASTERY .....	107
6. TWO-WAY INTERACTION EFFECTS OF MUTUALITY ON PERCEIVED COSTS ASSOCIATION WITH MASTERY .....	108
7. TWO-WAY INTERACTION EFFECTS OF CLOSENESS ON PET CARE TASKS/ACTIVITIES ASSOCIATION WITH SATISFACTION .....	110
8. TWO-WAY INTERACTION EFFECTS OF CLOSENESS ON PERCEIVED COSTS ASSOCIATION WITH SATISFACTION .....	111

Tables	Page
1. DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS AND THEIR CARE RECIPIENTS .....	97
2. COMPANION ANIMAL GUARDIANSHIP OF PARTICIPANTS AND THEIR CARE RECIPIENTS .....	98
3. PERCENTAGES AND FREQUENCY OF PET OWNERSHIP TASKS OR ACTIVITIES PARTICIPANTS PERFORMED .....	99
4. MEANS, STANDARD DEVIATIONS, AND CORRELATIONS BETWEEN MODEL VARIABLES .....	101
5. PET CARE TASKS ACTIVITIES AND COSTS OF PET OWNERSHIP AS PREDICTORS OF CAREGIVING OUTCOMES .....	102

6. CARE RECIPIENT-COMPANION ANIMAL RELATIONSHIP (PRS) AS MODERATOR OF THE ASSOCIATIONS BETWEEN PET CARE TASKS, COSTS, AND CAREGIVER OUTCOMES.....	103
7. MUTUALITY AS MODERATOR OF THE ASSOCIATIONS BETWEEN PET CARE TASKS, COSTS, AND CAREGIVER OUTCOMES .....	105
8. CAREGIVER-COMPANION ANIMAL CLOSENESS AS MODERATOR OF THE ASSOCIATIONS BETWEEN PET CARE TASKS, COSTS, AND CAREGIVER OUTCOMES.....	109

## ABSTRACT

This study examined the impact of older adults' companion animals on informal caregivers' instrumental and emotional experiences. Older adults report strong emotional bonds with their companion animals (specifically cats and dogs) which often become increasingly important as health declines and dependence upon others increases. Individuals requiring assistance meeting their own needs are likely to need assistance in meeting the needs of their companion animals. Consequently, the care recipient's companion animal may be an important, though presently overlooked, factor in the caregiving experience.

This study measured the amount of care tasks/activities informal caregivers of older adults devoted to their care recipients' companion animals. Role theory was used to model the impact of the companion animals (i.e., number of tasks/activities performed and caregivers' perceived costs of the companion animals) on the caregiving experiences of burden, satisfaction, and mastery. The results of this study found care recipients' companion animals do require the caregivers' resources of time, energy, and possibly finances. However, care recipients' companion animals may provide opportunities to facilitate role enhancement and caregiving mastery. Care recipients' companion animals are likely to impact both the instrumental and emotional experiences of informal caregivers for older adults.

## CHAPTER ONE

### Introduction

The role of informal caregiver for an older adult has become increasingly common one in the United States. Informal caregiving is defined as providing care for an individual without monetary compensation. Approximately 34.2 million people acted as an informal caregiver for an adult aged 50 or older in the United States within a one-year period (American Association of Retired Persons [AARP] & National Alliance for Caregiving [NAC], 2015). There was great variability in the number of hours providing care per week: while the average was 24.1 hours per week, 12% spent less than one hour and 22% provided 41 or more hours. The average duration of the caregiver role was 3.7 years (AARP & NAC, 2015). Demographic shifts that began in the twentieth century and continue today –specifically the increase in longevity, decrease in birthrate, and increased rate of divorce –have led to changes in who provides care, with an increase in non-kin caregivers (e.g., friends or neighbors; Ryan, Smith, Antonucci, & Jackson, 2012; Seltzer & Bianchi, 2013).

While informal caregivers may not be legal or consanguine family members (e.g., the care recipient’s spouse, adult child, or child-in-law), most have an established relationship (e.g., friend or neighbor) with their care recipients prior to taking on the role. These interpersonal relationships are only one of the many factors that shape the experience within the caregiver role. Other factors include the instrumental needs of the care recipient, the hours spent providing care per week, the cognitive status of the care recipient, and the support of others in meeting the emotional and instrumental needs of the care recipient. Although each of these factors has been addressed in the caregiving

literature (e.g., Pinqart & Sörensen, 2011; Schulz & Beach, 1999), one factor that has not been explored is the potential impact that the care recipient's companion animal (i.e., pet) may have on the caregiving experience.

### **Companion Animals in the Lives of Older Adults**

Companion animal guardianship (i.e., pet ownership), especially of a cat or dog, is common in older adulthood. While there are no existing national statistics on the percentage of older adults living with companion animals, data from the nationally representative Health and Retirement Study (HRS) showed that 46% of adults ages 50 and older reported living with companion animals in 2012 (HRS 2012 Core and Module 9). Older adults choose to live with companion animals for a variety of reasons: the companionship they provide, the opportunity for physical affection, to share an emotional bond with another living being, and to provide for another (Enders-Slegers, 2000). Older adults have a strong emotional relationship with their companion animals (Peretti, 1990). This strong bond often provides older adults with emotional support, which may become increasingly important as physical limitations and dependence upon others increase with age (Ryan & Ziebland, 2015). This increasing dependence, however, may also make providing the necessary instrumental care for the companion animal (e.g., feeding, grooming, walking) more difficult. Thus, older adults who require assistance meeting their own needs are also likely to need assistance in meeting the needs of their companion animals.

Older adults consistently describe their companion animals as family members with whom they share a reciprocated relationship (Averill, 2012; Callahan & Brotherton, 2014; Peretti, 1990; Ryan & Ziebland, 2015). Older men and women reported that their

companion animal loved them (Chur-Hansen, Winefield, & Beckwith, 2009; Peretti, 1990). The majority of older adults who choose to live with companion animals do so for the same reason people of all ages do: companionship. However, certain aspects of the relationship, specifically the emotional bond and the opportunity to provide nurturance, may become more relevant as individuals age.

The emotional human-animal bond is not a measure of specific emotions that may vary and are acutely experienced; instead, it is the overall level of emotional closeness a person shares with an animal (American Veterinary Medical Association [AVMA], 1998). Evidence suggests that the degree of bonding with a companion animal has a greater impact on individuals' mental and physical health status than simply companion animal guardianship status (Curl, Bibbo, & Johnson, 2016). Older adults are emotionally bonded or attached to their companion animals (Miller & Lago, 1990; Johnson & Meadows, 2002; Stallones, Marx, Garrity, & Johnson, 1988). An early study found a strong positive relationship between the level of attachment to a companion animal and happiness in older adults (Ory & Goldberg, 1983). A longitudinal thematic analysis of older adults found that attachment was the most commonly stated social provision provided by the companion animals (Enders-Slegers, 2000). A sample of community-dwelling older adults described their relationship with their dog to be as strong a bond as with other humans, further stating that the dogs provided a "sense of emotional security" (p. 155, Peretti, 1990). Older adults who had high levels of attachment to their companion animal spent more hours with their animal per day than those who had low attachment (Peacock, Chur-Hansen, & Winefield, 2012). Psychologists have suggested that too strong an attachment may be detrimental for both the physical and mental health of older

adults (Chur-Hansen et al., 2009). However this perceived correlation may be due to the fact that the emotional bond becomes more important as physical, mental, or cognitive health declines.

The bond with a companion animal was found to be particularly significant when older adults' physical health or emotional morale were in decline (Lago, Delaney, Miller, & Grill, 1990). Pet attachment support, but not human social support, was found to be a significant mediator between loneliness and depressed mood in a sample of older women (Krause-Parello, 2012). The emotional bond with an animal was particularly important to older adults who had few or no human confidants (Garrity, Stallones, Marx, & Johnson, 1989). A longitudinal analysis of dog and cat owners found that owners who had little or no human support had less decline in psychological well-being over time than those who did not live with a companion animal (Raina, Waltner-Toews, Bonnett, Woodward, & Abernathy, 1999). Older adults recovering from a stroke described their companion animal as someone who cared for them and provided emotional security (Johansson, Ahlström, & Jönsson, 2014). Individuals with Alzheimer's disease, for whom interacting with other people had become difficult, reported that companion animals provided them with companionship and a sense of connection to another living being (Shell, 2015). While the relationship with a companion animal is not likely to replace the need for interpersonal human relationships, it can provide vital emotional support for socially isolated individuals (Pikhartova, Bowling, & Victor, 2014).

Companion animals not only provide emotional support for older adults, but also provide an opportunity to nurture another at a time in which the individual may be becoming increasingly dependent upon other people (Enders-Slegers, 2000). Studies have

shown that providing care for a companion animal can give structure and meaning to the daily life of older adults (Rogers, Hart, & Boltz, 1993; Thorpe et al., 2006). Companion animals provided older adults with someone to love and confide in as well as nurture with the provision of food, water, and other care tasks (Peretti, 1990). The dependence of companion animals on their human guardians (i.e., for food, water, basic care, and companionship) was found to be a motivating factor for both older adults recovering from a stroke (Johansson et al., 2014), and individuals living with diabetes or chronic heart disease (Brooks et al., 2012). Older adults who had survived a suicide attempt described taking care of their animal as a motivating reason for not attempting to take their own life again (Figueiredo et al., 2015). The physical and emotional dependence of companion animals may act as a motivator for health behaviors and also provide daily structure for older adults. One negative consequence of this dependence may be that older adults can refuse necessary medical procedures that would require a hospital stay separating them from their companion animal (Peacock et al., 2012).

Older individuals requiring care due to a long-term illness reported that attending to the needs of a companion animal was a way to keep track of health maintenance activities such as taking medication (Rosenkoetter, 1991; Ryan & Ziebland, 2015). The key reasons cited by older adults who had previously lived with a cat or dog in deciding to no longer live with a companion animals were the inability to continue to provide the necessary care, or concerns about the animal's care and welfare after their death (Chur-Hansen, Winefield, & Beckwith, 2008). Providing for a companion animal is likely to become increasingly difficult as mobility or cognitive function declines and dependence upon an informal caregiver increases.

## **The Potential Impact of Care Recipients' Companion Animals**

Companion animals may be an overlooked but significant factor in shaping the experience in the informal caregiver role. Informal caregivers may be especially critical to older adults who have companion animals if they allow their care recipients to age in place longer, and thus enable them to remain with their companion animals. Allowing care recipients and their companion animals to remain at home may provide structure to the care recipients' day and engage them psychologically, emotionally, and physically.

Despite the likelihood that care recipients who live with a companion animal will require assistance in caring for the animal, no research could be identified which provided data on whether caregivers provide care for their care recipient's companion animal. Providing care for a companion animal in addition to the care recipient could exacerbate the stress and strain often experienced in the caregiving role. Providing care for a care recipient's companion animal might add to time spent in the caregiving role each week, further adding to caregiver burden (i.e., the stress and strain associated with the role; Zarit, Reever, & Bach-Peterson, 1980).

However, providing care for the care recipients' companion animals may also have potential benefits for caregivers. Companion animals may provide caregivers physical affection as well as opportunities for play, and promote positive self-care behaviors such as dog walking (Connell, Janevic, Solway, & McLaughlin, 2007; Raveis, Mesagno, Karus, & Gorey, 1993). Companion animals provide a focus of attention for older adults (Johansson et al., 2014) and may provide the caregiver time to concentrate on necessary tasks or take a break while the care recipient is engaged with the cat or dog. Older adults reported that their companion animals provided motivation to actively

recover from illness and maintain their own health (e.g., Johansson et al., 2014).

Providing care for individuals who are motivated to maintain and improve their level of functioning is likely to have a positive impact on the caregiving experience. Caregivers may also benefit indirectly from the benefits that they perceive their care recipient receives from the companion animal; specifically sharing a reciprocated emotional bond with another living being. Caregivers may value the relationship between care recipients and companion animals for the social and cognitive engagement it provides their care recipients.

Care recipients' companion animals may have a significant impact on the caregiving experience, particularly caregiver burden and satisfaction. As the number of informal caregivers continues to grow, and the percentage of individuals who consider their companion animals to be family members increases (American Veterinary Medical Association, 2012, 2007), understanding the associations and impacts of companion animals on the role of the informal caregiver will be critical. The purpose of this study is to examine the impact of older adults' companion animals on informal caregivers' instrumental and emotional experiences providing care for an older adult. The results of this study will uncover evidence for the roles that companion animals fill in the lives of aging families, which may have a significant impact on the field of family studies. The results also add to the theoretical and practical understandings of the role of caregiver and the lives of older adults – two large and growing populations.

## CHAPTER TWO

### Literature Review

#### **Informal Caregiving for Older Adults**

Informal caregiving is often done within a network of people who provide various types and levels of assistance for an individual care recipient (Szinovacz & Davey, 2007). Yet, most caregiving networks have a primary caregiver who serves as the nexus of the network, coordinating the other paid and un-paid caregivers. Approximately 60% of all informal caregivers are primary caregivers; 55% of informal caregivers for someone aged 50 or older reported having at least one other person who provided unpaid care within the past year (AARP & NAC, 2015). The majority (58%) of primary informal caregivers provide care for a spouse or parent, and the majority are female (60%) (AARP & NAC, 2015; Pinquart & Sörensen, 2011).

Informal caregivers for an older adult often assist with activities of daily living (ADLs; i.e., everyday personal care activities such as bathing, dressing, and eating) and nearly all help with instrumental activities of daily living (IADLs; i.e., activities which allow for living independently, such as transportation, managing medications, and cooking; AARP & NAC, 2015). The number of ADL and IADL tasks requiring assistance increases with the level of the care recipient's impairment. Likewise, individuals who live with a companion animal and who need assistance with daily tasks, especially ADLs, are likely to also need help with necessary companion animal care tasks (e.g., feeding, grooming, waste removal). While caregiving is defined by the provision of care for the care recipient, caregivers' experiences within the role are shaped by many factors (e.g., other responsibilities, the environment in which the care takes place, etc.)

and marked by diverse emotional outcomes. Being a primary informal caregiver entails being an active participant in the care recipient's life. When the care recipient shares his or her home with a companion animal, that companion animal also becomes part of the caregiver's life.

### **Role theory and caregiving for older adults.**

The role of caregiver for an older adult became an established normative role over the twentieth century (Brody, 1985), with the majority of individuals in the United States expecting to take on the role at some point during adulthood (AARP & NAC, 2009). Role theory postulates that individuals' lives are composed of multiple socially-based roles (e.g., child, spouse, parent, employee, friend) that are shaped by and enacted within socially-based expectations (Biddle, 1986). The expectations for the caregiving role are heavily shaped by gender norms (Pinquart & Sörensen, 2011) and culture (Spria & Wall, 2009). These expectations are often manifested in who takes on the role of caregiver.

The majority of caregivers in the United States are female (AARP & NAC, 2015), and adult children and children-in-law caregivers are more likely to be female than spousal caregivers (Pinquart & Sörensen, 2011). These demographics suggest that men are more likely to take on the role of caregiver for a spouse, as opposed to caring for a parent or parent-in-law. Black middle-aged adults were found to provide more support (e.g., social, financial, and instrumental) to their parents than White middle-aged adults in a nationally representative sample (Fingerman, VanderDrift, Dotterer, Birditt, & Zarit, 2011). When filial obligation (i.e., the belief that children have the responsibility to care for their aging parents) was included in the model, however, race no longer predicted support. Ethnic minority caregivers (e.g., African-American, Asian-American, and

Hispanic) were found to have stronger filial obligation beliefs and provide more care than White caregivers (Pinquart & Sörensen, 2005), demonstrating that within the United States, norms about caregiving may vary by ethnicity or race.

While expectations and norms often influence taking on the role of caregiver, it is important to note that nearly half of all caregivers report that they did not have a choice in whether to take on the role (AARP & NAC, 2015). Furthermore, research has found that there are more within-group differences in adult child caregiving behavior in White and Black families than there are between-group differences (Wong, Kitayama, & Soldo, 1999). Thus, while taking on the role is heavily influenced by expectations based on gender and culture, the caregiving experience itself is idiosyncratic.

Researchers use role theory extensively in exploring the role of caregiver and in characterizing the caregiving experience; it is an optimal framework to guide research on caregiver burden (Bastawrous, 2013). Role theory allows for the simultaneous consideration of the ways in which the role of caregiver may both negatively and positively impact individuals (e.g., via role scarcity and role enhancement). Role strain came out of the scarcity hypothesis, which suggests that individuals' time and other resources (e.g., physical and emotional energy) are limited (Goode, 1960). Role strain occurs when a role consumes too many available resources so that role expectations cannot be met. Role strain occurs within a single role and is the result of both role overload and role conflict (Sieber, 1974).

Role overload and role conflict describe the interactions between multiple roles. Role overload occurs when a role demands too much of a resource, most often time, which in turn leads to less time to devote to another role. For example, the role of

caregiver may take away from time at work or time at home with a spouse and/or children. Caregivers described the main consequences of role overload as negatively affecting valued interpersonal relationships (e.g., with children, and their partners) and preventing them from participating in valued activities (e.g., leisure activities and employment; Bastawrous, Gignac, Kapral & Cemeron, 2015). Role overload was also associated with a decrease in mastery (i.e., the perception that an individual is able to control one's life and overcome encountered obstacles; Pearlin, 1999) for caregivers who provided care for older adults with dementia (Infurna, Gerstorf, & Zarit, 2013). Role overload increased while mastery decreased in the sample until the care recipient was institutionalized, at which point role overload both decreased and stabilized while mastery increased. Role overload may be intensified when caregivers dedicate time to their care recipients' companion animal.

Role conflict arises when the expectations or resources associated with an individual's multiple roles clash. The role of caregiver may conflict with the time and energy necessary for other roles individuals must fill simultaneously, such as parent, spouse, or employee (e.g., the need to work more hours per week may prevent caregivers from providing the care they feel the care recipient requires). Likewise, the time required for providing for the needs of a care recipient's companion animal may lead to role conflict by taking time away from other roles. Women who reported experiencing role conflict were more likely to have fewer socioeconomic resources and care recipients with greater levels of functional impairment, than women who did not (Stephens, Townsend, Marite, & Druley, 2001). Limited economic resources may prevent caregivers from providing the hours of care they feel necessary due to the demand of spending more

hours in their employee role. This may be exacerbated for caregivers with limited economic resources whose care recipients require higher levels of care, which in turn require more financial resources. Thus one resource (e.g., money) may directly affect the available quantity of another resource (e.g., time) causing conflict between the availability of each resource in two or more roles. Companion animals require the resource of money (e.g., food, supplies, veterinary care, medication) as well as the resource of time, which may further amplify role overload and create role conflict.

Moen's work on the gendered nature of caregiving addressed the institutionalized and cultural norm of women as caregivers (Chesley & Moen, 2006). Moen has argued that societal norms continue to assume that women will automatically take on the role of caregiver. While these assumptions are outdated and contrast with the growth of women in the work force, they still pervade and persist (Chesley & Moen, 2006). These gender norms provide an excellent lens to view how role overload and conflict can lead to role strain, especially for women. Women who assumed the role of caregiver were more likely to exit the workforce than women who did not take on the role (Pavalko & Henderson, 2006). Female caregivers between the ages of 50-61 were less likely to be employed than non-caregivers, while there was no difference between men of the same ages (Lee & Tang, 2015). Wives who provided care for a parent or parent-in-law reported that the demands of the caregiving role negatively impacted their satisfaction within the role of wife (Stephens & Franks, 1995). Spousal caregivers were less likely to rejoin the labor force after retirement than those who were not providing care for a spouse (Gonzales, Lee, & Brown, 2015).

Role enhancement asserts that occupying multiple roles can promote individuals' well-being by providing status, social resources, and emotional satisfaction (Moen, Robison, & Dempster-McClain, 1995). Caregivers for adults ages 60 and over cited the sense of accomplishment, being able to care for a loved one, and an enhanced interpersonal relationship with the care recipient as positive aspects of the role (Scharlach, 1994). These perceptions may extend to the care provided for the care recipient's companion animal when caregivers view the companion animal as a vital aspect of the care recipient's life. Roles which augment each other due to requiring different skills and varying resources, rather than compete with each other by requiring overlapping skill sets and the same resources (e.g., social, emotional, economic; i.e., providing health care for employment and being an informal caregiver; DePasquale et al., 2016), are likely to provide multiple sources of satisfaction and well-being.

Role enhancement and strain may occur simultaneously (i.e., a caregiver experiences strain from taking time from work to provide care for her mother, while also experiencing emotional satisfaction from providing care for her mother), highlighting the emotional complexity of the caregiving role. A sample of caregivers for individuals aged 60 and over highlighted aspects of the role which were both problematic (e.g., lack of personal free time, emotional stress) and rewarding (e.g., satisfaction of paying the care recipient back, sharing the experience with the care recipient; Scharlach, 1994). Becoming a caregiver for an older adult with Alzheimer's disease was found to result in both burden and satisfaction (Lawton, Moss, Kleban, Glicksman, & Rovine, 1991). Lawton and colleagues (1991) concluded that adult children who provided high rates of caregiving experienced greater rates of both the stress and strain (i.e., burden) and

satisfaction within the caregiving role than those who provided less care. This pattern of simultaneous associations between caregiving and elevated burden and satisfaction may be intensified when companion animals add to the tasks and time, but also the rewards, associated with the role of caregiver.

Role theory examines how one role can affect individuals in both positive and negative ways. The theory also considers how roles interact with each other and influence the positive and negative experiences within an individual role. The current study investigated the effect of care recipients' companion animals on the experience within the role of caregiver. In doing so, the study aimed to provide for a more complete understanding of the role of caregiver by identifying the tasks and time required to care for a care recipient's companion animal, thereby more fully recognizing the resources required from caregivers. The provision of care is likely to extend beyond the care recipient to the care recipient's companion animal(s). Providing care for the companion animal may add to the tasks performed as well as the time spent within the role of caregiver. The companion animal may add to either or both the strain (e.g., requiring more energy or time within the role due to pet care tasks) or enhancement (e.g., satisfaction from providing for the cat or dog) of the role of caregiver. This study employed terms specific to the caregiving literature to represent the concepts of caregiving role strain (i.e., high levels of caregiver burden, low levels of mastery) and role enhancement (i.e., high levels caregiver satisfaction).

**Caregiver outcomes.**

*Caregiver burden.* The term caregiver burden is often used to denote the stress and strain experienced as a result of the caregiver role (Zarit et al., 1980). The concept of

caregiver burden has been widely used in the literature to depict the strain specific to the role of caregiver (Adelman, Timanova, Delgado, Dion, & Lachs, 2014). Higher rates of burden have been correlated with adverse mental and physical health consequences. Specifically, higher levels of caregiver burden were related to higher levels of caregiver anxiety and depression (Cannuscio et al., 2002), while caregiver burden was negatively correlated to caregiver's overall health (Pratt, Schmall, Wright, & Cleland, 1985, Schultz & Beach, 1999) and subjective well-being (Verbakel, Metzelthin, & Kempen, 2016). Caregiver strain was positively associated with shorter relative telomere length, a marker of cellular aging (Litzelman et al., 2014). The results indicated that caregiving-specific stress was associated with accelerated cellular aging, while caregiving status itself was not. Demographic characteristics have been associated with higher likelihood of experiencing burden; specifically, being female and having lower levels of education (Adelman et al., 2014). However, these demographic characteristics are likely to be confounded by the influence of gender and socioeconomic resources discussed previously in the relation to role expectations and strain.

