EXPLAINING LONG-DISTANCE PARENT CAREGIVING BURDEN OF THE UNITED STATES FOREIGN SERVICE AND MILITARY

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DEDICATION

I dedicate this work to my other half, Greg Bauer, whose support made this endeavor possible.

This work is also dedicated to the personnel and families of the military and Foreign Service for their fortitude and personal sacrifices to make the world a better place. I hope this research helps make caring for your parents from a distance a bit easier.

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ABSTRACT

EXPLAINING THE LONG-DISTANCE PARENT CAREGIVING BURDEN OF THE UNITED STATES FOREIGN SERVICE AND MILITARY

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Purpose: To respond to global trends in aging, healthcare, technology and mobile labor markets, this cross-sectional, correlational study examined the burden of long-distance parent caregivers, or adults coordinating parent care remotely, by using a convenience sample of U.S. active-duty military personnel and Foreign Service Officers. **Methods:** 79 respondents completed an anonymous online survey containing standardized scales. The relationship between variables was tested using multiple regression analysis and One-way Analysis of Variance (ANOVA). **Results:** Preparedness for caregiving was negatively correlated with subjective and objective caregiving burden in multiple regression analysis. One-way ANOVA revealed a statistically significant difference in subjective burden based on caregiving intensity. There was also a significant difference in objective burden based on the reason the recipient needed care, but post-hoc analysis found no inter-group differences that passed the Bonferroni adjusted cutoff for significance. Multiple regression analysis demonstrated that the gender of the caregiver, availability of a sibling support network and instrumental support were not significantly correlated with burden. **Conclusions and Implications:** Preparedness for caregiving had the strongest relationship to distance caregiving burden in this study. Findings may inform intervention strategies to limit the strains of caregiving and support other distance caregiver subgroups, such as other U.S. Government employees and other Americans living overseas.

Future longitudinal research is needed to understand causality and the relationship between variables in the long-distance caregiving trajectory over time.

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Chapter 1. Background and Significance

Statement of the Problem

By the year 2030, one in five of Americans will be over the age of 65 years old (Roberts et al., 2018). In line with global trends, advancements in healthcare, technology and economic demands in the U.S. will continue to push families, particularly adult children, toward elder care management from a distance (Dhar, 2011). Over one-tenth of elder caregiving in the United States is provided from at least one hour away from the care recipient (National Alliance for Caregiving [NAC] & American Association of Retired Person [AARP], 2020a) in the form of financial maintenance, emotional support, or care management (Cagle & Munn, 2012). However, reviews of the literature on long-distance caregiving (Cagle & Munn, 2012; Bledsoe et al., 2010) indicate that the issues, impact and benefits of long-distance caregiving have been minimally examined (Zucchetto et al., 2021) over the last decade, especially in the American context. The need to consider the role of distance caregivers in workforce, research, and policy planning also extends to the estimated nine million Americans living overseas (U.S. Department of State [DOS], 2020). Following proximal caregivers' adaptation to meet social distancing requirements of COVID-19 (Herbst et al., 2022), research is beginning to expand knowledge on the burden of long-distance caregiving within the United States. Yet even less is known about transnational caregivers (Bledsoe et al., 2010), which includes the families of the United States military and the Foreign and Civil Service (DOS, 2022a), who are routinely assigned to promote national security and diplomacy from a distance over the course of their careers.

The challenges of local caregiving dominate eldercare research, yet over 25% of long-distance caregivers (LDC) in the U.S. are the sole or primary caregiver of an older adult, and one-third deliver as much support as another locally involved caregiver (Cagle & Munn, 2012).

In recognition of competing family demands over the lifespan, researchers are beginning to move beyond caregiver-care recipient dyads to study caregiving networks of relatives and direct care providers (Tolkacheva et al., 2010). LDC are most likely to share caregiving with a sibling and more than twice as likely to share caregiving with a sibling proximal to the care recipient (NAC, 2004). However, siblings experience the most caregiving-related family conflict (Strawbridge & Wallhagen, 1991), a mediator of caregiver burden (Pearlin et al., 1990) that can impact the health of both the LDC and care recipient (Bevan, Vreeburg, et al., 2012). Despite an assumption that caregiver burden is primarily caused by direct support (Thompsell & Lovestone, 2002), LDC self-reported the highest level of emotional stress compared to caregivers living with or near the care recipient (NAC & American Association of Retired Persons [AARP], 2004).

Research on transnational caregiving is frequently featured as a subset of long-distance caregiving in the literature. Therefore, the distinct burdens, needs and interventions for transnational caregiving are even less clear. This under-researched area not only limits the understanding of American military service members and diplomats throughout their careers abroad, but their ties to aging parents who rely on deinstitutionalized and fragmented care systems that adversely impact the quality of care to parents. While the prevalence of elder care provision within the military and Foreign Service is unknown, surveys by federal programs on workforce productivity suggest that the number of federal workers providing elder care will double to 31% by 2023 (*Federal work-life survey results*, 2018).

A few studies have examined parental caregiving by active military personnel, a population that frequently relocates throughout adulthood, and found that the burden of parental caregiving impacted decisions to accept promotions or leave the military altogether (Parker et al., 2002). For senior ranking male officers at the developmental stage of parent caregiving, worry

for parents was influenced by the health condition of the parents, contentment with the parental care plan and number of siblings available to support their parents (Parker et al., 2002). Other mitigators of distress for sibling caregivers include reciprocated emotional support and shared caregiving efforts as parents' health deteriorate (Seaman, 2015). Sibling collaboration not only strengthens mutual support and the quality of care delivered to parents, but it also helps buffer the strains of long-term caregiving (Ingersoll-Dayton et al., 2003).

Developing a knowledge base to explain the burden of distance caregiving may lay a foundation of understanding of how to alleviate burden and subsequently improve the quality of support to care recipients in the United States. Findings may also inform the intervention strategies and pathways to limit caregiving burden and support similar distance caregiver subgroups such as Americans living abroad. To further this research, an online survey was administered to transnational caregivers in the U.S. military and Foreign Service to examine the following research question:

To what extent is the degree of long-distance parent caregiving burden among the Foreign Service and active-duty military personnel explained by the following: a.) Caregiver characteristics (gender); b.) Care recipient characteristics (category of illness); c.) Caregiving factors (preparedness for caregiving); and d.) Sibling caregiver network (number of living siblings, caregiving participation and distance from the care recipient)?

Elder Care Overview