Caregiver burden is also shaped by the degree of care required and the level of help received from others. Situational factors, such as hours providing care and the number of ADLs and IADLs that required assistance, were found to have a stronger positive association with burden than demographics of the caregiver or the care recipient, such as age and the type of relationship (e.g., spouse-spouse, adult child-parent; Wullschleger, Lund, Caserta, & Wright, 1996). Furthermore, the desire for more help in providing care for the care recipient (i.e., more help from friends and family) was associated with higher rates of burden (Burton et al., 2012; Garlo, O'Leary, Van Ness, &

Fried, 2010). While care recipients' functional limitations certainly influence caregiver burden, the caregivers' assessment of adequate help and resources plays a large role in the level of burden experienced.

Caregiver burden can have significant consequences for the care recipient as well. Caregiver burden was identified as a factor in decisions regarding institutionalization, with higher rates of burden associated with the decision to institutionalize the care recipient (Zarit, & Whitlatch, 1992). Older adults who rely on an informal caregiver are likely to need assistance in providing the necessary instrumental tasks for their companion animal, which may add to the caregiver's work load and time spent caregiving, significantly adding to caregiver burden. Understanding the factors which contribute to caregiver burden may have a positive impact on both caregivers and their care recipients; specifically, providing resources for caregivers to help decrease the level of burden which can allow older adults to age in place longer by delaying institutionalization.

The majority of caregivers report having had little or no choice in taking on the role (AARP & NAC, 2015); accordingly, there is probably similarly little choice in performing tasks or activities for the care recipient's companion animal. Furthermore, the resources of time, energy, and even finances which are required to care for the companion animal may add to role strain, overload, and conflict. These negative aspects of the care recipients' companion animal guardianship can be conceptualized as the caregivers' perceived costs of the care recipients' companion animal. These costs are likely to be an aspect of the role of caregiver. Providing care for a care recipient's companion animal does not necessarily add a distinct caregiving role; it is more likely to

be perceived as an extension of the caregiving role for the human care recipient. The pet care tasks and activities required of caregivers would not be performed if the care recipient did not require assistance and if the caregiver was not willing to provide assistance to the recipient.

*Caregiver satisfaction.* The consequences of caregiving are not exclusively negative. Caregiving satisfaction refers to the perceived positive consequences of the caregiving role, including affective outcomes (Lawton et al., 1991). Transitioning to the role of caregiver was found to have positive associations with psychological well-being (e.g., sense of purpose in life and personal growth; Marks, Lambert, & Choi, 2002). The overwhelming majority of caregivers for a care recipient with a chronic illness reported caregiving esteem (i.e., enjoyment within and the importance of the role), with less than 5% of the sample reporting low caregiving esteem (Sautter et al., 2014). Satisfaction with caregiving was associated with older care recipients and higher rates of social support received by the caregiver (Sautter et al., 2014; Wakefield, Hayes, Boren, Pak, & Davis, 2012). Nearly three-quarters of a sample of caregivers for older adults were able to identify at least one positive aspect of caregiving (Cohen, Colantonio, & Vernich, 2002). A care recipient's companion animal may also add to satisfaction if the caregiver perceives them as providing social support to the care recipient in the form of a strong emotional bond.

The evidence strongly suggests that the role of caregiver is shaped by many factors and can have both positive and negative outcomes for those who take it on. Further, the relationship between the caregiver and care recipient has a significant impact on the emotional experience of caregiving. The affective quality of that relationship may

influence the burden and satisfaction experienced within the role of caregiver. Caregivers experienced both depression and uplifts in the caregiving role (Pinquart & Sörensen, 2011). The caregiver's interpersonal relationship with the care recipient may exacerbate or alleviate the level of burden and is likely to diminish or enhance the satisfaction within the role. Likewise, the direct relationship between a caregiver and their care recipient's companion animal may diminish or enhance their satisfaction within the role.

*Caregiving mastery.* Mastery is an individual's subjective sense that he or she is able to control one's life and overcome encountered obstacles (Pearlin, 1999). Mastery moderates the impact of stressors on individuals' wellbeing by allowing them to conceptualize stressors as less threatening and maintain the belief that they have control over a situation (Pearlin, 1999). Mastery is both a global construct and role-specific (Krause, 1999). Caregiving mastery is the belief that one is behaviorally competent within the role of caregiver (Lawton, Kleban, Moss, Rovine, & Glicksman, 1989). Caregiving mastery, like its global construct, is not a stable trait, but instead may change in response to changes in the demands and length of time within the role (Simpson & Carter, 2013b).

Caregiving mastery is a specific conceptualization of the control and ability within the role of caregiver. The degree of caregiver mastery can indirectly influence both the experiences within the role and its outcomes, such as depression. Higher conceptualizations of control and ability can lead to more positive experiences and less depression. Caregiving mastery was found to significantly moderate the effect of caregiving demands and role overload on depression and anxiety for people providing care for individuals with Alzheimer's disease, while global mastery did not (Pioli, 2010).

The study found that greater demands and role overload were associated with greater depression and anxiety, while higher levels of caregiver mastery weakened the associations. A study of caregivers for adults with a brain tumor did not find evidence that global mastery acts as a moderator for the relationship between care recipients' problematic behaviors and caregivers' levels of depression (Sherwood et al., 2007). However, the study did find caregiver mastery to be a significant partial mediator between the two outcomes.

Caregiving mastery can also have a direct effect on depression. Caregiving mastery was negatively associated with stress and depressive symptoms in a sample of female caregivers for a spouse with dementia (Simpson, & Carter, 2013a). A study of spousal caregivers found that low levels of caregiving mastery were positively associated with depression, while higher rates of caregiving mastery were negatively associated with role strain (Miller, Campbell, Farran, Kaufman, & Davis, 1995). Finally, caregiving mastery significantly predicted psychological health in a longitudinal study of Black caregivers for older adults (Dilworth-Anderson, Goodwin, & Williams, 2004). Mastery within the role of caregiver clearly influences caregivers' experiences within and outcomes due to the role.

Identifying factors which predict caregiving mastery may have consequences for caregivers' psychological well-being. Providing care for care recipients' companion animals may not be an expectation in taking on the caregiving role. Having to provide for another living being who is not the care recipient and may not express gratitude or appreciation in a manner consistent with what is expected from a care recipient may affect how caregivers view themselves within the role of caregiver. Thus, a care

recipient's companion animal may be associated with lower levels of caregiving mastery than if the individual were only providing care for the care recipient. Conversely, the tasks involved in caring for a companion animal may be familiar and require fewer mental and emotional resources from caregivers. Caregivers may also recognize cat or dog communication and receive positive feedback from the animal through a dog's wagging tail or a cat raising its tail as it approaches. Furthermore, the care recipients' companion animals may indirectly enhance mastery due to the caregivers' perception of the important role they play in their care recipients' lives.

### **Relational Moderators of the Associations between Companion Animals and Caregiver Outcomes**

**Mutuality.** The interpersonal relationship with the care recipient is likely to influence how the situational factors (e.g., tasks performed for a care recipient and the companion animal) shape the experiences within the role of caregiver (i.e., caregiving burden, satisfaction, and mastery). Mutuality refers to the quality of the interpersonal relationship between the caregiver and care recipient (Hirschfeld, 1983). Higher levels of mutuality indicate a relationship centered on positive emotions reciprocated between the two individuals (Archbold, Stewart, Greenlick, & Harvath, 1990). Lower levels of mutuality were found to account for a significant amount of the variance of emotional aspects of the caregiving role including global strain and role conflict (Archbold et al., 1990). Higher levels of mutuality predicted caregivers' life satisfaction (Ostwald, Godwin, & Cron, 2009) and the degree of mutuality remained stable over time (Shim, Landerman, & Davis, 2011). Mutuality was not associated with objective aspects of the role such as lack of resources. Mutuality with a care recipient was negatively associated

with depression, anger, and total mood disturbance (Schumacher et al., 2008). Caregivers who had higher rates of mutuality with their care recipients with dementia experienced less caregiver burden over a two-year time period than caregivers who had lower levels of mutuality with their care recipients (Ball et al., 2010).

High levels of mutuality were found to buffer the effects of role strain even when the demand for caring for the care recipients with dementia was high (Yang, Liu, & Shyu, 2014). Yang and colleagues (2014) also found preparedness for the role had the same effect, and that a high level of predictability (i.e., encountering what was expected of the role) was associated with a decrease in role strain over time. These findings suggest that both the relationship with the care recipient and caregivers' perceptions of the expectations and their own abilities within the role shape the caregiving experience. Individuals who choose to live with companion animals add yet another relationship (i.e., the relationship between the care recipient and his or her companion animal) and potential expectations (i.e., pet care tasks) to the role of caregiver.

**Caregivers' involvement with care recipient's companion animals.** Because the majority of informal caregivers have an established relationship with their care recipients, an existing relationship with the care recipient's companion animal is also likely to exist. This relationship may have been established through direct contact between the caregiver and the companion animal, indirectly established through the care recipient sharing stories about or photographs of the companion animal, or a combination of both. The caregiver having no relationship with the care recipient's cat or dog is highly unlikely, as older adults report that their companion animals play an important role in their lives (Peretti, 1990; Ryan & Ziebland, 2015).

However, there is insufficient literature regarding the influence of the care recipients' companion animals on the caregiving experience, despite the likelihood that individuals requiring ADL assistance will require assistance in providing care for their cats or dogs. There has been one qualitative study conducted focusing on the relationship between caregivers and companion animals (Connell et al., 2007). However, this study focused solely on female spousal caregivers who were co-guardians of the companion cat or dog with their husband care recipients. The study explored how the relationship with the cat or dog changed for the caregivers and care recipients after the caregiving period began. Caregivers reported more positive changes in their relationship with the animal than negative. Negative changes focused on having less time to be affectionate with or provide care for the animal. Positive changes involved the companion animal providing a unique support role and companionship for both the self and the spouse, helping to calm and provide a point of focus for the spouse, and promoting self-care behaviors (e.g., exercise, stress reduction) for the caregiver. Caregivers also reported they had become more attached to, and affectionate with, their companion animals since becoming a caregiver for their spouse.

A research report published by the Memorial Sloan Kettering Cancer Center found spousal caregivers of cancer patients who lived with a cat or dog had less depression than those who did not live with a companion animal, though the difference was not statistically significant (Raveis et al., 1993). The caregivers lived with their care recipients and were likely to be co-guardians of the companion animal. A recent qualitative analysis of individuals with a long-term illness and their caregivers found the care recipients' companion animals were included in caregivers' narratives about the

course of the illness without any prompting by the researchers (Ryan & Ziebland, 2015). The results indicated that the care recipients' companion animals were a significant factor in the caregiving experience. The researchers emphasized that future studies should not dismiss this potentially significant aspect of the caregiving experience.

The studies cited above provide evidence for a direct relationship between the caregiver and the care recipients' companion animal. They also suggest that caregivers recognize the relationship between their care recipients and their companion animals, and that they report it to be a dynamic and reciprocal relationship. The results of Connell et al. (2007) indicated that caregivers recognized both benefits and costs to the companion animal. The caregivers identified positive and negative changes in their relationships with the companion animal alongside positive and negative changes in the relationships between their spouse care recipient and the companion animal. The study revealed that the relationship between the care recipient and the companion animal may impact the caregivers' perceptions of the benefits and costs of companion animal guardianship. Two-thirds of caregivers do not live with the care recipient (AARP & NAC, 2015); therefore, the majority of caregivers likely do not consider themselves co-guardians of the care recipient's companion animal. The existing studies either provided evidence from co-guardians or the study did not focus on the relationship between caregivers and the care recipients' companion animals.

The purpose of this study was to examine the impact of older adults' companion animals on informal caregivers' instrumental and emotional experiences within the role of caregiver. Specifically, the study investigated how the experience of caregiving was influenced by caregivers' perceived costs of the care recipients' companion animal and

the instrumental tasks they performed for their care recipients' companion animal. The study also investigated how the specific relationships between the caregivers, the care recipients, and the care recipients' companion animals moderated the companion animals' effects on the role of caregiver (presented in Figure 1).

### **Research Questions and Hypotheses**

This study was the first to systematically explore the relationship between caregivers and companion animals for whom they are not guardians, and are instead owned by their care recipients. This study was both exploratory and guided by role theory with the aim of beginning to understand whether and how care recipients' companion animals impact specific outcomes of the caregiving role. The study investigated three research questions:

**RQ1: To what extent do caregivers engage in care tasks for their care recipients' companion animals within their role of caregiver?**

The instrumental experience of caregiving refers to the tasks performed and time spent within the role of caregiver. Specifically, the study quantitatively measured the individual tasks performed for the companion animal, how often each task was performed, and the number of hours per week performing CA care tasks. The results to this question provided a measure of how a care recipient's companion animal may add to the tasks performed and time spent in the role of caregiver; two factors which had not been explored in previous studies.

**RQ2: To what extent are caregiver outcomes (i.e., burden, satisfaction, and mastery) associated with both performed pet care tasks/activities and the perceived costs of the older adults' companion animal ownership?**

The additional tasks performed within the role of caregiver for the companion animal may have a direct relationship with the degree of burden, satisfaction, and mastery experienced within the role. The number of ADLs requiring assistance has been shown to have a positive relationship with the level of caregiver burden experienced (e.g., Wullschleger et al., 1996); likewise, the number of tasks/activities required for a companion animal may have a positive relationship with caregiver burden.

The tasks/activities required for a companion animal may also be distinct from those expected for caregiving for an older adult. Pet care tasks/activities may be familiar and easily accomplished (e.g., feeding, providing fresh water) while caregiving tasks may be unfamiliar (e.g., bathing the care recipient) or difficult (e.g., transferring the care recipient), or require constant attention (e.g., supervising an adult who has the potential to wander due to Alzheimer's disease). Companion animal care tasks/activities may also provide enjoyment (e.g., playing with the companion animal) and opportunities to relieve stress (e.g., dog walking, petting the cat or dog). Tasks which are viewed as manageable may have a positive relationship with caregiving mastery. As previously discussed, companion animal care tasks could have either positive (i.e., higher levels of mastery from providing tasks which are familiar and accomplishable) or negative (i.e., lower levels of mastery from the unexpected responsibility within the role) relationship with mastery.

Higher numbers of tasks performed for the companion animal are likely to indicate higher functional impairment of the care recipient (or of the pet themselves); they are also likely to be associated with higher perceived costs of the care recipient's being a companion animal guardian. The perceived costs of companion animal guardianship

was a measure of the perceived negative aspects of the care recipients' companion animal guardianship. Specifically, the negative impact of the care recipients' companion animal on the role of caregiver and the resources required of the role (e.g., economic, time cost, restrictions from other roles). Higher perceived cost of the companion animal would indicate the companion animal requires more resources than lower scores. Higher levels of perceived cost may be related to increased role strain, and consequently higher levels of caregiver burden and less satisfaction within the role.

**RQ3: Are the associations above moderated by each of the following variables: the relationship between the care recipient and the companion animal; the relationship between the caregiver and the care recipient; or the emotional relationship between the caregiver and the companion animal?**

This study also examined how the relationships between the caregivers, care recipients, and companion animals moderated the positive and negative experiences within the role of caregiver. Figure 2 displays the hypothesized associations between the independent variables of the tasks performed for and the perceived costs of the companion animal with each outcome variable, and how those associations are moderated by the relationship variables. The interpersonal relationship with the caregiver is known to buffer the effects of stress within the role even when caregiving demands are high (e.g., Yang et al., 2014). An interpersonal relationship marked by reciprocated positive emotions may moderate the influences of companion animal care tasks and the perceived cost of companion animal guardianship in a similar way. Furthermore, providing care for a companion animal with whom the care recipient shares a close emotional bond may buffer the effects of the tasks/activities and costs of companion animal guardianship on

the burden experienced within the role of caregiver. Much like high levels of mutuality (e.g., Archbold et al., 1990), the emotional closeness caregivers have with their care recipients' companion animal is likely to moderate the degree of burden caregivers experience due to the tasks and perceived cost of their care recipients' companion animal guardianship.

Satisfaction within the role of caregiver is influenced by the interpersonal relationship with the care recipient (e.g., Pinquart & Sörensen, 2011). A positive interpersonal relationship with the care recipient is likely to moderate the potential negative effects of companion animal care tasks and perceived cost of care recipients' companion animal guardianship as the care recipient may acknowledge and expresses gratitude for those tasks.

Relationships with others outside of the caregiver-care recipient relationship may also shape satisfaction. This may be particularly relevant with a relationship which may directly impact the caregiving experience, such as the care recipient's companion animal. Social support has been associated with higher satisfaction in the role of caregiver (e.g., Wakefield et al., 2012). An emotional bond with the caregiver's companion animal may provide a caregiver with emotional support in a similar way that the bond provides the guardian with emotional support (e.g., Karuse-Parello, 2012). Furthermore, the perceived bond between the care recipient and her or his companion animal may also moderate the relationships between the pet care tasks/activities and perceived costs with satisfaction within the role. Caregivers who feel that their care recipients share a strong emotional bond with the companion animal may derive satisfaction from being able to allow their care recipient to continue living with the companion animal and experiencing a loving

and supportive relationship.

Mastery is most often a predictor and not an outcome in caregiving studies. However, this study employs it as an outcome to begin to understand whether companion animal care tasks and the perceived costs of care recipients' guardianship are associated with levels of caregiving mastery. There are no predicted directions of how the interpersonal relationships may moderate the tasks and costs of the care recipients' companion animal associations with caregivers' degree of belief of their control and ability within the role of caregiver. However, relationships which are positive may moderate the relationships between the tasks and costs of guardianship and the level of mastery in a similar manner as with the outcome of satisfaction. Caregivers who have high levels of mutuality with their care recipients may conceptualize the stressors as more manageable than those with lower levels of mutuality. This may extend to the caregivers' perceptions of the care recipients' emotional bond with the companion animal. Stronger emotional bonds between the care recipient and his or her companion animal may buffer the effects of the stressors (e.g., providing a justification for performing the tasks and for the costs of guardianship) or they may exacerbate the effects by creating further stress (e.g., prohibiting the option of finding an alternative living situation for the companion animal). Finally, a closer emotional relationship with the care recipient's companion animal may buffer or exacerbate the effects of the potential stressors in the same way.

## CHAPTER THREE

### Methods

#### **Sample and Procedure**

Participants were self-identified based on the following study inclusion criteria:

- Age 18 or older.
- Being the primary caregiver for an individual aged 50 or older.
- Their care recipient was the guardian of at least one cat or dog.
- The caregiver did not consider him or herself to be the guardian of the care recipient's cat or dog.
- Had provided care for the care recipient for a minimum of six months.
- Caring for the care recipient was not the participant's paid job.
- Had an established relationship (e.g., family, friend, or neighbor) with the care recipient prior to taking on the role of caregiver for him or her.

The original age criterion for the care recipients was 65 years of age or older. This was changed in order to further recruitment. Care recipients could have more than one companion animal, but the participating caregivers must have been able to identify the individual cat or dog with whom the care recipients had the closest emotional bond. This animal was the focus companion animal of the study. Caregivers must not have considered themselves to be the guardian (i.e., owner) or co-guardian (i.e., co-owner) of this animal. For example, a husband may have provided care for his wife while the dog in the home was her companion. A husband who considered himself to be the co-guardian of the dog would not have been eligible for the study.

The minimum of six months within the role of caregiver was chosen to ensure the caregiver had not recently transitioned into the role of caregiver. The transition into the role includes a period of adjustment (Marks, Lambert, & Choi, 2002). Previous studies have used a period of four months to assess the effects of the transition into the role (Ducharme et al., 2011; Fletcher et al., 2009). Six months was chosen to better ensure that participants had fully transitioned into the role of caregiver.

Established on-line caregiving support communities (e.g., Alzheimer's Association, Family Caregiving Alliance) were contacted to recruit participants. Each organization was sent an email asking to announce the survey on their website, Facebook page, or in an appropriate forum such as a newsletter. Follow up emails were sent one month later. An information sheet and the PI's *curriculum vitae* were attached to the email. Four of the 11 organizations agreed to promote the study to their members; six did not reply to the initial or a follow-up email and one specified it was not a good fit for their organization as they did not actively recruit members for studies. The Alzheimer's Association allowed the study to be included in their TrialMatch site following an approval process. TrialMatch is a website which connects individuals with Alzheimer's disease, their caregivers, and other volunteers and professionals with research studies (Alzheimer's Association, 2016). The Family Caregiver Alliance included the study on their Graduate Research Registry. The goal of the Research Registry is similar to TrialMatch, but aimed specifically at caregivers. The American Association of Retired Persons allowed the PI to post a description and link to the study in their open forums. Finally, the website, *The Caregiver's Voice* invited the PI to write a guest blog post to promote the study. The post was approved by the University of Missouri Health Sciences

Internal Review Board. Thirteen Facebook groups dedicated to caregivers were contacted to include a description and link to the study. Five posted a link to the study.

Individual Alzheimer's Association chapters were contacted to promote the study through both flyers and announcements in support groups. Contact information for each chapter was obtained through the national organization's website. Those with contact names and phone numbers were called directly; however, approximately half of the chapters were answered by the central office in Chicago. Eleven of the 21 chapters which were directly contacted agreed to assist in recruitment; two of the remaining 10 had policies against assisting with recruitment beyond TrialMatch. The remaining ten did not return the phone call. Twenty-three chapters were contacted via an email written specifically for Alzheimer's Association chapters; voicemails had previously been left with one chapter without any reply. Five chapters (including the only which had previously been called) agreed to share information about the study. A total of 16 Alzheimer's Association chapters shared information about the study through support groups, fliers, emails, a link on the Facebook page, or a combination of these methods. CaringKind (formerly the Alzheimer's Association NYC Chapter) also promoted the study through announcement at support groups.

The study was also promoted through SAGE (Services and Advocacy for Gay, Lesbian, Bisexual & Transgender Elders) affiliates. SAGE is a national organization focused on issues concerning lesbian, gay, bisexual, and transgender (LGBT) older adults and aging (SAGE, 2016). Eleven of the 28 affiliates were contacted over the phone. These affiliates were contacted because their website indicated they had caregiver-specific programs and/or support groups. Five affiliates did not return phone calls; one no

longer had a caregiver support group, and five agreed to promote the study at support groups or with fliers.

Facebook groups devoted to caregiving and caregivers were sent private messages asking to post a link to the study. Five of the 11 groups posted a link and description on their Facebook pages. Two responded that it was against their group policies and four did not respond.

Local organizations were also contacted regarding recruitment (i.e., the Central Missouri Agency on Aging, the Columbia Senior Activity Center, the MU Adult Day Connection, and Home Instead Senior Care). The PI attended the March meeting of the Senior Network of Columbia at the invitation of the Director of the MU Adult Day Connection and spoke briefly about the study and distributed recruitment materials to the attending members. Flyers were hung at 10 of the 11 veterinary offices (one had a policy against posting fliers) and three pet-specialty stores in Columbia. The contact information for nine local caregiving support groups was obtained at the Voluntary Action Center in Columbia, MO; however only one continued to meet regularly and the contact person agreed to announce the study and share a flyer at their next group meeting. The study was also announced six times in the weekly MU Info email.

One hundred and sixty-two participants were required to provide 80% power to detect an effect size of .4 with a .05 level of significance. The original sample size accounted for a 20% rate of attrition. As of this writing a total of 45 surveys were completed; two had been completed with all responses left blank and were excluded from analysis. One case had selected "Prefer not to answer" for 6 of the 21 items of the

Caregiving Appraisal Scale; this case was also missing the pet care task data and was excluded from the analyses. There was a total of 42 participants (32% of the required sample size without attrition). The sample reflected national demographic characteristics (e.g., AARP & NAC, 2015) in that the majority were female and providing care for a spouse or parent. The demographics of the sample are provided in greater detail in the subsequent chapter.

## **Measures**

A copy of the survey can be found in Appendix A.

### **Caregiving outcome measures.**

*Caregiving burden, satisfaction, and mastery.* Participants' experience in the role of caregiver was measured with the Caregiving Appraisal Scale (CAS; Lawton, Moss, Hoffman, & Perkinson, 2000a). The scale includes five subscales; two subscales, environment and impact/guilt, were not used in this study. The subscale of environment assumes that the caregivers reside with their care recipients and this may not have been applicable to a significant percentage of participants in this study. The subscale of impact/guilt was not be used as it briefly assesses the negative affective aspect of the relationship between the caregiver and care recipient. This study employed the Mutuality Scale of the Family Caregiving Inventory (Archbold et al., 1992), a more reliable and validated instrument, to measure that central construct.

The term appraisal was selected in the title of the CAS to connote caregivers' subjective evaluations of the caregiving experience (Lawton et al., 1989). The CAS was theoretically based on the stress and coping theory proposed by Lazarus and Folkman (1984 cited in Lawton et al., 1989). The Likert-style scale was designed to specifically

measure positive (e.g., caregiving satisfaction and caregiving mastery), and negative (e.g., subjective caregiving burden) aspects of the caregiving role. The subscale of burden only applied to burden within the role of caregiver and was not intended to be a global measure of depression or stress. Likewise, the subscale of mastery only referred to the ability to manage and respond effectively within the role and not life as a whole. The scale was further refined in 2000; the subscales were then given the labels used in the present study: caregiving burden (nine items; possible range: 9 – 45), caregiving satisfaction (six items; possible range: 6 – 30), and caregiving mastery (six items; possible range: 6 – 30; Lawton et al., 2000a; Lawton, Moss, Hoffman, & Perkinson, 2000b). The subscale of subjective caregiving burden had a Cronbach's alpha of .91, caregiving satisfaction  $\alpha = .87$ , and mastery  $\alpha = .79$ . Higher scores indicated higher subjective experience of each aspect within the role of caregiver.

### **Care Recipients' Companion Animal Independent Variables**

*Companion animal caregiving tasks.* Companion animals were referred to as “pets” and guardian status was labeled “pet ownership” throughout the survey for the convenience of participants. Each participant was asked to select the cat or dog with whom the care recipient had the closest emotional bond. This individual companion animal was the focus of the companion animal items and relationship scales described below.

The tasks/activities involved in caring for the individual companion animal were taken from the Pet Care Sheet (Research Center for Human-Animal Interaction, 2015) used at Tiger Place, a pet-encouraging retirement community in Columbia, MO. Tiger Place employs Pet Care Assistants through the Research Center for Human-Animal

Interaction (ReCHAI) at the University of Missouri. Pet Care Assistants provide residents assistance with tasks such as dog walking and cleaning of litter boxes. The sheet includes a list of general tasks which need to be performed for either a cat or a dog. The completed form informs Pet Care Assistants which specific tasks a resident needs or would like to be performed for his or her companion animal. The Pet Care Sheet addressed the basic needs of the companion animals (e.g., feeding, providing fresh water, managing waste) but did not include the social or emotional needs of the companion animals (e.g., playing with, petting, spending time with). These tasks/activities were included after consulting with experts in human-animal interaction and collecting pilot data. Other tasks which would not apply to residents of Tiger Place (e.g., hiring a dog walker, removing fur in the home) were also added. There were a total of 25 tasks/activities as well as an “other” option with corresponding space to provide that specific task/activity. This was referred to as the Pet Care Tasks/Activities questionnaire.

Participants were asked to, “Please indicate if you do any of these tasks or activities,” (*Yes, No, N/A*) as opposed to indicating if they wanted or required assistance for the tasks and activities. Participants were also asked to indicate how often they performed each task or activity (*N/A, Once a year, A few times a year, Once a month, Multiple times a month, Once a week, Multiple times a week, Once a day, Multiple time a day*). An additional individual item created for this study assessed participants’ willingness to perform the tasks necessary for the care of the care recipients’ companion animal; 1 (*not at all willing*), 9 (*extremely willing*), 5 (*neither willing nor unwilling*). There were not items addressing the willingness to perform specific tasks/activities (e.g., dog walking, litterbox cleaning, grooming). This was done to lessen the number of total

items on the survey (i.e., decrease participant burden).

*Costs of the care recipients' companion animal.* The Monash Dog Owner Relationship Scale (MDORS; Dwyer, Bennett, & Coleman, 2006) was used to measure participants' relationship with the companion animal identified as the focus of this study. The MDORS was developed to measure the human-companion dog relationship and contains three subscales. The Dog-Owner Interaction subscale was not used as it was developed to describe interactions specific to guardianship that would most likely not apply to the caregiver (e.g., "How often do you kiss your dog?"). The subscales of Perceived Costs and Perceived Emotional Closeness were used to assess the respective negative and positive aspects of the relationship between the caregiver and the care recipient's identified companion animal. The Perceived Emotional Closeness subscale was used as a moderator and is discussed further below. The MDORS does not provide a total score and its authors have conducted studies using single subscale scores to measure an intended construct (Bennett & Rohlf, 2007; Rohlf, Bennett, Toukhsati, & Coleman, 2012).

The MDORS was originally developed to assess the human-companion dog relationship (Dwyer et al., 2006). A recent study replaced the word "dog" with "cat" and found the subscales of Perceived Emotional Closeness and Perceived Costs had similar estimates of reliability with a sample of cat owners when compared to the original dog owning sample (Bowen, Calvo, & Fatjó, 2015). Participants completed the subscales written specifically for a dog or a cat based on their care recipient's identified companion animal.

The language of the subscale was further refined to reflect that the dog or cat was

not the participant's own companion animal. For example, an original item from the Perceived Costs subscale read, "How often do you feel that looking after your dog is a chore?" This item was changed to "How often do you feel that looking after your care recipient's dog is a chore?" The revised subscales used in this study were approved by Dr. Pauleen Bennett, a co-author of the MDORS. The subscale of Perceived Costs had a total of nine items and a possible range of 9 – 45. The Perceived Costs subscale had a Cronbach's alpha of .87.

### **Moderating relationships.**

*Care recipients' emotional bond with their companion animals.* The Pet Relationship Scale (PRS; Kafer, Lago, Wambolt, & Harrington, 1992) measured the relationship between the care recipients and their identified companion animal as reported by the caregiver. The Mutual Physical Activity subscale was not included in this study as the care recipients' physical activity was likely to be significantly limited. The subscales of Affectionate Companionship (eight items, possible range: 8 - 48) and Equal Family Member (seven items, possible range: 7 – 42), were used in this study to produce a total score of the bond between the care recipient and the companion animal. Items are Likert-style scales from 1 (*Strongly Disagree*) to 6 (*Strongly Agree*). Higher scores indicated higher levels of affectionate companionship with and family member status for the care recipient's identified companion animal. Participants were instructed to complete the scale based on their perception of their care recipient's relationship with the animal, as opposed to the participant's own relationship to the animal. The wording of items was modified to reflect these instructions. For example the first item which stated, "There are times I would be lonely except for my pet" was changed to, "There are times he or she

[the care recipient] would be lonely except for the pet.”

The PRS was originally developed using a sample of community-dwelling older adult companion animal guardians and a sample of students in an introductory psychology class (Lago, Kafer, Delaney, & Connell, 1988). Psychometrics were later established with larger, random samples of adults and found results were replicable across populations (Kafer et al., 1992). The PRS scales had a Cronbach’s alpha of .95.

*Mutuality with care recipients.* The Mutuality Scale within the Family Caregiving Inventory was used to measure the interpersonal relationship between the participants and their care recipients (Archbold et al., 1992). The scale was developed to measure the affective relationship between the caregiver and care recipient and its impact on the role of caregiver (Archbold et al., 1990). The 15-item scale has a possible range of 15 to 60, with higher scores indicating higher levels of mutuality. The scale had a Cronbach’s alpha score of .91 at 6 weeks and again at 9 months with a group of family and non-kin caregivers (Archbold et al., 1990). Park and Schumacher’s (2013) systematic review of the concept of mutuality within the caregiver-care recipient relationship, found the Mutuality Scale was the most widely used to measure the construct. The scale had a Cronbach’s alpha of .92 with this sample.

*Perceived emotional closeness to care recipients’ companion animals.* The language of the MDORS Perceived Emotional Closeness subscale was also refined to reflect that the dog or cat was not the participant’s own companion animal. For example, an original item stated, “My dog helps me get through hard times.” This item was changed to “My care recipient’s dog helps me get through hard times.” The Perceived Emotional Closeness subscale had a total of 10 items with a possible range of 10 – 50).

The revised subscale had an alpha of .92.

**Demographics and control variables.**

*Caregiver and care recipient demographics.* Participating caregivers completed a demographic questionnaire including information about themselves and their care recipient. Demographic variables for both individuals included: age, gender, race/ethnicity, highest level of education, and marital status. These demographic items came from the California Caregiver Resource Centers' Uniform Assessment Tool (CCRC UAT; CCRC 2003). California Caregiver Resource Centers (CCRC) is a network of 11 support organizations throughout the state of California (California Department of Health Care Services, 2015). Their aim is to provide low or no cost services (e.g., specialized information and referral, care planning, respite care, education, support groups, etc.) to informal caregivers whose care recipients have a wide range of primary diagnoses. The CCRC UAT is used during the intake process to assess who the client and the care recipient are and provide appropriate services to each caregiver. The CCRC UAT section IX, Caregiver and Care Receiver Demographics, was used to assess concurrent roles of the caregiver, specifically the roles of employment status, parent, and providing care outside of that provided to the care recipient. One item was added assessing the number of hours spent per week providing care for family, friends, and/or neighbors outside of that provided for the primary care recipient. Caregivers also provided their relationship with the care recipient (e.g., spouse, adult child, friend, etc.), years known the care recipient, whether living with the care recipient and, if so, the length of time having lived with the care recipient. The care recipient's primary diagnosis and years/months since

diagnosis, and type of residence (e.g., alone, with spouse, with adult child) were also asked.

Section III of the CCRC UAT, Support/Living Situation, assessed the number of hours per week spent providing care for the care recipient, as well as the hours of paid and unpaid help the participant received to provide care for the care recipient each week. Section IV, Functional Level of the Care Receiver, was used to determine whether the care recipient requires assistance with 15 specific ADLs (e.g., bathing, grooming, preparing meals) and behaviors (e.g., wandering, requiring supervision). Each of the 15 items had a corresponding item assessing the degree to which the caregiver assisted with the particular ADL or behavior: “Please choose the description of how much your care recipient depends on you for (the ADL or behavior)?” Available responses will be: 0 (*N/A*), 1 (*little to not at all*), 2 (*somewhat*), 3 (*a lot*), 4 (*completely*).

The 15 ADLs and behaviors were used to create an objective measure of the care recipients’ degree of functional limitation by totaling the number of items with which the care recipient required assistance. The variable had a possible range from 0 – 15. A second variable was constructed from the Likert-style items to create an objective measure of the degree to which the caregiver provided assistance with ADLs and problematic behaviors. The scores for each item were averaged and provide an overall score ranging from 1 – 5. Other studies have used similar constructed variables (e.g., Pioli, 2010).

*Inadequate help.* The control variable of inadequate help was created from an item in Section III of the CCRC UTA which asked participants, “Think about the help you get from your family and friends in looking after your care recipient. Please identify

the one response that most closely identifies your help situation.” The possible responses were: “I receive no help,” “I receive far less help than I need,” “I receive somewhat less help than I need,” “I receive about what I need,” and “I don’t need any help.” (CCRC 2003). These responses were collapsed to create the dichotomous variable of inadequate help. The first three responses were grouped together and given the value of 1, indicating the participant received inadequate help; the final two responses were grouped together and given the value of 0, indicating the participant received adequate help.

*Caregiver attitude toward companion animal guardianship and companion animal guardianship status.* A single item measured participants’ overall attitude about pet ownership; 1 (*extremely unfavorable*), 9 (*extremely favorable*), and 5 (*neutral*). The companion animal items in the demographic questionnaire for both the caregiver and recipient included: pet ownership status, total number of pets, their species (e.g., dog, cat, bird, small mammal, reptile), and the number of each species. Species outside of cats and dogs were included in this section as they may have required care from the participant.

Caregivers who lived with companion animals were asked to identify the species and age of the animal with whom they felt the most emotionally bonded. They then answered an item asking whether they considered this animal to be family, a pet/companion, or property; the options were taken from an item from the AVMA’s Pet Ownership survey (AVMA, 2012). Participants who did not live with a companion animal continued to the section asking about the care recipient’s relationship to their companion animal. All participants completed a similar companion animal status item (i.e., family, pet/companion, or property; based on AVMA, 2012) answering from the perspective of their care recipients.

The University of Missouri Health Sciences Internal Review Board approved this exempt study. Individuals who self-identified as meeting the inclusion criteria voluntarily completed an on-line survey hosted by Qualtrics. The first page of the survey presented the inclusion criteria in bullet form and asked that the individual confirm he or she met each criterion before beginning the survey. The first page also detailed what was involved in study participation as well as the contact information of the PI. A single item at the bottom of the page stated, “By continuing forward with this survey you are giving informed consent to participate in the study.” Participants had to click on the circle indicating “I wish to continue” in order to proceed to the questionnaire.

The two MDORS subscales and the Pet Relationship Scale were pilot tested with four individuals. Participants who piloted the measures were recruited by convenience based on meeting the inclusion criteria. The Qualtrics survey was piloted prior to the recruitment of participants. The seven participants in the pilot study were recruited by convenience, and not all met the study inclusion criteria. The survey was made up of four main sequential components: inclusion/exclusion and waiver of consent, demographics, companion animal relationships, and the experience of caregiving. The scales were presented in a fixed order for all participants. The final screen thanked participants and provided the PI’s contact information.

Participants were able to save and exit the study and continue at a later time; this was in recognition of the length of the survey along with the goal of minimizing attrition in a population with limited unscheduled time. However, this required the participant enter an email address which made the survey confidential as opposed to anonymous. Participants were not required to provide their email and this was clearly designated as an

optional item. Participants were not able to advance to the next screen without completing each non-optional item. “Prefer not to answer” options were available for each demographic item to ensure answering each item was voluntary.

The study was funded by a Research Enrichment and Dissemination Small Grants Program through the Interdisciplinary Center on Aging at the University of Missouri. Funding allowed for the purchase of 15 \$25 electronic VISA gift cards. Participants who completed the survey were given the option to enter a survey to win one the gift cards. This was to assist enrollment and reduce attrition. Entry involved submitting a preferred email address which was not linked to the survey data. Email addresses were stored in a separate spreadsheet.

## CHAPTER FOUR

### Results

#### **Analytic Plan**

The first research question (i.e., to what extent did caregivers engage in care tasks for their care recipients' companion animals?) was addressed using descriptive statistics, frequencies, correlations, and percentages (e.g., to determine the percentage of caregivers who walk their care recipients' dog, the total number who walked their care recipients' dog was divided by the number of care recipients who had a dog). Data from the Pet Care Tasks/Activities questionnaire was missing for 15 of the participants. This was due to the scale being accidentally omitted from the original on-line survey. This omission was the fault of the author (who was also the primary investigator). The scale was included as soon as the author became aware of the omission. Participants who opted-in to participate by submitting email addresses were sent a link to another on-line survey approved by the IRB which included the scale as well as five demographic items (e.g., age of self, age of care recipient, years known care recipient, type of pet, age of pet) so that the data could be anonymously matched with the original data set. Two of the 22 respondents could not be matched based the demographic data and were not included in the dataset.

In addition, one participant was excluded from the species specific analyses (e.g., the number of tasks/activities performed for cats or dogs, the number of hours performing those tasks/activities each week for cats or dogs) because the species of the care recipient's companion animal had not been specified and could not be determined from the available data (e.g., the care recipient had a total of 15 companion animals including cats and dogs and no species-specific tasks/activities were indicated).

The second research question (i.e., to what extent were caregiver outcomes of burden, satisfaction, and mastery associated with both performed pet care tasks and the perceived costs of the older adults' companion animal ownership) was analyzed using path analyses. Analyses were conducted controlling for caregivers' reports of receiving inadequate help. Twenty-four caregivers (57.14%) received inadequate help and 18 caregivers (42.88%) received adequate help.

Data were missing for 15 participants on one item from the Pet Relationship Scale ("The pet gives him or her a reason to get up in the morning") and for two items on the Costs subscale of the MDORS ("It is annoying that I have to change my plans because of my care recipient's [cat or dog]" and "How often does your care recipient's [cat or dog] stop you from doing things you want to?"). However, the alphas from each scale when those items were dropped for all respondents indicated strong reliability and the total score of each scale was calculated without the missing variables in order to increase the sample size for analyses. The covariance between all exogenous variables were accounted for in each model. Path analyses controlling for inadequate help were conducted separately for each outcome variable using the maximum likelihood for missing values in Stata 13.1 SE.

The final research question (i.e., were the associations above moderated by each of the following variables: the relationship between the care recipient and the CA, the relationship between the caregiver and the care recipient, or the emotional relationship between the caregiver and the CA?) also used path analysis and assessed each moderator separately for each outcome. Path analyses controlling for inadequate help and accounting for the covariance between all exogenous variables were conducted for each

outcome variable with each moderator (a total of nine analyses) using the maximum likelihood for missing values in Stata 13.1 SE.

### **Sample Demographics.**

The demographic characteristics of the caregiver participants and their care recipients are provided in Table 1. Twenty (47.62%) participants were employed full-time, three (7.14%) part-time, and seven (16.67%) were not employed. Eleven (26.90%) participants had retired and one (2.28%) was on a leave of absence. Seventeen (40.48%) caregivers reported that their employment status had changed due to their care giving responsibilities. The most common change was having quit a job (7, 16.67%). Four participants (9.52%) had taken an early retirement, four (9.52%) had gone on family/medical leave, two (4.76%) had decreased hours at work, and one participant (2.28%) had either changed jobs or taken a leave of absence. The totals of the frequencies for the specific changes in jobs was 18; it is possible one participant had two changes in employment status due to caregiving responsibilities.

There was considerable variability in the household incomes of participants. Annual household income ranged from between \$15,000 and \$24,999 per year to between \$150,000 and \$199,999. The modal response was between \$50,000 and \$74,999, which accounted for 15 participants (35.71%). One (2.28%) participant preferred not to answer the item.

### **Caregiving descriptives.**

The majority of the sample (24, 57.14%) were adult children caring for a parent, 22 (52.38%) were daughters and 2 (4.76%) were sons. Seven (16.67%) were caring for a spouse and two (4.76%) were caring for a partner. Six (14.29%) participants were

providing care for another type of relative; three (7.14%) were caring for a grandchild (one granddaughter, one grandson, and one grandchild whose gender was not specified), one (2.28%) was caring for a daughter, another (1, 2.28%) was caring for a grandmother, and one (2.28%) for a sister. Three (7.14%) caregivers were providing care for a friend. Participants had known their care recipients for an average of 43.24 years ( $SD = 17.03$ , range: 5 – 72), and had been providing them care for an average of 5.30 years ( $SD = 4.91$ , range: 0.0 – 19.80).

Participants spent an average of 49.02 hours per week ( $SD = 51.39$ , range: 2.0 – 168.0) providing care, assistance, supervision, or companionship to their care recipients. They received an average of 6.90 hours per week ( $SD = 12.30$ , range: 0.0 – 55.0) of paid help and 15.10 hours per week ( $SD = 25.30$ , range: 0.0 – 106.0) of unpaid help from family, friends, or volunteers.

Nearly half all of the sample (19, 45.24%) had another caregiving responsibility; 17 participants (41.50%) had one and two (4.76%) had two additional caregiving responsibilities. Eight (19.05%) provided care for dependent minor(s) without disability and the same number provided care for adult(s) without disability. One (2.38%) provided care for dependent minor(s) with disability and four (9.52%) provided care for adult(s) with disability. The average number of hours providing care for additional caregiving responsibilities was 13.63 ( $SD = 23.31$ , range: 0.0 – 80.0).

### **Care recipients.**

Sixteen (38.10%) care recipients lived in their own home with family and ten (23.81%) lived alone. Another ten (23.81%) lived in the caregiver's home, while one (2.38%) lived in the home of another relative or friend. Four (9.53%) lived in an assisted

living facility. One care recipient lived in another residence not listed in the item (e.g., a nursing home, a skilled nursing facility).

Alzheimer's disease was the most common primary diagnosis (10, 23.81%) of the care recipients. Arthritis and cancer (including leukemia, lymphoma, and melanoma) were the second most common with four (9.52%) participants having each as their primary diagnosis. Three (7.14%) care recipients had either diabetes or a stroke. Two (4.76%) had chronic obstructive pulmonary disease and another two had heart disease. Anxiety, dementia, depression, fibromyalgia, macular degeneration, multiple sclerosis, and Parkinson's disease were each the primary diagnosis for one (2.38%) care recipient. Seven (16.67%) caregivers reported their care recipient had a primary diagnosis not provided in the item and described them as: aortic aneurysm, hardening of the arteries, just old, old age, minor memory lapses and frail, old, spinal cord injury. Care recipients had been diagnosed with their primary diagnosis for an average of 10.54 years ( $SD = 9.52$ , range: 1.0 – 40). Care recipients required assistance with an average of 6.83 ADLs and behavioral problems ( $SD = 4.78$ , range: 0 – 15). The average amount of help provided for each ADL or behavioral problem was 1.54 (i.e., between "little to not at all" and "somewhat" ( $SD = 1.11$ , range: 0 – 4).

### **Companion animal guardianship.**

Companion animal guardianship (i.e., pet ownership) statistics (e.g., number of companion animals, species) for both care recipients and caregivers are presented in Table 2. The majority of caregivers held a positive attitude toward companion animal guardianship with an average attitude of score of 7.46 on the overall attitude toward pet ownership ( $n = 41$ ,  $SD = 2.59$ , range: 1 – 9). Twenty-five (59.52%) stated they felt

extremely favorable, while only four (9.52%) stated they were extremely unfavorable toward companion animal guardianship.

### **Research Question One**

Caregivers reported being quite willing to perform the tasks/activities necessary for the companion animal their care recipients were closest to ( $n = 27$ ,  $M = 7.96$ ,  $SD = 1.37$ , range: 4 – 9). A bivariate correlation between the willingness to perform pet care tasks and activities and the number of pet care tasks/activities performed revealed a positive relationship between the variables,  $r = .52$ ,  $p < .01$ . Exploratory partial correlations controlling for inadequate help were conducted between the willingness variable and the perceived costs, as well as the dependent and moderating variables in the model. Willingness to perform the pet care tasks/activities was positively correlated to the closeness participants felt toward their care recipients' companion animal,  $r(24) = .49$ ,  $p = .01$ .

The average number of pet care tasks or activities performed was 14.96 ( $n = 27$ ,  $SD = 5.38$ , range: 5 – 22); 11.3 for cats ( $n = 10$ ,  $SD = 5.01$ , range: 5 – 21) and 17.12 for dogs ( $n = 17$ ,  $SD = 4.43$ , range: 6 – 22). Crosstabulations indicated that one task was only performed for cats (e.g., clean litter box) and four were only performed for dogs (e.g., walk, train, board at a facility when necessary, hire a pet sitter or walker). The number and percentage of caregivers who performed each task or activity are presented in Table 3. Tables providing the same information specifically for cat and dog owners are provided in Appendix B and Appendix C respectively.

The average number of hours per week performing pet care tasks/activities was 12.52 ( $n = 27$ ,  $SD = 17.99$ , range: 1.0 – 80.0) hours per week; 4.50 hours per week for

cats ( $n = 10$ ,  $SD = 6.38$ , range: 1.0 – 22.0) and 17.24 for dogs ( $n = 17$ ,  $SD = 20.96$ , range: 1.0 – 80.0). A Pearson correlation indicated that the total number tasks/activities performed for the care recipient's companion animal was correlated to the number of ADLs which required assistance by the care giver,  $r = .66$ ,  $p < .001$ . Correlations were also significant for both cats,  $r(10) = .90$ ,  $p < .001$  and dogs,  $r(17) = .50$ ,  $p = .042$ .

The percentage of change in hours per week providing care was calculated to compare the “total hours” variable (i.e., the sum of hours providing care for the care recipient and the hours performing pet care tasks/activities) to the number of hours spent per week providing care for the care recipient. The results indicated that providing care for the care recipients' companion animal led to an increase of 27.19% total hours per week. Providing care for a cat ( $n = 10$ ) led to a 30.61% increase; while providing care for a dog ( $n = 17$ ) led to a 26.74% increase.

### **Research Question Two: Direct Effects**

The means, standard deviations, and correlations between the variables included in the models are presented in Table 4. The standardized and unstandardized results from the three path analyses are presented in Table 5. The covariance between pet care tasks/activities and costs of pet ownership was not significant in any model.

The number of pet care tasks/activities performed had no significant direct effects with any of the caregiving outcomes. The perceived costs of the care recipients' companion animal guardianship did have significant direct effects on caregiver burden and caregiving mastery. The model for burden accounted for the greatest percentage of variance for the outcome variables. Perceived costs of pet ownership was positively associated with caregiver burden, and negatively associated with caregiving mastery.

### **Research Question Three: Moderators**

#### **The care recipient-companion animal bond.**

The only model in which the relationship between the care recipient and companion animal was a significant moderator between the companion animal variables and the outcome of satisfaction within the caregiving role (Table 6). The percentage of variance accounted for improved from the initial model. Significant interaction terms were plotted according to the steps outlined by Aiken & We). The two-way interaction (see Figure 3) implied that when caregivers perceived their care recipients had a strong emotional bond with their companion animal, the number of pet care tasks/activities had a positive association with satisfaction within the caregiving role. However, when caregivers perceived their care recipient had a lower emotional bond with their companion animal, satisfaction within the role was negatively associated with greater numbers of pet care tasks/activities caregivers performed.

#### **Mutuality.**

Caregiver-care recipient mutuality was a significant moderator in two of the three models and the addition of the moderator increased the percentage of variance accounted for in each outcome model (Table 7). Mutuality significantly moderated the association between the number of pet care tasks/activities performed and caregiver burden (see Figure 4). Participants who reported low levels of mutuality with their care recipients experienced a positive association between the number of pet care tasks/activities and caregiver burden. For participants who reported high levels of mutuality with their care recipients, the number of pet care tasks/activities was negatively associated with burden. Mutuality significantly moderated the association between the number of pet care

tasks/activities performed and caregiving mastery (see Figure 5). For caregivers with high levels of mutuality, there was little association between caregiving mastery and number of pet care tasks/activities (i.e., the slope of the line was relatively flat). For caregivers with low levels of mutuality, the number of pet care tasks/activities performed and caregiving mastery were positively associated.

The moderating effect of mutuality on the association between perceived costs and caregiving mastery was also significant (see Figure 6). In this model it was the caregivers with high mutuality whose level of caregiving mastery was most influenced by the moderator. For caregivers with high mutuality the perceived costs of the companion animal was negatively associated with caregiving mastery; while there was almost no association for caregivers with low levels of mutuality (i.e., the slope of the line was relatively flat).

#### **Caregiver-companion animal closeness.**

The percentage of variance accounted for in each of the three models increased from the second research question with the addition of closeness as a moderator, although the improvements were not as great as they had been for mutuality (Table 8). Caregivers' reports of their own closeness with the care recipient's companion animal was not a significant moderator in any of the models, although it approached significance for the association between both independent variables and satisfaction within the role of caregiver. While the confidence interval provided support for the null hypotheses, the low end of the range for each independent variable was only slightly below zero; consequently, these two-way interactions were graphed and interpreted. For caregivers who reported low levels of closeness to their care recipients' companion animal, there

was a negative association with the number of pet care tasks/activities performed and satisfaction within the role of caregiver (see Figure 7). The opposite was true for caregivers who reported high levels of closeness with their care recipients' companion animal: the association between the number of pet care tasks/activities performed and satisfaction within the role was positive.

The same pattern of associations emerged when considering costs of pet ownership (see Figure 8). There was a slightly negative association between costs and satisfaction within the role for caregivers who had low levels of closeness with the companion animal. There was a positive association between costs and satisfaction within the role for caregivers who had high levels of closeness to their care recipients' companion animal.

## CHAPTER FIVE

### Discussion

The results of this study show that care recipients' companion animals impact the experience within the role of caregiver. Caregivers not only reported performing pet care tasks/activities, but indicated that those tasks/activities added considerably to the time spent within the role of caregiver per week. These results, however, indicated that care recipients' companion animals have a direct impact on the caregiving outcomes of caregiver burden and caregiving mastery via perceptions of care recipient pet ownership costs only. Furthermore, this study provides evidence that the relationships between the caregiver, care recipient, and companion animal provide a context in which the associations between pet ownership costs, pet care tasks, and caregiver outcomes might vary.

#### **Who Provides Care for their Recipients' Companion Animals**

The sample was similar to the national population of caregivers for individuals over the age of 50 in age, marital status, and the relationship to their care recipient (i.e., the largest percentage was adult children caring for a parent and the majority were caring for a relative; AARP & NAC, 2015). The sample was both overwhelmingly female (more so than the national average of 60%), and Caucasian. There was a range of income levels in the sample.

Compared to the national average of 24.1 hours per week, respondents spent twice the number of hours per week providing care for their care recipients (AARP & NAC, 2015), and this is without factoring in the time they spent caring for their recipient's pet. They had also served in the role of caregiver for longer than the national average of 3.7

years. However, the sample showed fewer changes in employment status than the national average. Further, there were no differences in the percentage of employment status change between male and female caregivers. The percentage of caregivers who were employed caregivers was similar to that of the national population, as was the likelihood of having an additional caregiving responsibility.

The care recipients adhered more closely to national statistics for recipients ages 50 and over, falling within national averages of age, gender, and living situation. There were, however, slightly greater proportion of individuals than average who had Alzheimer's disease; this was likely due to recruitment methods which included a large proportion of local Alzheimer's' Association chapters.

#### **Companion animal guardianship.**

In general, the sample of caregivers demonstrated a very positive attitude toward companion animal guardianship. The percentage of care recipients who were companion animal guardians was necessarily higher than, and non-reflective of, individuals ages 50 and over in the United States. The percentage of guardianship for the caregivers (78%) was also higher than the national average (56% of households; AVMA, 2012). While it was not possible to locate a statistic for the percentage of people who had ever been pet owners, it is reasonable to believe that the rate of past companion animal guardianship was higher in this sample than would be nationally.

Caregivers in this sample were slightly more likely to consider their companion animal to be a member of the family than adults nationwide (63.2% of adults nationwide; AVMA, 2012). Care recipients in this sample were slightly less likely to consider the companion animal to be a family member compared to a national sample (63.9% of

people ages 50 – 64 and 61.9% ages 65 and over; AVMA, 2012), and much more likely to view it as property than individuals ages 50 and over nationwide (1.0% of people ages 50 – 64 and 0.8% ages 65 and over; AVMA, 2012). There may also have been a cohort effect, as younger adults were more likely to grow up with companion animals in the home compared to generations which grew up in the early part of the twentieth century, and consequently more likely to view them as family members (Cain, 1985). Possible cohort membership effects would not have accounted for differences between the current sample and nationally representative statistics. It is critical to keep in mind that these perceptions were reported by the caregiver and not the care recipient. While these data are appropriate for this study's aim of investigating the experience of caregivers, they should not be interpreted to represent the perceptions of care recipients.

### **The Instrumental Impact of Care Recipients' Companion Animals**

The results of this study are the first to provide empirical evidence supporting the impact of care recipients' companion animals on the instrumental experience of the caregiving role. All participants performed pet care tasks/activities and devoted time to interacting with or caring for their care recipients' companion animal.

Small animal veterinarians have developed tools to assess companion animals' quality of life (Yeats & Main, 2009). While these vary, they all include basic biological needs (e.g., food, water, physical exercise, elimination), along with social and/or emotional needs (e.g., activities which lead to bonding with the guardian such as play, as well as engaging in stimulating and enriching activities). This distinction was used to better understand the tasks/activities caregivers performed for care recipients' companion animals.

The overwhelming majority of caregivers performed tasks attending to the animals' basic biological needs (e.g., feeding, providing fresh water, managing waste). These tasks were conducted regularly for all animals. Higher level physical needs (i.e., physical needs which are not necessary for basic biological functioning; e.g., nail/claw trimming, grooming, veterinary appointments) were performed by fewer caregivers and less often. This logical difference between basic and higher level physical needs may have also been due to higher levels of needs between individual animals (e.g., a cat or dog may not be on any prescription medication, an indoor cat may not receive flea or tick preventative).

Participants regularly performed tasks/activities which addressed the social and emotional needs of their care recipients' companion animal. Nearly every caregiver spent time with the cat or dog, and did so frequently. The overwhelming majority also petted or played with the companion animal, and both activities were performed at least once a week by approximately 80% of participants. Clearly, these caregivers understood the companion animals' needs for interaction and enrichment. While companion animal guardianship is quite common in the United States, this sample may have been more familiar with their social and emotional needs than individuals who had never been a companion animal guardian. Regardless of their current or past companion animal guardianship status, these activities would likely lead to the development of a direct relationship between the caregiver and the care recipients' companion animal.

The number of tasks/activities performed for the companion animals was positively correlated to the number of the care recipients' functional limitations. Although this may not seem like a surprising finding, this study represents the first time

this association has been empirically measured. The emotional bond with companion animals can become more important to older adults as their physical limitations increase and health declines (e.g., Krause-Parello, 2012; Lago et al., 1990). While the companion animal may be more emotionally important to the care recipient, the animal is likely to require more resources from the caregiver (e.g., time, energy). This may compound the increasing demand of resources required of caregivers.

Care recipients' companion animals can also require financial resources from the caregiver. While the money for food and other supplies may be provided by the care recipient, the caregivers' resources of time and energy are used in the procurement of these items. The vast majority of caregivers bought food for the companion animal. Two-thirds of the caregivers bought toys for the cat or dog, providing further evidence for the acknowledgement of and provision for the social and emotional needs of the animals. Despite the resources which may have been required to fulfill the pet care tasks/activities, the number of pet care tasks/activities was not significantly associated with pet ownership costs in any of the path analyses. This might indicate that the relationships and other situational factors had a greater impact on the perceived costs of the companion animal than the objective number of tasks/activities performed.

Caregivers were very willing to perform the tasks/activities required to care for their care recipients' companion animal. The level of closeness caregivers shared with the companion animal was the only relationship variable (i.e., the care recipients' emotional bond with the companion animal, mutuality, and closeness with the companion animal) associated with willingness to provide care for that animal. This suggests that the direct relationship between a caregiver and their care recipients' companion animal may impact

how inclined they are to extend their resources to that companion animal. The personality and temperament of the individual companion cat or dog is also highly likely to impact both the closeness and the willingness to provide for the animal. This factor will be addressed further as a study limitation.

### **The Main Effects of Care Recipients' Companion Animals on Caregiving Outcomes**

Despite increasing the time spent in the role of caregiver, the number of tasks/activities performed had no main effect on any of the caregiving outcomes. However, the perceived costs of the companion animal were associated with higher caregiver burden and lower caregiving mastery. This provides further evidence that the perception of a stressor may have more of an impact on the experience of burden than the objective qualities of a stressor (i.e., the functional limitations of the care recipient; Clyburn, Stones, Hadjistavropoulos, & Tuokko, 2000).

The items in the Caregiving Appraisal Scale (i.e., the outcomes of burden, satisfaction, and mastery) framed caregiving within the relationship to the care recipient. The phrasing of the items focused on the experience of providing care for the care recipient. The language may have resulted in narrowing the conceptualization of the caregiving experience. This issue is addressed in greater detail in the limitations section below. Regardless, the perception that the companion animal demanded high costs on the caregivers' resources (specifically, their resources of time, energy, and money) was associated with higher rate of caregiver burden.

The negative association between the perceived costs of the companion animal and caregiving mastery may be rooted in the expectations of the caregiving role. Providing for the basic, social and emotional needs of a cat or dog may not be a

predictable aspect of taking on the role of caregiver. The care recipient's companion animal may not only be an unscripted component of the role, but it may also provide unanticipated expectations that the caregiver may not be able to satisfy. Role overload can have a negative influence on caregiving mastery (Infurna et al., 2013). The perceived costs of the companion animal may contribute to role overload, thereby removing resources from other valuable roles of the individual (i.e., parent, spouse, friend, employee).

Higher costs may also have been associated with companion animals with more needs (e.g., take prescription medications, have a chronic illness, behavioral problems). These cats and dogs would be more likely to require a greater amount of resources (time, energy, financial) than cats or dogs with fewer needs. These are areas for future inquiry in this field.

### **Relationships as Moderators**

The relationships with the companion animal (i.e., care recipient-companion animal bond and the caregiver-companion animal closeness) moderated the effects of the companion animal on satisfaction within the role of caregiver. The interpersonal relationship between the caregiver and care recipient (i.e., mutuality) did not have a moderating effect on the associations between the companion animal and satisfaction within the role; instead, it moderated the associations between the companion animal variables and the outcomes of caregiver burden and caregiving mastery.

### **Pet Relationship Scales.**

The care recipients' relationship to the companion animal significantly moderated the association between the pet care tasks/activities and satisfaction within the role of

caregiver. The findings suggest that pet care tasks/activities are associated with role enhancement for individuals who perceive their care recipients to be more emotionally bonded to their companion animal. These caregivers may view the tasks and activities they perform for the companion animal to be an extension of the care they provide for their care recipient. Pet care tasks/activities may augment satisfaction within the role of caregiver because they require a different skillset than what is necessary in providing care for the care recipient (e.g., DePasquale et al., 2016). Interacting with the companion animal necessarily requires a very different communication system, and this reliance on largely non-verbal communication may also enhance satisfaction within the role. Pet care tasks/activities may afford opportunities to provide for the care recipient in novel ways, which do not directly compete with the skills and resources required for the care recipient.

Stronger emotional bonds between care recipients and their companion animals neither buffered nor exacerbated the effects of pet care tasks/activities or the perceived costs of the companion animal on caregiver burden. Caregivers who perceived a low emotional bond between their care recipients and companion animals had lower rates of satisfaction within the role of caregiver when they performed higher numbers of pet care tasks/activities. While these would also require the novel skills and resources mentioned above, they may not have led to role enhancement due to the fact that the companion animal was not as highly valued by the care recipient. Therefore, the tasks/activities might not be perceived as an extension of providing for the care recipient, but instead as an additional drain on resources.

These results must also be interpreted with the understanding that the care recipients were perceived to be more likely to consider their companion animals to be property than the national average, at least according to the caregivers' perceptions. The respondents' care recipients may have had a lower mean score of their emotional bond with their companion animal than a larger and more nationally representative sample would have had. The direction of the interaction may not have been altered due to this difference, but the intensity of the interaction may have been less than with a more typical sample.

### **Mutuality.**

Higher mutuality with the care recipient buffered the association between pet care tasks/activities and caregiver burden. This is not surprising when taken within the context of previous research, which has shown mutuality to have a negative association with caregiver burden (Ball et al., 2010), even when the number of stressors was high (Yang et al., 2104). In addition, this may indicate that the companion animal is indeed perceived to be an extension of the caregiving role. The resources devoted to providing for the companion animal may be perceived as contributing to the care recipients' wellbeing in addition to the companion animal; thereby, increasing the return on invested resources.

The moderating effect of mutuality on the link between pet care tasks/activities and caregiving mastery was unexpected. There was little difference in the levels of caregiving mastery for caregivers with higher levels of mutuality who provided low numbers or high numbers of pet care tasks/activities. Caregivers who had lower levels of mutuality with the care recipient experienced greater levels of caregiving mastery when they performed a greater number pet care tasks/activities. The tasks/activities were likely

to be familiar to the caregiver (as all were current or former companion animal guardians); thus, these tasks/activities might be more easily accomplished and may have been less complex than the tasks required of the care recipient, lending themselves to positive associations with mastery specifically in the role of caregiver. However, this explanation does not take into account the interpersonal relationship between the caregiver and recipient.

Relationships with lower levels of mutuality are more negative and not perceived to be positively reciprocated. The appreciation potentially lacking from the care recipient may have been received from the cat or dog. The companion animal may have allowed caregivers who shared low mutuality to experience appreciation for, and the impact of, their actions within the role of caregiver. This positive feedback may provide a sense of competency within the role and in fulfilling the expectations of the role of caregiver. Alternatively, the companion animal may have simply provided distraction from a potentially negative relationship with the care recipient. The pet care tasks/activities may have provided an alternative focus of attention and a positive diversion within the role of caregiver. The provision of an engaging, positive distraction and a distraction from stressors have been suggested to be mechanisms by which animal-assisted activities (i.e., programs in which volunteer human-animal teams, most commonly dog-human teams, visit people in facilities such as hospitals and rehabilitation facilities; International Association of Human-Animal Interaction Organizations, 2014) confer benefits to individuals (Coakley & Mahoney, 2009; Johnson, Meadows, Haubner, & Sevedge, 2008). Though regular interaction with a companion animal is quite different than an

animal-assisted activity, there is evidence that a companion animal may act as a diversion from stressors.

Mutuality had a different moderating effect between the perceived costs of the care recipients' companion animal and caregiving mastery. The negative association between costs and mastery which occurred for caregivers with high mutuality mirrored the results in the second research question. The level of caregiving mastery experienced by caregivers with a low level of mutuality was nearly the same for caregivers who perceived high and low costs of care recipients' companion animal. The negative relationship with the care recipient may impact the level of caregiving mastery to such a degree that the additional costs of the companion animal has no effect on mastery within the role of caregiver. This may explain why the negative association was only experienced in caregivers with high mutuality.

Alternatively, caregivers who have high levels of mutuality may feel the companion animal is taking away from the resources they would prefer to devote to their care recipient. Caregivers who perceive high costs and have high levels of mutuality may believe the costs of the companion animal prevent them from optimally fulfilling the role of informal caregiver, despite their sense of competency in the role.

### **Closeness.**

The associations which involved the caregiver-companion animal relationship failed to reach statistical significance, but were interpreted due to the small sample size. These findings are offered as preliminary explanations. Caregivers who reported a high level of closeness with the companion animal had higher levels of satisfaction within the role of caregiver when they performed a higher number of pet care tasks/activities. The

opposite was true for caregivers who had low levels of closeness with their care recipients' companion animal: they had lower levels of satisfaction within the role when they performed higher numbers of tasks/activities. Performing more tasks and activities likely allows for and demands more time with the companion animal. There is no way to hypothesize on the directionality of these variables (i.e., do caregivers who feel very close to the companion animal do more tasks, or does having to perform the tasks lead to a closer relationship?). Considering that the caregiver is likely to have had a relationship with the companion animal prior to taking on the role of caregiver, it is probable that closeness precedes providing care for the companion animal. This is also supported by evidence that caregivers who felt closer to the companion animal were more willing to provide care for the companion animal.

It is also possible that the companion animal provided emotional support to the caregiver. Social support has been associated with higher levels of satisfaction in the role of caregiver (Wakefield et al., 2012). Interacting with the companion animal may also provide emotional support for the caregiver. The companionship and support that spousal caregivers reported to receive from their own companion animal in the work of Connell and her colleagues (2007) may have been experienced by caregivers who did not consider themselves to be guardians of the companion animal. The majority of the spousal caregivers reported that their relationship with the pet had grown closer since taking on the role of caregiver for a spouse with dementia (Connell et al., 2007). The relationship with the care recipients' companion animal may have strengthened due to spending more time with the animal, as well as engaging in affiliative activities such as petting the animal, and potentially stress reducing activities such as play and dog walking.

The emotional bond and support caregivers have experienced when maintaining a closer relationship to their care recipients' companion animal may also explain the relationship's moderating effect on the association between the perceived costs of the companion animal and the satisfaction experienced within the role of caregiver. Care recipients who reported lower closeness with the companion animal experienced less satisfaction within the role when perceived costs were higher. Once again, caregivers who reported higher closeness to the companion animal experienced greater satisfaction within the role when the cost was also perceived to be higher. This counterintuitive association for caregivers with higher closeness may not only be explained by the emotional bond and support they receive from the companion animal, but also from the satisfaction they receive in fulfilling needs and providing care for the animal.

Companion animals with poorer physical health may require more care, and consequently more resources from the care recipient. While these cats and dogs may require more resources within the caregiving role, they may also provide more obvious and immediate feedback (e.g., a wagging tail or purring) that their needs have been met than the human care recipient. This may lead to role enhancement by strengthening the caregivers' perceptions that they are successfully fulfilling expectations of the role of caregiver. Future research that includes information on the temperament and physical health of the companion animals might help further flesh out these moderated relationships.

### **Limitations**

The results of this study are limited in their generalizability due to the small sample size. This limitation is exacerbated by the high number of missing data on the pet

care tasks/activities items and individual items missing from the PRS and the MDORS Emotional Closeness subscale. The missing data was due to the author's omission of the scale from the original on-line survey. The path analyses were therefore conducted using the full information maximum likelihood for missing values (FIML) option. FIML is often used with much larger sample sizes; however, it can also be successfully used with small samples sizes such as the present study (Acock, 2012). FIML assumes that data are missing at random, which applied in this case as the data were not missing due to non-response from the participants, but due to an error in the on-line survey. FIML was found to have less biased parameter estimates and superior Type I error rates compared to other methods of managing missing data (Enders & Bandalos, 2001). FIML is also able to accommodate a larger proportion of missing data as it employs all available data in the analysis (Acock, 2012).

The limited number of participants who responded to the pet care tasks/activities items further limits the generalizability of these findings. The 27 participants who completed the items performed a minimum of five tasks/activities and devoted a minimum of one hour each week to the caregivers' companion animal. These results are certainly not representative of all caregivers of companion animal guardians, but they do suggest that more study is needed, as the companion animals are likely a significant factor in the caregiving experience.

The results of this study must also be considered within the context that all participants were either current or past companion animal guardians. This sample also displayed very positive attitudes toward companion animal guardianship, and there is likely to be much more variability within the larger population of caregivers. The

participants were most likely very familiar with pet care tasks/activities, and this familiarity could have affected their experiences within the role of caregiver. In addition, the majority of the sample were providing care for a parent and may have grown up in a household which encouraged companion animal guardianship. There was more variability within the sample on willingness to provide for the specific companion animal, which may provide further evidence that the individual relationship with the companion animal has a greater influence on the experiences than more general attitudes.

The sample size limited the number of control variables accounted for in the analyses. There is certainly evidence that demographic and variables of both the caregiver and care recipient can influence the experiences within the role of caregiving (e.g., Pinquart & Sörensen, 2005, 2011). Higher degrees of functional impairment, (Kim, Chang, Rose, & Kim, 2012), the later stage of Alzheimer's disease (Mioshi et al., 2013), and more time per week providing care (Wullschleger et al., 1996) have also been found to have a positive relationship to the level of burden caregivers experience. However, this is less likely to influence role strain than the caregivers' own perceptions of the influences of those objective measures (Pearlin, 1999). This is why the variable of inadequate help was constructed and used as a control variable. The variable reflected the participants' assessment and perception of the role. It was employed as an indicator of role strain as it indirectly measured whether the role was demanding too many resources from the caregiver, or if the caregiver had adequate resources and/or assistance to successfully manage the role.

Inadequate help accounted for a large amount of the variability for the outcome of burden. The desire for more help in providing care for the care recipient (i.e., more help

from family and friends) was chosen based on positive associations with higher rates of burden in previous studies (Burton et al., 2012; Garlo, O’Leary, Van Ness, & Fried, 2010). However, it was probably less successful in examining the outcomes of satisfaction within the role of caregiver or caregiving mastery. The degree to which caregivers felt they had a choice in taking on the role may have been a better measure for these variables, particularly caregiving mastery. The degree to which caregivers may have felt a lack of choice in taking on the role would most likely extend to taking on the provision of care for the companion animal. Lack of choice in taking on the role of informal caregiver was associated with higher levels of stress in a nationally representative sample of informal caregivers (Schultz et al., 2012). This issue merits future research to more fully understand the factors contributing to caregivers’ sense of mastery. Furthermore, the length of time within the role of caregiver was another possible confound. While the six month minimum criterion was chosen to limit the effect of adjusting to the role, the length of time within the role of caregiver has been associated with changes in caregivers’ fatigue (Fletcher et al., 2009), as well as caregiving mastery (Simpson & Cater, 2013).

The Caregiving Appraisal Scale (i.e., burden, satisfaction and mastery; CAS) framed caregiving within the relationship to and care provided for the care recipient. The term “care recipient” was explicitly used in each item on all three subscales. This may have influenced the how caregivers conceptualized their caregiving experiences. Respondents may have focused on how their care recipient directly impacted their experiences, instead of incorporating the entirety of the caregiving role. However, the CAS was designed to measure the subjective experiences within the role and not the

specific relationship with the care recipient (Lawton et al.,1989) and has been widely and successfully deployed to do so (Lawton et al., 2000a).

There is a slight possibility that care recipients included the hours spent providing care for their care recipients' companion animal in the count of total hours per week spent providing care. However, the wording of the item ("How many hours per week do you provide care, assistance, supervision, or companionship to your care recipient?"; CCRC, 2003) diminished the probability of this occurring. It is unlikely that the percentage of change in hours per week caused by the addition of hours providing care for the companion animals was due to this potential artifact, although the hours reported might not be mutually exclusive (e.g., a caregiver might provide companionships simultaneously to the care recipient and the companion animal).

This study is further limited by being a cross-sectional study. Despite the use of path analyses, the direction of causality cannot be determined with these results. Longitudinal analyses would not only allow for the directionality of effects of the independent measures on the experience within the role of caregiver, it would also provide evidence for the changes in outcomes and the moderating relationships over time. For example, does the emotional bond between the care recipient and their companion animal increase over time, as suggested by the literature (e.g., Lago et al., 1990)? If so, does that strengthened bond continue to be associated with higher satisfaction within the role for caregivers who provide higher levels of pet care tasks/activities? Longitudinal analyses would also uncover whether the caregivers' relationship with the companion animal grows closer or whether the perceived costs of the companion animal increase over time.

The interpretation of these results can only be applied to the experiences of the caregivers. The results do not address how the companion animal affects the care recipient (e.g., being motivated to engage in self-care behaviors; Brooks et al., 2012; Johansson et al., 2014; Ryan & Ziebland, 2015). Nor do the results truly measure the emotional bond between the care recipients and their companion animals. However, the aim of the study was to understand the experiences of the caregivers. The results do provide evidence that a companion animal that is not considered to be “owned” by an individual may still have an impact on the experience of that individual.

The companion animals may also provide an avenue for future study. The tasks/activities caregivers provide may allow companion animals to remain in the household longer, and thus out of humane societies or shelters. Caregivers may also correct behaviors of the care recipient, such as over- or underfeeding the animal. Conversely, they may contribute to the overfeeding by providing too many treats. These outcomes are beyond the scope of this study, but deserve future attention.

Research studying relationships between humans and companion animals should also take into account the temperament of the companion animal. The majority of studies investigating whether and how companion animals influence older adults’ well-being often overlook these essential components of the human-companion animal relationship (International Federation on Ageing, 2014). The temperament and health of the individual companion animal likely influences the number of tasks performed for the animal, the perceived costs of the animal, the closeness caregivers feel toward the animal, as well as the relationship established between the caregiver and companion animal prior to becoming the care recipients’ caregiver.

## **Implications**

### **Caregiving services and studies.**

Researchers and policy makers acknowledge that the demands of the role of informal caregiver extends far beyond the provision of assistance for ADLs and IADLs (AARP & NAC, 2015). The results of this study provide evidence that care recipients' companion animals influence the caregiving experience. The care recipients' status as a companion animal guardian should be assessed when conducting a caregiver assessment such as the one performed by the California Caregiver Resource Centers. The findings of this study strongly suggest that care recipients' companion animals significantly contribute to the time spent in the role of caregiver each week. The services which provide for caregivers, and the researchers who study them, should include items addressing the care recipients' companion animal in order to fully understand the caregiving experience. This echoes concerns expressed by individuals within the fields of physical and mental health, who have called for similar assessments of their clients (Cohen, 2002; Walsh, 2009b) and research participants (Ryan & Ziebland, 2015; Walsh, 2009a).

The overwhelming majority of studies investigating the physical and psychological outcomes associated with companion animals have exclusively focused on individuals who are guardians of companion animals. The small amount of research which has been conducted on the effects of companion animals on the caregiving experience has either focused on investigating caregivers who considered themselves to be either a co-guardian of the companion animal with their care recipients (e.g., Connell et al., 2007), or studied the influence of the caregivers' own companion animal (e.g.,

Raveis, 1993). Yet, national statistics suggest that the majority of caregivers would not consider themselves to be a guardian or co-guardian of their care recipients' companion animal (e.g., the majority do not live with their care recipients; AARP & NAC, 2015). The care recipients' companion animal is likely to be perceived by caregivers as an aspect of the caregiving role requiring resources. Therefore, the possibility exists that the companion animal could contribute to role strain.

The perceived costs of the companion animal on the caregivers' resources was associated with caregiver burden in this sample. Caregiver burden is known to have negative consequences on both the mental (Cannuscio et al., 2002; Verbakel et al., 2016) and physical health of caregivers (Schultz & Beach, 1999). Caregiver burden is associated with role strain and is often used in assessing the negative consequences of the caregiving role (Bastawrous, 2013). The results of this study suggest that care recipients' companion animal guardianship status be included in any assessment aiming to address caregivers' experience of role strain or burden.

The perceived costs of care recipients' companion animals on caregivers' resources may also have negative consequences for the level of caregiving mastery. Mastery within the role of caregiver is known to be a fluid perception shaped by the caregiving situation (Simpson & Carter, 2013b). Interventions and programs which focus on improving caregiving mastery have been advocated, with the argument that they allow for more positive experiences and assist caregivers in viewing themselves as more successful in the role (Cameron, Stewart, Streiner, Coyte, & Cheung, 2014). Assessing care recipients' companion animal guardianship status would not only provide a more complete understanding of the factors that contribute to mastery, but could help to

improve caregiving mastery. Pet care tasks/activities would have been familiar to this sample; these interventions would not be simply a matter of explaining the basics of pet care. Programs or interventions that provide caregivers with ways of reframing or re-conceptualizing the costs of the companion animal may be able to enhance caregivers' sense of caregiving mastery.

The effects of the companion animals on the caregiving experience were more fully understood when the relationships between the caregiver, care recipients, and companion animal were taken into account. Clearly, the effect of the companion animal is shaped not only by the resources it requires of the role, but how it is viewed within the larger relationship with the care recipient.

#### **Companion animals in family studies.**

The majority of individuals in the United States who live with companion animals consider them to be members of the family (AVMA, 2012). Cats and dogs provide adults with a sense of family, responsibility, and purpose, as well as physical and emotional nurturance (Chandler, Fernando, Minton, & Portrie-Bethke, 2015). Experts in the field of clinical family practice, social work, nursing, and human and veterinary medicine have advised their fields to include companion animals as part of the family system (Chandler et al., 2015; Cohen, 2002; Hodgson & Darling, 2011; Johnson & Meadows, 2002; Ryan & Ziebland, 2015; Sable, 1995; Walsh, 2009b).

Subsystems which involve the care recipients' companion animals (i.e., care recipient-companion animal bond and the caregiver-companion animal closeness) may impact the caregiving experience. The single extant study which concentrated on the caregiver-companion animal relationship found the relationships between both the

caregiver and care recipient to the companion animal had changed due to the husband's illness (Connell et al., 2007). Wives who took on the caregiving role reported the cat or dog provided support and companionship, while a few expressed that the time and energy required to provide care for their care recipient left less time to spend with or give attention to the pet. The relationship between the husband who had developed dementia was also perceived to have changed in both positive (e.g., receiving support from the animal, remaining calmer when the animal was present, becoming closer emotionally to the animal) and negative ways (e.g., no longer being aware of the animal's presence, being less affectionate with the animal, becoming more distanced emotionally from the animal) due to the onset of dementia. The results of this and the present study provide clear evidence that the companion animal is an interrelated element within the family structure, and is likely to shape the experiences within the role of informal caregiver.

The dyadic relationship between the caregiver and recipient (i.e., mutuality) clearly influenced the effects of the care recipients' companion animal on the caregiving experience. Mutuality has been shown to have a large influence on the experience within the role of caregiver (Archbold et al., 1990; Ball et al., 2010; Schumacher et al., 2008). The moderating effects of this relationship on the associations between the pet care tasks/activities and the perceived costs on the caregiving experience underscore two important points. Firstly, the companion animal is likely to be viewed as an extension of the relationship with the care recipient. While the caregiver did have a unique relationship to the companion animal, the companion animals' influence on the role of caregiver is at least partially shaped by the relationship with the care recipient. Secondly,

it is clear that the care recipients' companion animal is an essential element within this caregiving system.

Calls to include companion animals in the family literature are not new. In 1985, the *Marriage and Family Review* dedicated a special issue to "Pets and the Family." The issue included articles that used systems theory to explain the roles of pets within a family (Cain, 1985) and called for exploration of the roles of pets within diverse family systems across their lifespan (Soares, 1985). However, companion animals remain absent in both family studies and theories. Conversely, the field of human-animal interaction has remained fairly atheoretical (with the exception of the use of attachment theory to understand the human-companion animal dyad; e.g., Beetz et al., 2001).

People increasingly consider their companion animals to be family members (AVMA, 2012, 2007). Older adult companion animal guardians who require assistance in their daily lives are also highly likely to require assistance in providing for the care needs of the companion animals with whom they share a highly valued relationship. Studies which either focus on, or include, the care recipient would allow for a more complete understanding of the bond between older adults and their companion animals, as well as how the subsystem of the relationship between the care recipient and the companion animal influences caregiving experience.

Care recipients' companion animals may increasingly influence caregivers' experiences as the population ages, and the numbers of people who consider their companion animals to be members of their family continues to rise. Researchers have speculated that respondents underreport or diminish the importance of their companion animal's role within the family due to fear of judgement from researchers (Ryan &

Ziebland, 2015). Research that is inclusive of non-human family members may be more likely to uncover the roles companion animals enact within the family. Family studies and theories will need to account for this evolving definition of family.

### **Role Theory**

This study employed role theory to systematically investigate how the care recipients' companion animals influenced the experiences within the role of informal caregiver, and furthermore, how the relationships between the three interrelated individuals (i.e., the caregivers, the care recipients, and the companion animals) influenced the experience of caregiving. Care recipients' companion animals did require resources from the caregiver and added to the time spent within the role. The perception of the costs of the resources were often more strongly associated with their impact on the role than the actual provision of those resources. The degree of role strain caregivers experienced (as measured by caregiver burden) was further influenced by the relationship between the caregivers and their care recipients. The belief that one was competent and able to successfully manage the role of informal caregiver (i.e., caregiving mastery) was directly influenced by the perceived costs of the companion animal. This direct effect was further influenced by the relationship between caregivers and their care recipients.

Allocation of resources to the companion animal only contributed to role enhancement (i.e., satisfaction within the role of caregiver) when either the care recipients or the caregivers themselves had a positive relationship with the companion animal. The pet care tasks/activities may have furthered with role enhancement because they provided novel ways to fulfill the role of caregiver for the care recipient. Indeed, the results of this study (e.g., the two-way interaction effects of the care recipient-companion

animal bond on the association between pet care tasks/activities and satisfaction within the role of caregiver, and the two-way interaction effects of mutuality on pet care tasks/activities association with caregiver burden) provide evidence that the tasks and activities performed for a care recipient's companion animal are likely to be viewed as an extension of providing care for the care recipient. The companion animal does not seem to add an additional caregiving role; instead, the cat or dog extends the existing role of caregiver for the human care recipient. This finding is important for researchers and practitioners to more fully understand the facets that comprise the role of caregiver.

The results of this study further supported role theory as illustrated by the fact that care recipients' companion animals had both positive and negative impacts on experiences within the role of caregiver. Resources devoted to the companion animal may be an indirect way of providing for the care recipient, but they may also be viewed as taking away from resources which could be directly provided to the care recipient, furthering role strain. These perceptions are not mutually exclusive, and evidence for each was found in the results. Further study is necessary to better understand the resources required and perceived costs of care recipients' companion animals, as well as the direct (e.g., emotional or social support, diversion) and indirect (e.g. emotional or social support provided to the care recipient) benefits the companion animals provide within the role of informal caregiver for an older adult. Companion animals are likely to be an influential component which may shape the experiences within the informal caregiver role.

### **Further Future Directions**

The need for longitudinal studies has been addressed previously in this section. Suggestions have also been made to study the direct influences care recipients' companion animals may have on the caregiving experience (e.g., providing a diversion from stress, opportunities for physical activity, emotional or social support, as well as requiring the resources of time, energy, and money). Qualitative analyses (e.g., phenomenology or grounded theory) may afford an important next step in understanding the positive and negative impacts of care recipients' companion animals. Very little is known about this topic; qualitative analyses would further illuminate how these companion animals influence the lived experience within the role of caregiver. They would also allow for a deeper understanding of how the companion animals fit within and effect the caregiver-care recipient relationship. One participant sent an unsolicited email which began, "So much I would have added if there were a write in space . . .". The participant highlighted not only how caring for the companion animal was an extension of her role as her mother's caregiver, but also how her feelings towards the companion animal were associated with her relationship with her mother, "I don't care for the dog, he pees in my house...I have to watch him like a hawk...she loves the dog. I treat the dog as her child...because II [sic] love him, she is happy." An inductive approach would provide evidence which may either confirm the present findings within role theory or lead to a more appropriate theoretical approach.

Including individual companion animal factors such as temperament, needs, and physical health status have also been mentioned previously in this chapter. However, these factors raise important issues about the health and well-being of the companion

animals. Older adults who have difficulties with ADLs are likely to have similar difficulties in caring for their cat or dog (e.g., over or under feeding, being unable to give medication according to the appropriate dosage), which could lead to serious health consequences for the animals. Having more than one individual (e.g., the older adult and a caregiver) regularly feeding or giving treats may have similar negative impacts on the animals. The results of this study provide evidence that a positive relationship exists between older adults who have more functional limitations and the number of tasks/activities caregivers do for their companion animals. Small animal veterinary medicine may be able to add to this line of research with results which could benefit the health and wellbeing of both the companion animals and their older adult owners.

Veterinarians may perceive changes in the health of a cat or dog which may suggest the older adult guardian is no longer able to provide adequate care on his or her own. Therefore, veterinarians may be able to detect whether older adults are in need of assistance based on changes in their companion animals. Small animal veterinarians may also have insights on how the needs of companion animals are related to the functional abilities of their older adult guardians. This is another realm where qualitative studies could uncover what if any, physical or behavioral health changes may occur in companion animals when the functional abilities of their older adult guardians change. There may be significant effects on the companion animals' welfare which need to be taken into account.

Veterinarians are likely to have first-hand experience in providing veterinary care for a dog or cat with the client's caregiver in the room as opposed to the older adult guardian of the animal. The results of this study indicated that many of the caregivers

took their care recipients' cat or dog to the veterinarian. Veterinarians' experiences in such visits may further uncover how the relationships between the three individuals (i.e., the caregiver, the older adult, and the companion animal) influence the caregiving experience. Studies may also explore how health decisions are made for companion animals within these situations. What do caregivers do if an important health decision has to be made immediately but the older adult was unable to come to the veterinary appointment? Do such decisions lead to interpersonal conflict? Is the caregiver considered to be a "health care proxy" for the older adult in such situations? Would alternative health care settings, such as in-home veterinary visits avoid such situations while being fiscally viable for veterinarians?

Caregivers may allow companion animals to remain within the home in much the same way as they do for older adults. However, there may be times when a companion animal requires too many resources and must be re-homed. Local humane societies and rescue groups provide opportunities to understand the factors which lead to relinquishing companion animals for these reasons. Studies conducted at such facilities may begin to uncover the number of cats and dogs which are relinquished for such reasons each year. Companion animals will most likely need to be re-homed if their older adult guardian is moved to a facility such as a nursing home. Understanding the decision making process of relinquishment may reveal common factors which could be addressed (e.g., through educational interventions conducted by shelters or veterinarians) in order to delay or prevent the need for re-homing.

## **Conclusions**

Care recipients' companion animals do require time, energy, and possibly financial resources of the caregiver. Companion animals may directly impact the outcomes of caregiver burden and caregiving mastery. Caregivers do have a relationship with their care recipients' companion animals, which is defined both by the resources it costs the caregiver, and the closeness the caregiver feels toward the cat or dog. It is true that the caregiver's direct relationship to the companion animal may not have as great an influence on the caregiving role as the direct relationship with the care recipient, or the perception of the relationship the care recipients have with their companion animal. However, care recipients' companion animals may provide unique opportunities to facilitate role enhancement and caregiving mastery within the context of these interlinked relationships. The results of this study further underscore the necessity of investigating the influence of companion animals beyond the human guardian-companion animal dyad and to include them in studies and services focused on the caregiving experience.

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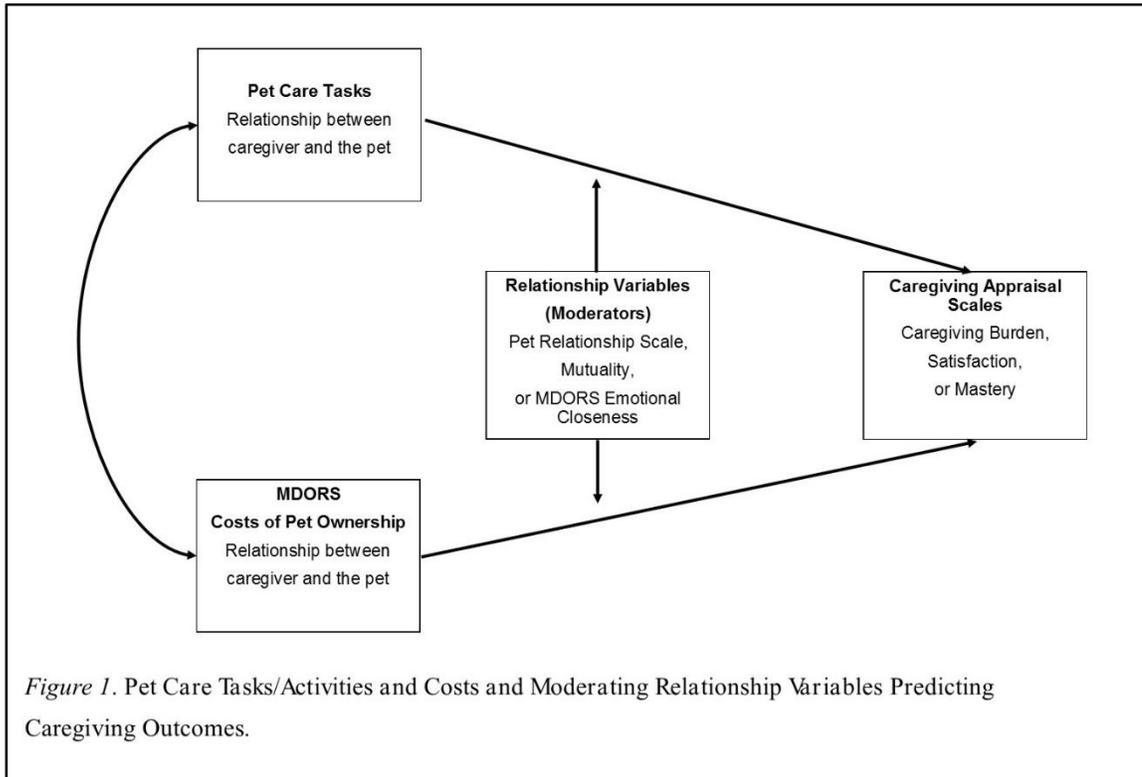
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**Figure 1. Theoretical Model**



**Figure 2.** Hypothesized Model

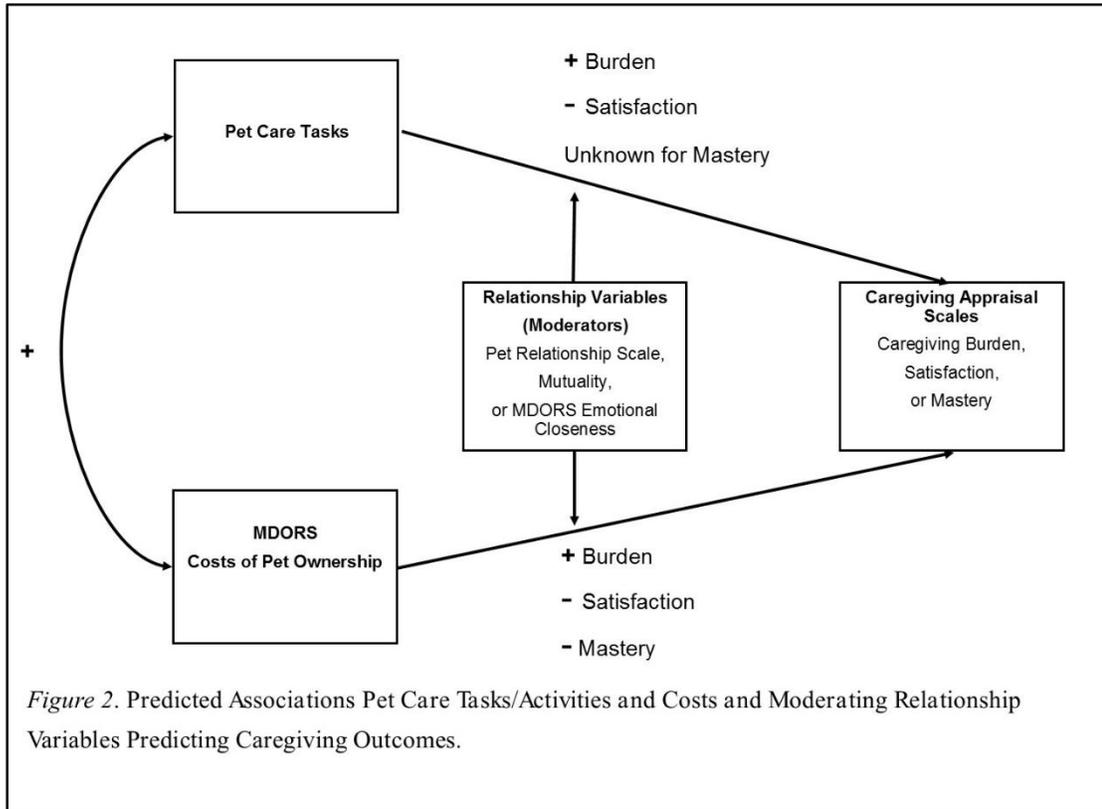


Table 1

*Demographic Characteristics of Participants and their Care Recipients*

Variables	Means (SD) (range) or Percentages (N)	
	Participants (N=42)	Care Recipients (N=42)
Age	54.42 (14.48) (19-80)	76.57 (11.03) (42-94)
Female Gender	83.7% (36)	73.17% (30)
Race		
Caucasian	88.10% (37)	88.10% (37)
African American	2.38% (1)	2.38% (1)
Hispanic or Latino	7.14% (3)	7.14% (3)
Other	2.38% (1)	2.38% (1)
Education		
No High School	-	4.76% (2)
Some High School	-	14.29% (6)
High School	7.14% (3)	26.19% (11)
Some College	30.95% (13)	16.67% (7)
Associate's Degree	9.52% (4)	11.90% (5)
Bachelor's Degree	19.05% (8)	16.67% (7)
Graduate Degree	26.19% (11)	2.38% (1)
Professional Degree	7.14% (3)	7.14% (3)
Marital Status		
Married	59.52% (25)	40.48% (17)
Divorced	11.90% (5)	7.14% (3)
Living Together/ Domestic Partnership	4.76% (2)	2.38% (1)
Single	23.81% (10)	2.38% (1)
Widowed	-	47.62% (20)
Had Children	69.05% (29)	95.24% (40)
Number of Children	2.17 (1.42) (1-8; n=29)	3.00 (1.88) (1-8; n=39)

Table 2.  
*Companion Animal Guardianship of Participants and their Care Recipients*

	Means (SD) (range) or Percentages (N)	
Variables	Participants (N=42)	Care Recipients (N=42)
Guardianship	73.81% (31)	100.00%(42)
	3.41 (3.15)	2.17 (2.43)
Total Number	(1-16; n=29)	(1-15)
Species	(N=31)	
Cat(s)	64.52% (20)	42.86% (18)
Dog(s)	77.42% (24)	71.43% (30)
Bird(s)	12.90% (4)	4.76% (2)
Small Mammal(s) (e.g., hamster, rabbit, etc.)	35.48% (11)	-
Reptile(s)	6.45% (2)	-
Horse(s)	3.23% (1)	2.38% (1)
Fish(es)	13.13% (5)	-
Other	3.23% (1)	2.38% (1)
Species of Closest Companion Animal		
Cat	29.03%(9)	28.57% (12)
Dog	64.52%(20)	69.05% (29)
Bird	3.23% (1)	-
Horse	3.23% (1)	-
Age of Closest Companion Animal	8.74 (4.63)	9.04 (4.47)
	(2-18)	(1-18)
Status of Closest Companion Animal		
Family	67.74% (21)	59.53% (25)
Pet/Companion	32.26% (10)	30.95% (13)
Property	-	7.14% (3)

*Note.* Percentages of companion animal species and items for the closest companion animal were calculated out of the total number of current companion animal guardians for each group.

Table 3

## Percentages and Frequency of Pet Ownership Tasks or Activities Participants Performed

Task or Activity	Perform (N = 27)	Frequency Responses	Percentage (N)									
			Multiple Times a Day	Once a Day	Multiple Times a Week	Once a Week	Multiple Times a Month	Once a Month	A Few Times a Year	Once a Year		
Feed	88.89% (24)	91.67% (22)	27.27% (6)	18.18% (4)	9.10% (2)	0% (0)	22.73% (5)	0% (0)	18.18% (4)	4.55% (1)		
Provide Fresh Water	92.59% (25)	84.00% (21)	33.33% (7)	9.52% (2)	19.05% (4)	0% (0)	33.33% (7)	4.76% (1)	9.52% (2)	-		
Walk†	33.33% (9)	100.00% (9)	44.44% (4)	22.22% (2)	11.11% (1)	0% (0)	22.22% (2)	0% (0)	0% (0)	0% (0)		
Play With	81.48% (22)	86.36% (19)	36.84% (7)	21.05% (4)	15.79% (3)	5.26% (1)	15.79% (3)	0% (0)	5.26% (1)	0% (0)		
Give Edible Treats	55.56% (15)	100.00% (15)	60.00% (9)	20.00% (3)	0% (0)	0% (0)	13.33% (2)	0% (0)	6.67% (1)	0% (0)		
Pet	88.89% (24)	87.50% (21)	52.38% (11)	9.52% (2)	14.29% (3)	4.76% (1)	19.05% (4)	0% (0)	0% (0)	0% (0)		
Spend Time With	92.59% (25)	92.00% (23)	56.52% (13)	4.55% (1)	13.04% (3)	4.35% (1)	17.39% (4)	0% (0)	4.35% (1)	0% (0)		
Pick Up Waste	66.67% (18)	94.44% (17)	29.41% (5)	5.88% (1)	23.53% (4)	11.76% (2)	23.53% (4)	5.88% (1)	0% (0)	0% (0)		
Clean Litter Box*	29.63% (8)	100.00% (8)	12.5% (1)	25.00% (2)	25.00% (2)	0% (0)	12.5% (1)	12.5% (1)	0% (0)	12.5% (1)		
Clean Waste Messes or Accidents in the Home	77.78% (22)	90.91% (20)	4.55% (1)	13.64% (3)	4.55% (1)	13.64% (3)	22.73% (5)	22.73% (5)	4.55% (1)	4.55% (1)		
Train (e.g., Commands or Tricks)	29.63% (8)	100.00% (8)	25.00% (2)	0% (0)	12.5% (1)	12.5% (1)	12.5% (1)	37.50% (3)	0% (0)	0% (0)		
Trim Nails/Claws	40.74% (11)	100.00% (11)	0% (0)	0% (0)	0% (0)	0% (0)	18.18% (2)	45.45% (5)	27.27% (3)	9.09% (1)		

Note. Percentages for frequencies calculated based the number of participants who performed the individual task or activity.

† Dog only task or activity. \* Cat only task or activity.

Task or Activity	Perform (N = 27)	Frequency Responses	Percentage (N)							
			Multiple Times a Day	Once a Day	Multiple Times a Week	Once a Week	Multiple Times a Month	Once a Month	A Few Times a Year	Once a Year
Groom (e.g., Brushing, Combing, Teeth Brushing)	66.67% (18)	94.44% (17)	5.88% (1)	(0)	5.88% (1)	17.65% (3)	29.41% (5)	5.88% (1)	29.41% (5)	5.88% (1)
Take to a Professional Groomer	37.04% (10)	90.00% (9)	(0)	(0)	(0)	22.22% (2)	(0)	(0)	(0)	55.56% (5)
Board at a Facility When Necessary†	7.41% (2)	100.00% (2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	50.00% (1)
Hire Pet Sitter or Walkert	7.41% (2)	100.00% (2)	50.00% (1)	(0)	(0)	(0)	(0)	(0)	(0)	50.00% (1)
Give Preventative Medications	59.26% (16)	93.75% (15)	6.67% (1)	(0)	(0)	6.67% (1)	6.67% (1)	60.00% (9)	20.00% (3)	(0)
Give Prescription Medication	44.44% (12)	91.67% (11)	9.09% (1)	27.27% (3)	(0)	(0)	(0)	18.18% (2)	36.36% (4)	9.09% (1)
Clean/Remove Fur in the Home	66.67% (18)	83.33% (15)	6.67% (1)	6.67% (1)	33.33% (5)	6.67% (1)	13.3% (2)	20.00% (3)	6.67% (1)	6.67% (1)
Schedule Veterinary Appointments	66.67% (18)	83.33% (15)	(0)	(0)	(0)	(0)	(0)	(0)	6.67% (1)	60.00% (9)
Take to the Veterinarian	59.26% (16)	87.5% (14)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	64.29% (9)
Buy Food For	92.59% (25)	92.00% (23)	(0)	(0)	(0)	39.13% (9)	17.39% (4)	17.39% (4)	13.04% (3)	13.04% (3)
Buy Supplies For (e.g., Leash, Bed, Collar, Carrier)	70.37% (19)	89.47% (17)	(0)	(0)	(0)	11.76% (2)	5.88% (1)	11.76% (2)	35.29% (6)	35.29% (6)
Buy Toys For	66.67% (18)	88.89% (16)	(0)	(0)	(0)	6.25% (1)	(0)	37.50% (6)	31.25% (5)	25.00% (4)

Note: Percentages for frequencies calculated based the number of participants who performed the individual task or activity.

† Dog only task or activity. \* Cat only task or activity.

Table 4.  
Means, Standard Deviations, and Correlations between Model Variables

Measure	M	SD	Correlations							
			1.	2.	3.	4.	5.	6.	7.	
1. Pet Care Tasks Activities	14.96	5.38								
2. Perceived Costs	16.00	6.55	-.05							
3. Burden	22.09	8.80	.28	.32*						
4. Satisfaction	22.79	5.03	.09	-.26	-.27					
5. Mastery	22.64	4.18	.22	-.40**	-.30†	.41**				
6. Pet Relationship Scale	61.55	19.26	.39*	-.14	-.27	.07	.26			
7. Mutuality	46.29	9.67	-.31	-.30†	-.50**	.73***	.35*	.21		
8. Emotional Closeness	27.12	9.38	.56**	-.48**	.11	.23	.17	-.01	.09	

Note. †.051 <  $p$  < .08. \*  $p$  < .05. \*\*  $p$  < .01. \*\*\*  $p$  < .001.

Table 5.

*Pet Care Tasks/Activities and Costs of Pet Ownership as Predictors of Caregiving Outcome*

	Burden				Satisfaction				Mastery			
	B	SE B	B	95% CI	B	SE B	B	95% CI	B	SE B	B	95% CI
Inadequate help <sup>a</sup>	7.49**	2.39	.43**	2.81, 12.16	.04	1.62	.00	-3.14, 3.22	-.78	1.25	-.09	-3.22, 1.67
Pet care tasks	.26	.25	.16	-.24, .75	-.00	.18	-.00	-.36, .36	.16	.15	.20	-.14, .46
Costs	.41*	.08	.31*	.08, .75	-.20	.12	-.26	-.43, .02	-.24**	.09	-.39**	-.42, -.07
R <sup>2</sup>												
	.35				.07				.20			

Note. †.051 <  $p$  < .08. \*  $p$  < .05. \*\*  $p$  < .01. \*\*\*  $p$  < .001. CI = confidence interval.

<sup>a</sup> 0 = adequate help, 1 = inadequate help

Table 6.

*Care Recipient-Companion Animal Relationship (PRS) as Moderator of the Associations between Pet Care Tasks, Costs, and*

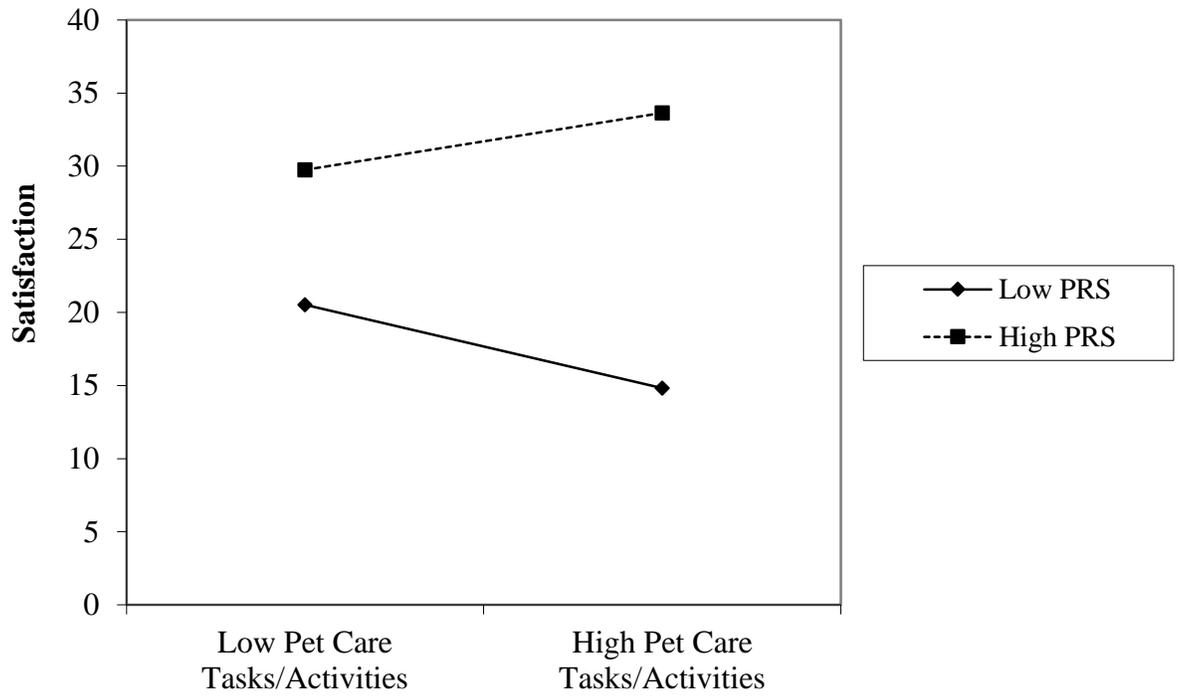
*Caregiver Outcomes*

	Burden			Satisfaction			Mastery					
	B	SE B	95% CI	B	SE B	95% CI	B	SE B	95% CI			
Inadequate help <sup>a</sup>	5.31*	2.52	.37, 10.25	2.20	1.90	-1.54, 5.93	-.45	1.52	-3.45, 2.54			
Pet care tasks	.52*	.26	.01, 1.03	-.08	.19	-.46, .29	-.03	.20	-.42, .36			
Costs	.54**	.19	.41**	.16, .92	-.31*	.14	-.41*	-.59, -.04	-.17	.11	-.27	-.39, .04
PRS	-.14*	.06	-.30*	-.26, -.01	.04	.04	.14	-.05, .12	.06	.04	.26	-.02, .13
Pet care tasks x PRS	-.01	.01	-.11	-.04, .02	.02*	.01	.45*	.00, .04	-.01	.01	-.12	-.03, .02
Costs x PRS	-.02	.01	-.24	-.04, .00	.00	.01	.09	-.01, .02	-.01	.01	-.19	-.02, .01
R <sup>2</sup>			.46			.21					.24	

Note. †.051 <  $p$  < .08. \*  $p$  < .05. \*\*  $p$  < .01. \*\*\*  $p$  < .001. CI = confidence interval.

<sup>a</sup>0 = adequate help, 1 = inadequate help

**Figure 3.**



*Figure 3.* Two-way Interaction Effects of Care Recipient-Companion Animal Bond (PRS) on the Association between Pet Care Tasks/Activities and Caregiver Satisfaction.

Table 7.

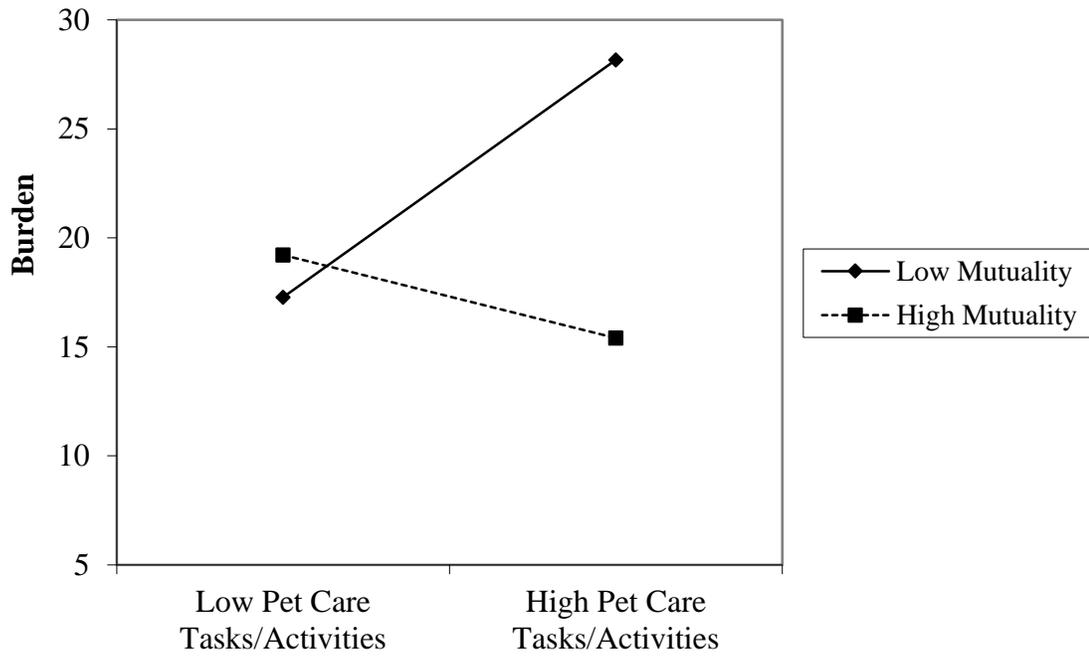
*Mutuality as Moderator of the Associations between Pet Care Tasks, Costs, and Caregiver Outcomes*

	Burden				Satisfaction				Mastery			
	B	SE B	$\beta$	95% CI	B	SE B	$\beta$	95% CI	B	SE B	$\beta$	95% CI
Inadequate help <sup>a</sup>	7.01**	2.28	.40**	2.55, 11.48	2.10*	1.03	.21*	.07, 4.13	-1.04	1.18	-.13	-3.35, 1.26
Pet care tasks	.33	.27	.20	-.19, .85	.29*	.13	.31*	.04, .54	.40**	.13	.51**	.14, .66
Costs	.33*	.17	.25*	.01, .65	.01	.08	.01	-.15, .16	-.25**	.09	-.39**	-.42, -.08
Mutuality	-.28*	.18	-.31*	-.51, -.05	.43**	.06	.84**	.33, .54	.14*	.06	.33*	.03, .26
Pet care tasks x Mutuality	-.07*	.04	-.29*	-.14, -.00	-.02	.02	-.14	-.06, .02	-.05*	.02	-.41*	-.08, -.01
Costs x Mutuality	.02	.02	.11	-.02, .05	.01	.01	.16	-.00, .03	-.02*	.01	-.33*	-.04, -.00
R <sup>2</sup>			.51				.67				.46	

Note. †.051 <  $p$  < .08. \*  $p$  < .05. \*\*  $p$  < .01. \*\*\*  $p$  < .001. CI = confidence interval.

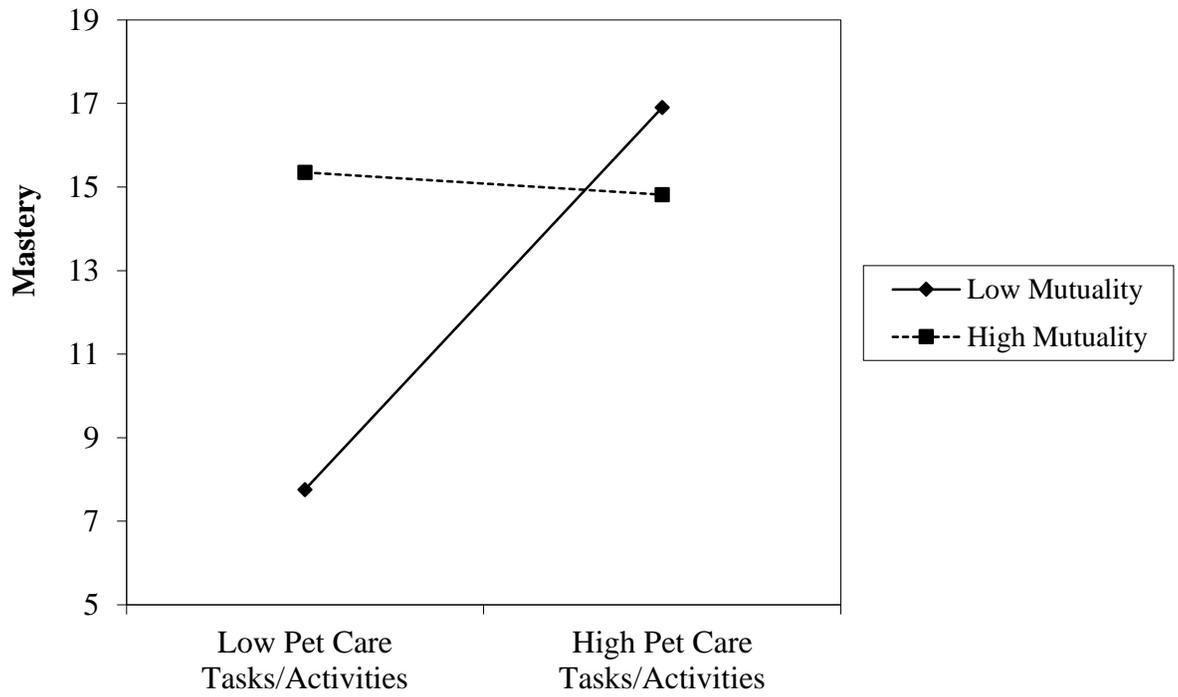
<sup>a</sup>0 = adequate help, 1 = inadequate help

**Figure 4.**



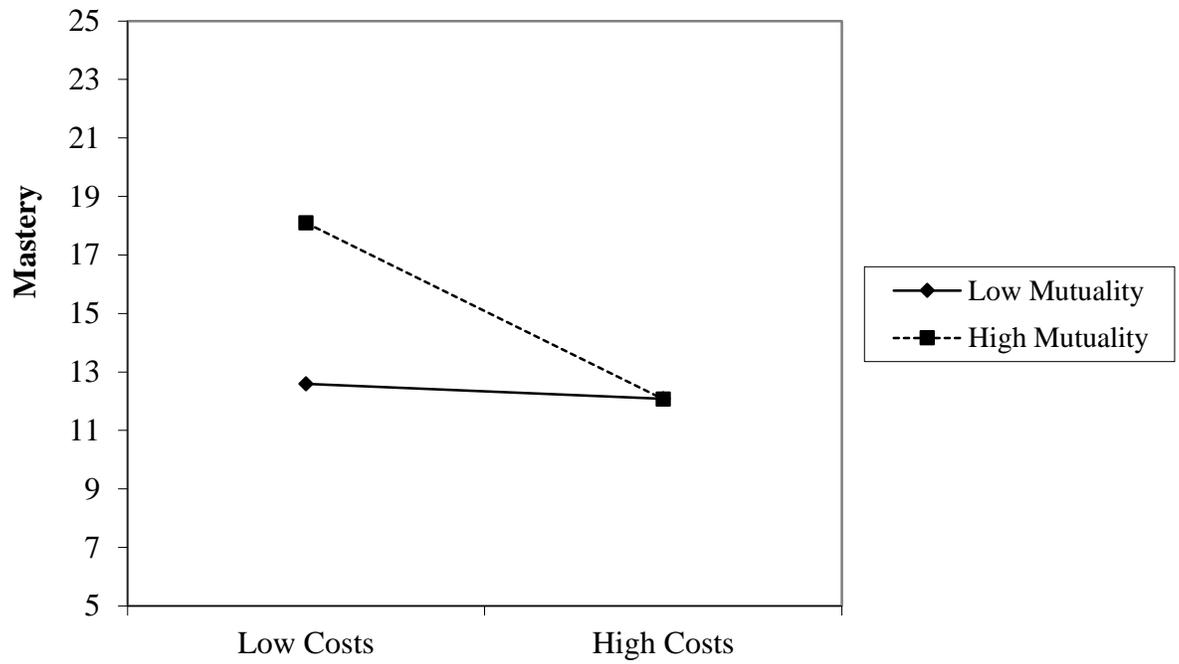
*Figure 4.* Two-way Interaction Effects of Mutuality on Pet Care Tasks/Activities Association with Burden.

**Figure 5.**



*Figure 5.* Two-way Interaction Effects of Mutuality on Pet Care Tasks/Activities Association with Mastery.

**Figure 6.**



*Figure 6.* Two-way Interaction Effects of Mutuality on Perceived Costs Association with Mastery.

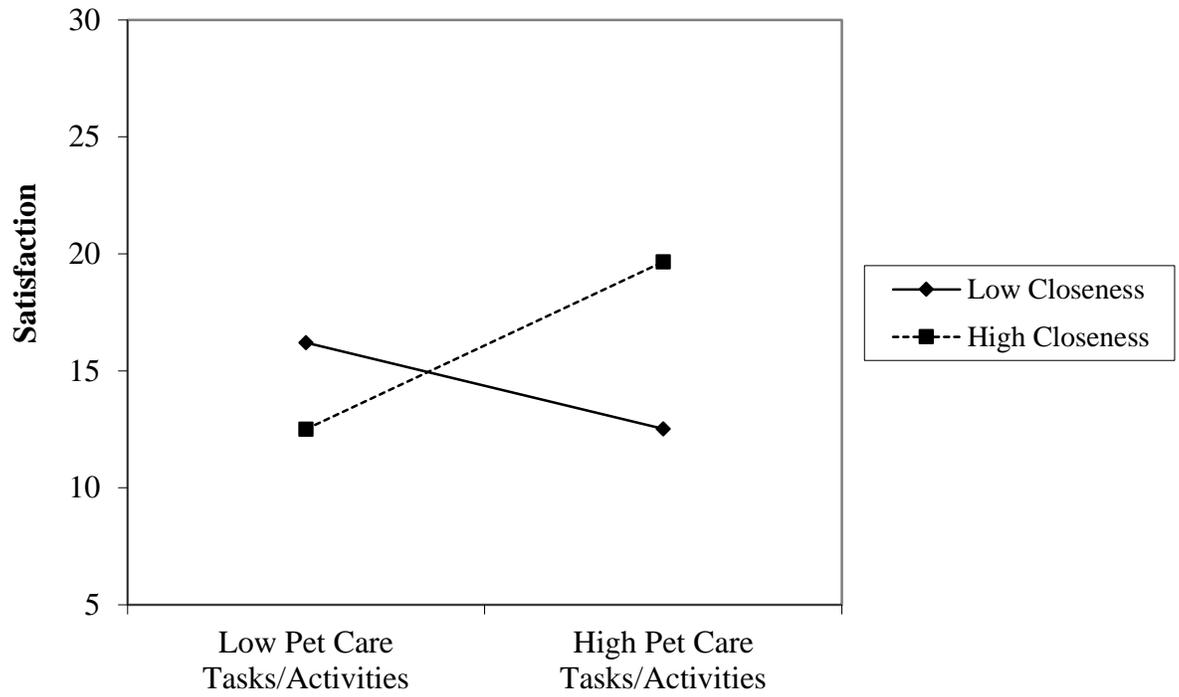
Table 8.  
*Caregiver-Companion Animal Closeness as Moderator of the Associations between Pet Care Tasks, Costs, and Caregiver*

Outcomes	Burden				Satisfaction				Mastery			
	B	SE B	$\beta$	95% CI	B	SE B	$\beta$	95% CI	B	SE B	$\beta$	95% CI
Inadequate help <sup>a</sup>	8.45***	2.38	48***	3.78, 13.13	1.07	1.73	.11	-2.32, 4.46	-.44	1.37	-.05	-3.13, 2.26
Pet care tasks	.19	.34	.12	-.47, .85	.16	.22	.17	-.28, .60	.20	.22	.25	-.23, .62
Costs	.51*	.24	.38*	.05, .98	.09	.16	.11	-.23, .41	-.25	.14	-.38†	-.53, .04
Closeness	.11	.17	.12	-.21, .44	.09	.11	.17	-.13, .31	-.06	.10	-.14	-.26, .13
Pet care tasks x Closeness	.05	.04	.20	-.04, .13	.05†	.03	.41†	-.00, .11	.00	.03	.03	-.05, .06
Costs x Closeness	-.02	.02	-.12	-.06, .03	.03†	.02	.36†	-.00, .06	.00	.01	.07	-.02, .03
R <sup>2</sup>			.42				.21				.19	

Note. †.051 <  $p$  < .08. \*  $p$  < .05. \*\*  $p$  < .01. \*\*\*  $p$  < .001. CI = confidence interval.

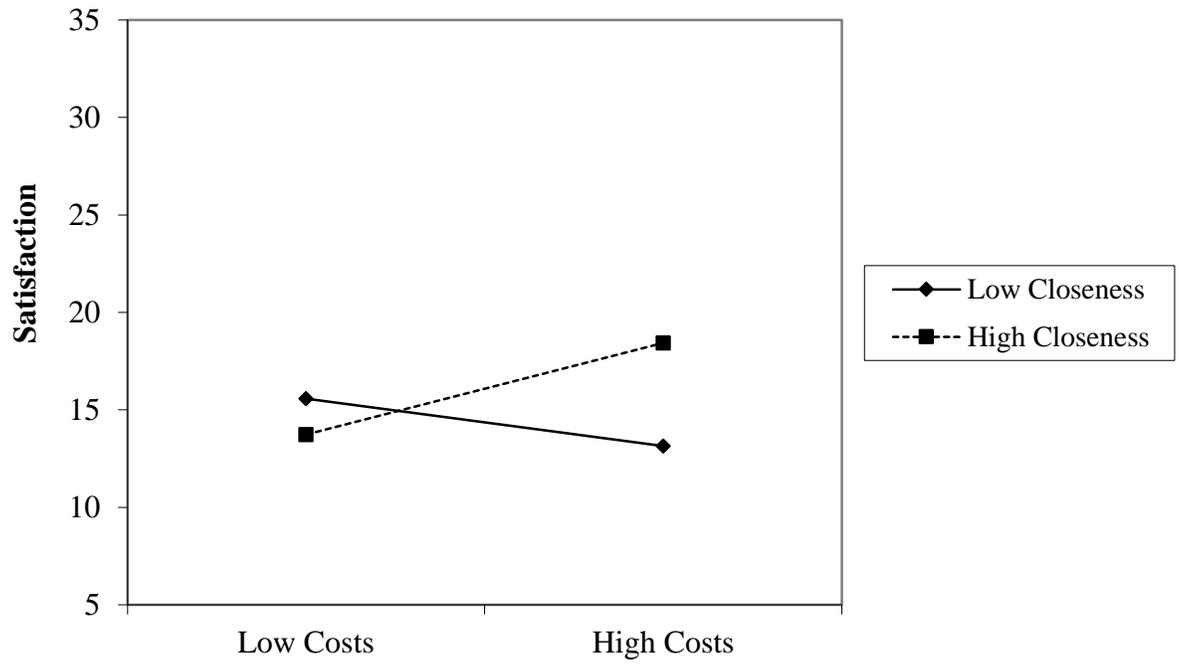
<sup>a</sup>0 = adequate help, 1 = inadequate help

**Figure 7.**



*Figure 7.* Two-way Interaction Effects of Closeness on Pet Care Tasks/Activities Association with Satisfaction.

**Figure 8.**



*Figure 8.* Two-way Interaction Effects of Closeness on Perceived Costs Association with Satisfaction.

## Appendix A

### Online Survey Hosted by Qualtrics

#### **Participating in the Caregiving for Pet Owners Study**

Thank you for your interest in participating in this research study. Your experiences will help us understand the amount of care you and other caregivers provide for the pets of your care recipients. The results of this study may help to reveal a potentially important and overlooked aspect of the caregiving experience.

You are eligible to participate in the Caregiving for Pet Owners study if you meet the following criteria:

- You are age 18 or older.
- You are the primary caregiver for an individual aged 50 or older.
- Your care recipient owns at least one cat or dog.
- You do not consider your care recipient's cat or dog to be your own pet.
- You have provided care for your care recipient for six months or more.
- Providing care for your care recipient is not your form of employment.
- You had an established relationship (e.g., family, friend, or neighbor) with your care recipient before you became his or her primary caregiver.

You may participate whether or not you own pets. You may or may not live with your care recipient, but you cannot consider his or her pet to be your own. Participation in the study involves completing one on-line survey. The survey will take between 35 – 45 minutes to complete. You have the option of providing an email in order to save and exit the survey and then return to it at a later time. However, you may not go back to a section once you have completed it. There will not be any long-term follow-up with participants. You will only complete the survey one time.

The survey is confidential. Your email will only be used to send reminders if you have not completed the study and to send a thank you email once you have completed the study. This email will not be associated with your responses to this online survey. Participation is voluntary and you may skip any item you do not wish to answer. If you wish to participate in additional studies about this topic (caregiving and pets) you will have the option of providing an email address at the end of the survey. Providing an email at the end of the survey is optional and will allow the primary investigator to contact you about voluntarily participating in future studies. The survey will ask you about demographic data about yourself and your care recipient. You will also provide information on the relationships between yourself, your care recipient, and the care recipient's pet. There will be items asking about your experience as a caregiver.

There will be no direct benefit to you for participating in this research study. However, your participation in this study may begin to uncover additional work caregivers have been performing without recognition. The results may have practical implications for caregivers and their care recipients, along with in-home and other caregiver support services.

You will have the opportunity to enter a drawing for one of 15 \$25 VISA electronic gift cards upon completing the survey. The email address you provide to enter the drawing will be kept confidential. This email will only be used to contact you if you are randomly chosen to receive an electronic gift card. You may enter the drawing without volunteering to participate in

future studies.

Please contact me with any questions or concerns about your participation.

Thank you,

Jess

jlbnq7@mail.missouri.edu

530-966-5756

Jessica Bibbo, PhD(C)

Human Development and Family Science

Research Assistant

Research Center for Human-Animal Interaction

University of Missouri

Please enter your email below if you would like the ability to save your responses and continue the survey at a later date. This is optional.

- I would like to provide my email. (1) \_\_\_\_\_
- I do not wish to provide my email. (2)

By continuing forward with this survey you are giving your informed consent to participate in the study.

- I wish to continue. (1)

What is your age in years?

What is your gender?

- Male (1)
- Female (2)
- Other (3)
- Prefer not to answer (4)

Do you identify as:

- Caucasian (1)
- African American (2)
- Hispanic or Latino (3)
- Asian American (4)
- Native American (5)
- Other (6)
- Prefer not to answer (7)

What is your highest level of education?

- No high school (1)
- Some high school (2)
- High school graduate (3)
- Some college (4)
- Associate's degree (5)
- Bachelor's degree (6)
- Graduate degree (7)
- Professional degree (8)
- Prefer not to answer (9)

What is your current marital status?

- Married (1)
- Separated (2)
- Divorced (3)
- Living together / Domestic partnership (4)
- Committed relationship (5)
- Single (6)
- Prefer not to answer (7)

Do you have children?

- Yes (1)
- No (2)
- Prefer not to answer (3)

If Yes Is Not Selected, Then Skip To What is you relationship to the care ...

How many children do you have?

What is the age of your oldest child?

What is the age of your youngest child? Leave blank if have one child.

What is your relationship to your care recipient?

Daughter (1)

Son (2)

Daughter-in-law (3)

Son-in-law (4)

Spouse (5)

Partner (6)

Other relative (e.g., niece, nephew, cousin, etc.) (7)

Friend (8)

Neighbor (9)

Other (10)

Answer If What is your relationship to the care recipient? Other relative (e.g., niece, nephew, cousin, etc.) Is Selected

What is your familial relationship to your care recipient?

Answer If What is your relationship to your care recipient? Other Is Selected

What is your relationship to your care recipient?

How many years have you known your care recipient?

\_\_\_\_\_ Years (1)

How many years have you been actively providing care for your care recipient?

\_\_\_\_\_ Time caregiving in years (1)

Answer If How many years have you been caregiving for your care recipient? Time caregiving in years Is Equal to 30

If you selected 30 years, please enter the exact number of years you have been providing care for your care recipient.

What is your current employment status?

Full time (35 hours/week or more) (1)

Part time (less than 35 hours/week) (2)

Leave of absence (3)

Not employed (4)

Retired (5)

Has your employment status changed because of caregiving duties? Select all that apply.

No change (1)

Changed jobs (2)

Family/medical leave (3)

Leave of absence (4)

Increased hours (5)

Decreased hours (6)

- Early retirement (7)
- Began working (8)
- Quit job (9)
- Laid off (10)
- Other (11)

What is your annual household income level? (Include income of all persons in the household who share expenses.)

- Under \$15,000 (1)
- \$15,000 - \$24,999 (2)
- \$25,000 - \$34,999 (3)
- \$35,000 - \$49,999 (4)
- \$50,000 - \$74,999 (5)
- \$75,000 - \$99,999 (6)
- \$100,000 - \$149,999 (7)
- \$150,000 - \$199,999 (8)
- \$200,000 or more (9)
- Prefer not to answer (10)

How many hours per week do you provide care, assistance, supervision, or companionship to your care recipient?

\_\_\_\_\_ Hours per week (1)

On average, how many hours per week of paid help do you receive?(Excluding residential care; including adult day care, home attendant care, etc.)

\_\_\_\_\_ Hours per week (1)

On average, how many hours per week of unpaid help do you receive from family, friends, or volunteers?

\_\_\_\_\_ Hours per week (1)

Think of the help you get from all your family and friends in looking after your care recipient. Please identify the one response that most closely identifies your help situation.

- I receive no help. (1)
- I receive far less help than I need. (2)
- I receive somewhat less help than I need. (3)
- I receive about what I need in help. (4)
- I don't need any help. (5)

Please identify any additional caregiving responsibilities you have for other people that may apply.

- I have no other caregiving responsibilities (5)
- Dependent minor(s) without disability (1)
- Dependent minor(s) with disability (2)
- Adult(s) without disability (e.g. frail elder) (3)
- Adult(s) with disability (4)

Answer If Please identify any additional caregiving responsibilities for other people that may apply. q://QID21/SelectedChoicesCount Is Greater Than or Equal to 1

On average, how many hours per week do you provide care for your additional caregiving responsibilities (other than your care recipient with the companion animal) per week?

\_\_\_\_\_ Hours per week (1)

This section will ask about your current and past pet ownership. What is your overall attitude about pet ownership?

	1 Extremely Unfavorable (1)	2 (2)	3 (3)	4 (4)	5 Neutral (5)	6 (6)	7 (7)	8 (8)	9 Extremely Favorable (9)
Attitude toward pet ownership (1)									

Do you currently, or have you ever, lived with a pet?

Currently live with a pet (1)

Not currently, but have in the past (2)

Have never lived with a pet (3)

If Currently live with a pet Is Not Selected, Then Skip To This section will ask you about the d...

Answer If Do you currently live with a pet? Yes Is Selected

What kinds of pet(s) do you live with? Select all that apply.

Cat(s) (1)

Dog(s) (2)

Bird(s) (3)

Small Mammal(s) (e.g., hamster, rabbit, etc.) (4)

Reptile(s) (5)

Horse(s) (6)

Fish(es) (7)

Other (8)

What is the total number of pets in your household?

The next three questions ask about the pet with whom you feel closest. What is the species of the pet you feel closest to?

- Cat (1)
- Dog (2)
- Bird (3)
- Small Mammal (4)
- Reptile (5)
- Horse (6)
- Fish (7)
- Other (8)

What is this pet's age in years?

\_\_\_\_\_ Age in Years (1)

Do you consider the pet you feel closest to to be:

- Family (1)
- Pet/Companion (2)
- Property (3)

This section will ask you about the demographics of your care recipient. What is the age of your care recipient?

What is your care recipient's gender?

- Male (1)
- Female (2)
- Other (3)
- Prefer not to answer (4)

Does your care recipient identify as:

- Caucasian (1)
- African American (2)
- Hispanic or Latino (3)
- Asian American (4)
- Native American (5)
- Other (6)
- Prefer not to answer (7)

What is your care recipient's highest level of education?

- No high school (1)
- Some high school (2)
- High school graduate (3)
- Some college (4)
- Associate's degree (5)
- Bachelor's degree (6)
- Graduate degree (7)
- Professional degree (8)

What is your care recipient's current marital status?

- Married (1)
- Separated (2)
- Divorced (3)
- Widowed (4)
- Living together / Domestic partnership (5)
- Committed relationship (6)
- Single (7)

Does your care recipient have children?

- Yes (1)

No (2)

Answer If Does your care recipient have children? Yes Is Selected

How many children does your care recipient have? Please include children who are deceased.

What is your care recipient's current living situation?

- Lives in own home with family (1)
- Lives in own home alone (2)
- Lives in your home (3)
- Lives in another relative or friend's home (4)
- Lives in an assisted-living facility (5)
- Lives in a nursing home (6)
- Lives in a skilled nursing facility (7)
- Other (8)

What is the primary health diagnosis of your care recipient? Please choose only one.

- Alzheimer's Disease (1)
- Amyotrophic Lateral Sclerosis (ALS) (2)
- Anxiety (3)
- Arthritis (4)
- Bipolar Disorder (manic-depressive illness) (5)
- Cancer, including Leukemia, Lymphoma, and Melanoma (6)
- Chronic Kidney Failure (7)
- Chronic Obstructive Pulmonary Disease (COPD) (8)
- Dementia (9)
- Depression (10)
- Diabetes (11)
- Fibromyalgia (12)
- Heart Disease (13)
- Hepatitis (14)
- HIV/AIDS (15)
- Hypertension (High Blood Pressure) (16)
- Liver Failure (17)
- Lupus (18)
- Macular Degeneration (19)
- Multiple Sclerosis (MS) (20)
- Osteoporosis (21)
- Parkinson's Disease (22)
- Post-traumatic stress disorder (PTSD) (23)
- Stroke (24)
- Transient Ischemic Attack (TIA) (25)
- Vascular Dementia (26)
- Other (27)
- Prefer not to answer (28)

Answer If What is the primary health diagnosis of your care recipient? Please choose only one.

Other Is Selected

Please provide the primary diagnosis of your care recipient.

How many years has your care recipient been diagnosed with  $\{q://QID33/ChoiceGroup/SelectedChoices\}$ ?

\_\_\_\_\_ Years (1)

What, if any, other health conditions has your care recipient been diagnosed with? You may choose more than one.

- Alzheimer's Disease (1)
- Amyotrophic Lateral Sclerosis (ALS) (2)
- Anxiety (3)
- Arthritis (4)
- Bipolar Disorder (manic-depressive illness) (5)
- Cancer, including Leukemia, Lymphoma, and Melanoma (6)
- Chronic Kidney Failure (7)
- Chronic Obstructive Pulmonary Disease (COPD) (8)
- Dementia (9)
- Depression (10)
- Diabetes (11)
- Fibromyalgia (12)
- Glaucoma (13)
- Heart Disease (14)
- Hepatitis (15)
- HIV/AIDS (16)
- Hyper- or Hypothyroidism (17)
- Hypertension (High Blood Pressure) (18)
- Incontinence (19)
- Irritable Bowel Syndrome (IBS) (20)
- Liver Failure (21)
- Lupus (22)
- Macular Degeneration (23)
- Multiple Sclerosis (MS) (24)
- Osteoporosis (25)
- Parkinson's Disease (26)
- Post-traumatic stress disorder (PTSD) (27)
- Sleep Apnea (28)
- Stroke (29)
- Transient Ischemic Attack (TIA) (30)
- Vascular Dementia (31)
- Other (32)
- Prefer not to answer (33)

This item asks about problems your care recipient may have and the extent to which you help with each activity. The first column asks you to choose whether your care recipient has a problem with each activity. The second column asks you to choose the description of how much your care recipient depends on you for that activity.

	Problem with the Activity			Extent to which I Help				
	Yes (1)	No (2)	N/A (3)	N/A (1)	Little to Not at All (2)	Somewhat (3)	A Lot (4)	Completely (5)
Eating (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bathing/Showering (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dressing (Choosing/putting on appropriate clothing) (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Grooming (brushing hair, teeth) (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the toilet (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Incontinence (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transferring from bed/chair (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preparing meals (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Staying alone, must be supervised (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking Medications (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing money or finances (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performing household chores (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the telephone (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mobility (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wandering, or the potential to wander (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following is a list of problems care recipients sometimes have. Please indicate if any of these

problems have occurred during the past week. The question continues on the next page.

	Don't Know N/A (1)	Never Occurred (2)	Not in the Past Week (3)	1 to 2 Times (4)	3 to 6 Times (5)	Daily or More Often (6)
Asking the same question over and over. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trouble remembering recent events (e.g., items in the newspaper or on TV). (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trouble remembering significant past events. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Losing or misplacing things. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forgetting what day it is. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Starting but not finishing things. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty concentrating on a task. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Destroying property. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing things that embarrass you. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waking you or other family members up at night. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talking loudly and rapidly. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Appears anxious or worried. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following is a list of problems care recipients sometimes have. Please indicate if any of these problems have occurred during the past week. Continued from previous page.

	Don't Know N/A (1)	Never Occurred (2)	Not in the Past Week (3)	1 to 2 Times (4)	3 to 6 Times (5)	Daily or More Often (6)
Engaging in behavior that is potentially dangerous to self or others. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Threats to hurt oneself. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Threats to hurt others. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aggressive to others verbally. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Appears sad or depressed. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expressing feelings of hopelessness or sadness about the future (e.g., "Nothing worthwhile ever happens," "I never do anything right"). (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Crying or tearfulness. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commenting about death of self or others (e.g., "Life isn't worth living," "I'd be better off dead"). (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talking about feeling lonely. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments about feeling worthless or being a burden to others. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comments about feeling like a failure or about not having any worthwhile accomplishments in life. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Arguing, irritability, and/or complaining. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This section will ask you about your care recipient's pet(s). What kinds of pet(s) does your care

recipient live with? Select all that apply.

- Cat(s) (1)
- Dog(s) (2)
- Bird(s) (3)
- Small Mammal(s) (e.g., hamster, rabbit, etc.) (4)
- Reptile(s) (5)
- Horse(s) (6)
- Fish(es) (7)
- Other (8)

What is the total number of pets in your care recipient's household?

The next three questions ask about the pet with whom your care recipient feels closest. What is the species of the pet your care recipient feels closest to?

- Cat (1)
- Dog (2)

What is this pet's age in years? Leave at zero if the age is unknown or not able to be estimated.

\_\_\_\_\_ Age in Years (1)

Does your care recipient consider the pet he or she feels closest to to be:

- Family (1)
- Pet/Companion (2)
- Property (3)

The next four items will ask you about the pet care tasks and activities you perform for the pet your care recipient is closest with. How willing are you to perform the tasks necessary for the care of the pet your care recipient is closest to?

- Not at all willing (1)
- (2)
- (3)
- (4)
- Neither willing or unwilling (5)
- (6)
- (7)
- (8)
- Extremely willing (9)

The following is a list of tasks and activities you may do for or with the pet your care recipient is closest to. Please indicate if you do any of these tasks or activities.

The second column asks you to choose the description of how often you do each task or.

activity.

	I do this task or activity			How often I do this task or activity								
	Yes (1)	No (2)	N/A (3)	N/A (1)	Once a year (2)	A few times a year (3)	Once a month (4)	Multiple times a month (5)	Once a week (6)	Multiple times a week (7)	Once a day (8)	Multiple times a day (9)
Feed (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide fresh water (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Walk (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Play with (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Give edible treats (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pet (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spend time with (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pick up waste (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clean litter box (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clean waste messes or accidents in the home (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Train (e.g., commands or tricks) (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trim nails/claws (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Groom (e.g., brushing, combing, teeth brushing; not nail/claw trimming) (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Take to professional groomer (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Board at a facility when necessary (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hire pet sitter or walker (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Give preventative medicines (e.g., flea, tick, heartworm) (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Give prescription medication (16)	<input type="radio"/>											
Clean/remove fur in the home (17)	<input type="radio"/>											
Schedule veterinary appointments (18)	<input type="radio"/>											
Take to the veterinarian (19)	<input type="radio"/>											
Buy food for (20)	<input type="radio"/>											
Buy supplies for (e.g., leash, bed, collar, carrier) (21)	<input type="radio"/>											
Buy toys for (22)	<input type="radio"/>											
Buy edible treats for (23)	<input type="radio"/>											
Other (24)	<input type="radio"/>											

If other was selected please write the task or activity below.

Approximately how many hours per week do you perform these pet care tasks and/or activities?  
 \_\_\_\_\_ Number of pet care hours (1)

The remaining two items will task you about the pet care tasks and activities you perform for all of the pets your care recipient lives with. You may skip these items if your care recipient only lives with one pet How willing are you to perform the tasks necessary for the care of your care recipient's pets (excluding the one he or she is closest to)?

- Not at all willing (1)
- (2)
- (3)
- (4)
- Neither willing or unwilling (5)
- (6)
- (7)
- (8)
- Extremely willing (9)

Approximately how many hours per week do you perform pet care tasks and/or activities for all of your care recipient's pets (excluding the one he or she is closest to)?  
 \_\_\_\_\_ Number of pet care hours (1)

Now we would like you to let us know how you and your care recipient feel about each other. Please read the following questions and select the number corresponding to the appropriate answer. How close do you feel to him or her?

	1. Not close at all (1)	2. Somewhat close (2)	3. Pretty close (3)	4. Very close (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much do you and he/she enjoy talking about the "good old days"?

	1. None (1)	2. Some (2)	3. Quite a bit (3)	4. A great deal (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much does he/she express feelings of appreciation for you and the things you do?

	1. Not very much (1)	2. Some (2)	3. Quite a bit (3)	4. A great deal (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To what extent do you and he/she see eye to eye?

	1. Not at all (1)	2. A little (2)	3. Some (3)	4. A lot (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How attached are you to him/her?

	1. Not at all (1)	2. A little (2)	3. Some (3)	4. A lot (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much does he/she help you?

	1. None (1)	2. A little (2)	3. Some (3)	4. A lot (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much do you like to sit and talk with him/her?

	1. Not at all (1)	2. A little (2)	3. Some (3)	4. A lot (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much love do you feel for him/her?

	1. Not very much (1)	2. Some (2)	3. Quite a bit (3)	4. A great deal (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To what extent do you and he/she share the same values?

	1. None (1)	2. A little (2)	3. Some (3)	4. A lot (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

When you really need it, how much does he/she comfort you?

	1. Not at all (1)	2. A little (2)	3. Some (3)	4. A lot (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much do you and he/she laugh together?

	1. Not at all (1)	2. A little (2)	3. Some (3)	4. A lot (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much do you confide in him/her?

	1. Not at all (1)	2. A little (2)	3. Some (3)	4. A lot (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much emotional support does he/she give you?

	1. Not very much (1)	2. Some (2)	3. Quite a bit (3)	4. A great deal (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To what extent do you and he/she enjoy the time you spend together?

	1. Not at all (1)	2. A little (2)	3. Some (3)	4. A lot (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How often does he/she express feelings of warmth toward you?

	1. Rarely (1)	2. Sometimes (2)	3. Much of the time (3)	4. Nearly always (4)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Now we will ask you about your care recipient's relationship with the pet with whom he or she [your care recipient] feels closest. There are no right or wrong answers. We simply seek your honest opinion of how much your care recipient would agree or disagree with each

statement. There are times he or she would be lonely except for the pet.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

He or she and the pet watch TV together frequently.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

He or she gives gifts to the pet for birthdays and special occasions.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

He or she believes the pet is a valuable possession.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

He or she talks to the pet about things that bother him or her.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

He or she believes that making him or her laugh is part of the pet's job.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

He or she misses the pet when he or she is away from home.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The pet gives him or her a reason to get up in the morning.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

He or she believes the pet is a member of his or her family.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

He or she shares food with the pet.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

He or she believes the pet knows when he or she is upset and that the pet tries to comfort him or her.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The pet is constantly at his or her side.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

He or she believes the pet is an equal in his or her family.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

He or she treats the pet to anything he or she happens to be eating if the pet seems interested.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

He or she believes that in many ways the pet is the best friend he or she has.

	1. Strongly Disagree (1)	2. Moderately Disagree (2)	3. Mildly Disagree (3)	4. Mildly Agree (4)	5. Moderately Agree (5)	6. Strongly Agree (6)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please read each of the following statements and pick the option that best applies to how you feel about your care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  at the present time. How hard is it to look after your care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$ ?

	1. Very hard (1)	2. Hard (2)	3. Neither hard nor easy (3)	4. Easy (4)	5. Very easy (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  gives me a reason to get up in the morning (i.e., a positive reason, not solely due to a task which must be completed)?

	1. Strongly agree (1)	2. Agree (2)	3. Neither agree or disagree (3)	4. Disagree (4)	5. Strongly disagree (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

There are major aspects of my care recipient owning a  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  I don't like.

	1. Strongly agree (1)	2. Agree (2)	3. Neither agree or disagree (3)	4. Disagree (4)	5. Strongly disagree (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I wish my care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  and I never had to be apart.

	1. Strongly agree (1)	2. Agree (2)	3. Neither agree or disagree (3)	4. Disagree (4)	5. Strongly disagree (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  makes too much mess.

	1. Strongly agree (1)	2. Agree (2)	3. Neither agree or disagree (3)	4. Disagree (4)	5. Strongly disagree (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

It bothers me that my care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  stops me doing things I enjoyed doing before I began providing care.

	1. Strongly agree (1)	2. Agree (2)	3. Neither agree or disagree (3)	4. Disagree (4)	5. Strongly disagree (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

It is annoying that I have to change my plans because of my care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$ .

	1. Strongly agree (1)	2. Agree (2)	3. Neither agree or disagree (3)	4. Disagree (4)	5. Strongly disagree (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  costs too much money.

	1. Strongly agree (1)	2. Agree (2)	3. Neither agree or disagree (3)	4. Disagree (4)	5. Strongly disagree (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  is constantly attentive to me.

	1. Strongly agree (1)	2. Agree (2)	3. Neither agree or disagree (3)	4. Disagree (4)	5. Strongly disagree (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How often do you tell your care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  things you don't tell anyone else?

	1. Once a day (1)	2. Once a week (2)	3. Once a month (3)	4. Once a year (4)	5. Never (5)
(1)	<input type="radio"/>				

How often do you feel looking after your care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  is a chore?

	1. Once a day (1)	2. Once a week (2)	3. Once a month (3)	4. Once a year (4)	5. Never (5)
(1)	<input type="radio"/>				

Please read each of the following statements and pick the option that best applies to how you feel about your care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  at the present time. How often does your care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  stop you doing things you want to?

	1. Once a day (1)	2. Once a week (2)	3. Once a month (3)	4. Once a year (4)	5. Never (5)
(1)	<input type="radio"/>				

I would like to have my care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  near me all the time.

	1. Strongly agree (1)	2. Agree (2)	3. Neither agree nor disagree (3)	4. Disagree (4)	5. Strongly disagree (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If everyone else left me my care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  would still be there for me.

	1. Strongly agree (1)	2. Agree (2)	3. Neither agree nor disagree (3)	4. Disagree (4)	5. Strongly disagree (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How often do you feel that your care recipient having a  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  is more trouble than it's worth.

	1. Once a day (1)	2. Once a week (2)	3. Once a month (3)	4. Once a year (4)	5. Never (5)
(1)	<input type="radio"/>				

My care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  helps me get through tough times.

	1. Strongly agree (1)	2. Agree (2)	3. Neither agree or disagree (3)	4. Disagree (4)	5. Strongly disagree (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  provides me with constant companionship.

	1. Strongly agree (1)	2. Agree (2)	3. Neither agree or disagree (3)	4. Disagree (4)	5. Strongly disagree (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  is there when I need to be comforted.

	1. Strongly agree (1)	2. Agree (2)	3. Neither agree or disagree (3)	4. Disagree (4)	5. Strongly disagree (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How traumatic do you think it will be for you when your care recipient's  $\{q://QID75/ChoiceGroup/SelectedChoices\}$  dies.

	1. Very traumatic (1)	2. Traumatic (2)	3. Neither traumatic nor traumatic (3)	4. Untraumatic (4)	5. Very untraumatic (5)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This section asks you about some feelings you may have in caring for your care recipient. For each statement, please select if you agree a lot, agree a little, neither agree or disagree, disagree a little, or disagree a lot.

	5. Agree a lot (1)	4. Agree a little (2)	3. Neither agree nor disagree (3)	2. Disagree a little (4)	1. Disagree a lot (5)	7. Prefer not to answer (6)
In general, I feel able to handle most problems in the care of my care recipient. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can fit most of the things I need to do in spite of the time it takes to care for my care recipient. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taking care of my care recipient gives me a trapped feeling. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get a sense of satisfaction from helping my care recipient. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am pretty good at figuring out what my care recipient needs. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This section asks you about some feelings you may have in caring for your care recipient. For each statement, please select how often you feel this way: nearly always, quite frequently,

sometimes, rarely, or never. This questions continues on the next page. How often do you feel:

	5. Nearly always (1)	4. Quite frequently (2)	3. Sometimes (3)	2. Rarely (4)	1. Never (5)	7. Prefer not to answer (6)
... that helping your care recipient has made you feel closer to him/her. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... reassured knowing that as long as you are helping your care recipient, she/he is getting proper care? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... uncertain about what to do about your care recipient? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... that you should be doing more for your care recipient? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... that you could do a better job in caring for your care recipient? (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... that you really enjoy being with your care recipient? (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... that taking responsibility for your care recipient gives a boost to your self-esteem? (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... that your care recipient's pleasure over some little thing gives you pleasure? (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This section asks you about some feelings you may have in caring for your care recipient. For each statement, please select how often you feel this way: nearly always, quite frequently, sometimes, rarely, or never. Continued from previous page. How often do you feel:

	5. Nearly always (1)	4. Quite frequently (2)	3. Sometimes (3)	2. Rarely (4)	1. Never (5)	7. Prefer not to answer (6)
... that your health has suffered because of the care you must give your care recipient? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... that because of the time you spend with your care recipient you don't have time for yourself? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... that your social life has suffered because you are caring for your care recipient? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... very tired as a result of caring for your care recipient? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... that caring for your care recipient gives more meaning to your life? (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... you will be unable to care for your care recipient much longer? (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... isolated and alone as a result of caring for your care recipient? (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... that you have lost control of your life because of caring for your care recipient? (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please let us know if we can contact you about opportunities to participate in a future study about this topic (caregiving and pets) by including your email address in the box below. Providing an email will allow the primary investigator to contact you to ask you to voluntarily participate in additional future studies. This email address will not be saved with or in any way associated with your responses to this study. This step is optional and does not affect your participation in this survey in any way. If you do not wish to be contacted further, please proceed to the next page. Thank you.

- I would like to be contacted in the future. My email address is: (1) \_\_\_\_\_
- I do not wish to be contacted. (2)

Thank you for completing the survey. We are holding a drawing for \$25 VISA electronic gift cards as a small sign of appreciation for your participation and time. You may take part in the drawing for one of the 15 \$25 VISA electronic gift cards by entering your email in the box below. The email address you provide to enter the drawing will be kept confidential. This email will only be used to contact you if you are randomly chosen to receive an electronic gift card. You may enter the drawing without volunteering to participate in future studies. The step is optional and does not affect your participation in this study in any way. You will be contacted via the email address you provide if you are one of the 15 participants whose email is randomly chosen. The drawing will take place once data collection has been completed (estimated to be in June of 2016).

- I would like to enter the drawing. My email address is: (1) \_\_\_\_\_
- I do not wish to enter the drawing. (2)

Appendix B

Tasks and Activities Performed for Cats

Percentage (N)

Task or Activity	Perform (N = 10)	Frequency Responses	Multiple Times a				Multiple Times a				A Few Times a			
			Day	Week	Month	Year	Day	Week	Month	Year	Day	Week	Month	Year
Feed	80.00% (8)	87.50% (7)	42.86% (3)	(0)	(0)	(0)	(0)	14.29% (1)	(0)	(0)	(0)	25.00% (2)	(1)	
Provide Fresh Water	90.00% (9)	88.89% (8)	12.50% (1)	12.50% (1)	12.50% (1)	(0)	(0)	37.50% (3)	(0)	(0)	(0)	25.00% (2)	(0)	
Walk†	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	
Play With	60.00% (6)	83.33% (5)	20.00% (1)	20.00% (1)	20.00% (1)	20.00% (1)	20.00% (1)	20.00% (1)	20.00% (1)	20.00% (1)	20.00% (1)	20.00% (1)	(0)	
Give Edible Treats	20.00% (2)	100.00% (2)	50.00% (1)	50.00% (1)	50.00% (1)	50.00% (1)	50.00% (1)	50.00% (1)	50.00% (1)	50.00% (1)	50.00% (1)	50.00% (1)	(0)	
Pet	70.00% (7)	85.71% (6)	50.00% (3)	50.00% (3)	50.00% (3)	50.00% (3)	50.00% (3)	33.33% (2)	16.67% (1)	16.67% (1)	33.33% (2)	(0)	(0)	
Spend Time With	90.00% (9)	88.89% (8)	37.50% (3)	37.50% (3)	37.50% (3)	37.50% (3)	37.50% (3)	37.50% (3)	12.50% (1)	12.50% (1)	37.50% (3)	12.50% (1)	(0)	
Pick Up Waste	60.00% (6)	100.00% (6)	16.67% (1)	16.67% (1)	16.67% (1)	16.67% (1)	16.67% (1)	16.67% (1)	16.67% (1)	16.67% (1)	16.67% (1)	16.67% (1)	(0)	
Clean Litter Box*	80.00% (8)	87.50% (7)	12.50% (1)	12.50% (1)	12.50% (1)	12.50% (1)	12.50% (1)	12.50% (1)	25.00% (2)	25.00% (2)	12.50% (1)	12.50% (1)	12.50% (1)	
Clean Waste Messes or Accidents in the Home	60.00% (6)	100.00% (6)	(0)	16.67% (1)	16.67% (1)	16.67% (1)	16.67% (1)	33.33% (2)	16.67% (1)	16.67% (1)	33.33% (2)	16.67% (1)	16.67% (1)	
Train (e.g., Commands or Tricks) †	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	

Note. Percentages for frequencies calculated based the number of participants who performed the individual task or activity.

† Dog only task or activity. \* Cat only task or activity.

Task or Activity	Percentage (N)									
	Perform (N = 10)	Frequency Responses	Multiple Times a Day	Once a Day	Multiple Times a Week	Once a Week	Multiple Times a Month	Once a Month	A Few Times a Year	Once a Year
Trim Nails/Claws	20.00% (2)	100.00% (2)	-	(0)	(0)	(0)	50.00% (1)	-	(0)	50.00% (1)
Groom (e.g., Brushing, Combing, Teeth Brushing)	50.00% (5)	80.00% (4)	-	(0)	(0)	(0)	75.00% (3)	-	(0)	25.00% (1)
Take to a Professional Groomer	30.00% (3)	66.67% (2)	-	(0)	(0)	(0)	-	-	(0)	100.00% (2)
Board at a Facility When Necessary†	(0)	(0)	-	(0)	(0)	(0)	-	-	(0)	(0)
Hire Pet Sitter or Walker†	(0)	(0)	-	(0)	(0)	(0)	-	-	(0)	(0)
Give Preventative Medications (e.g., Flea, Tick, Heartworm)	40.00% (4)	75.00% (3)	-	(0)	(0)	(0)	33.33% (1)	66.67% (2)	(0)	(0)
Give Prescription Medication	20.00% (2)	50.00% (1)	-	(0)	(0)	(0)	-	-	100.00% (1)	(0)
Clean/Remove Fur in the Home	40.00% (4)	75.00% (3)	-	(0)	(0)	(0)	-	33.33% (1)	(0)	33.33% (1)
Schedule Veterinary Appointments	50.00% (5)	80.00% (4)	-	(0)	(0)	(0)	-	-	(0)	25.00% (1)
Take to the Veterinarian	50.00% (5)	80.00% (4)	-	(0)	(0)	(0)	-	-	(0)	50.00% (2)
Buy Food For	90.00% (9)	88.89% (8)	-	(0)	(0)	(0)	12.50% (1)	12.50% (1)	12.50% (1)	12.50% (1)
Buy Supplies for (e.g., Leash, Bed, Collar, Carrier)	50.00% (5)	80.00% (4)	-	(0)	(0)	(0)	-	-	(0)	25.00% (1)
Buy Toys For	40.00% (4)	75.00% (3)	-	(0)	(0)	(0)	-	25.00% (1)	(0)	(0)
Buy Edible Treats For	30.00% (3)	66.67% (2)	-	(0)	(0)	(0)	-	100.00% (2)	(0)	(0)

Note: Percentages for frequencies calculated based the number of participants who performed the individual task or activity.

† Dog only task or activity. \* Cat only task or activity.

Appendix C

Tasks and Activities Performed for Dogs

*Percentages and Frequency of Pet Ownership Tasks or Activities Participants Performed for Dogs*

Task or Activity	Percentage (N)										
	Perform (N = 17)	Frequency Responses	Multiple Times a Day	Once a Day	Multiple Times a Week	Once a Week	Multiple Times a Month	Once a Month	A Few Times a Year	Once a Year	Once a Year
Feed	94.12% (16)	93.75% (15)	20.00% (3)	26.67% (4)	13.33% (2)	0%	26.67% (4)	0%	13.33% (2)	0%	0%
Provide Fresh Water	94.12% (16)	93.75% (15)	40.00% (6)	6.67% (1)	20.00% (3)	0%	26.67% (4)	6.67% (1)	0%	0%	0%
Walk†	52.94% (9)	100.00% (9)	44.44% (4)	22.22% (2)	11.11% (1)	0%	22.22% (2)	0%	0%	0%	0%
Play With	94.12% (16)	87.50% (14)	42.86% (6)	21.43% (3)	21.43% (3)	0%	14.29% (2)	0%	0%	0%	0%
Give Edible Treats	76.47% (13)	100.00% (13)	61.54% (8)	23.08% (3)	0%	0%	15.38% (2)	0%	0%	0%	0%
Pet	100.00% (17)	88.24% (15)	53.33% (8)	13.33% (2)	20.00% (3)	0%	13.33% (2)	0%	0%	0%	0%
Spend Time With	94.12% (16)	93.75% (15)	66.67% (10)	6.67% (1)	20.00% (3)	0%	6.67% (1)	0%	0%	0%	0%
Pick Up Waste	70.59% (12)	91.67% (11)	36.36% (4)	9.09% (1)	18.18% (2)	9.09% (1)	27.27% (3)	0%	0%	0%	0%
Clean Litter Box*	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Clean Waste Messes or Accidents in the Home	94.12% (16)	87.50% (14)	7.14% (1)	14.29% (2)	7.14% (1)	14.29% (2)	21.43% (3)	28.57% (4)	7.14% (1)	0%	0%
Train (e.g., Commands or Tricks) †	47.06% (8)	100.00% (8)	25.00% (2)	0% (0)	12.50% (1)	12.50% (1)	12.50% (1)	37.50% (3)	0%	0%	0%

Note. Percentages for frequencies calculated based the number of participants who performed the individual task or activity.

† Dog only task or activity. \* Cat only task or activity.

Task or Activity	Percentage (N)											
	Perform (N = 10)	Frequency Responses	Multiple Times a Day	Once a Day	Multiple Times a Week	Once a Week	Multiple Times a Month	Once a Month	Multiple Times a Year	Once a Year	A Few Times a Year	Once a Year
Trim Nails/Claws	52.94% (9)	100.00% (9)	- (0)	(0)	- (0)	(0)	11.11% (1)	55.56% (5)	- (0)	33.33% (3)	- (0)	- (0)
Groom (e.g., Brushing, Combing, Teeth Brushing)	76.47% (13)	100.00% (13)	7.69% (1)	(0)	7.69% (1)	23.08% (3)	15.38% (2)	7.69% (1)	38.46% (5)	- (0)	- (0)	- (0)
Take to a Professional Groomer	41.18% (7)	100.00% (7)	- (0)	(0)	- (0)	(0)	15.38% (2)	- (0)	71.43% (5)	- (0)	- (0)	- (0)
Board at a Facility When Necessary†	11.77% (2)	100.00% (2)	- (0)	(0)	- (0)	(0)	- (0)	- (0)	50.00% (1)	- (0)	50.00% (1)	- (0)
Hire Pet Sitter or Walker†	11.77% (2)	100.00% (2)	50.00% (1)	(0)	- (0)	(0)	- (0)	- (0)	50.00% (1)	- (0)	- (0)	- (0)
Give Preventative Medications (e.g., Flea, Tick, Heartworm)	70.59% (12)	100.00% (12)	8.33% (1)	(0)	8.33% (1)	- (0)	- (0)	58.33% (7)	25.00% (3)	- (0)	- (0)	- (0)
Give Prescription Medication	58.82% (10)	100.00% (10)	10.00% (1)	30.00% (3)	- (0)	- (0)	- (0)	20.00% (2)	30.00% (3)	10.00% (1)	- (0)	- (0)
Clean/Remove Fur in the Home	82.35% (14)	85.71% (12)	8.33% (1)	8.33% (1)	33.33% (4)	8.33% (1)	16.67% (2)	16.67% (2)	8.33% (1)	- (0)	- (0)	- (0)
Schedule Veterinary Appointments	76.47% (13)	84.62% (11)	- (0)	(0)	- (0)	(0)	- (0)	9.09% (1)	72.73% (8)	18.18% (2)	- (0)	- (0)
Take to the Veterinarian	64.71% (11)	90.91% (10)	- (0)	(0)	- (0)	(0)	- (0)	- (0)	70.00% (7)	30.00% (3)	- (0)	- (0)
Buy Food For	94.12% (16)	93.75% (15)	- (0)	(0)	- (0)	33.33% (5)	20.00% (3)	20.00% (3)	13.33% (2)	- (0)	- (0)	- (0)
Buy Supplies For (e.g., Leash, Bed, Collar, Carrier)	82.35% (14)	92.86% (13)	- (0)	(0)	- (0)	- (0)	7.69% (1)	15.38% (2)	38.46% (5)	38.46% (5)	- (0)	- (0)
Buy Toys For	82.35% (14)	100.00% (14)	- (0)	(0)	- (0)	- (0)	- (0)	35.71% (5)	28.57% (4)	28.57% (4)	- (0)	- (0)
Buy Edible Treats For	82.35% (14)	92.86% (13)	- (0)	(0)	7.69% (1)	30.77% (4)	7.69% (1)	38.46% (5)	15.28% (2)	- (0)	- (0)	- (0)

Note. Percentages for frequencies calculated based the number of participants who performed the individual task or activity.

† Dog only task or activity. \* Cat only task or activity.

## VITA

Jessica Bibbo grew up in Newton, Massachusetts in a household with two parents and two cats. In 1999 she graduated from New York University with an undergraduate degree in liberal arts. Her interest in studying the impact of companion animals on people's well-being brought her back to school part-time in 2004 and in 2011 she earned her Masters of Psychological Science at California State University, Chico. During this time, she developed an interest in gerontology and was able to combine her areas of interest in her doctoral work at the University of Missouri, specifically as a graduate research assistant at the Research Center for Human-Animal Interaction. Her research is focuses on companion animals within families, as well as the relationships between companion animals and older adults and their informal caregivers. She is currently a Post-Doctoral Research Associate in the Center for the Human-Animal Bond at Purdue University.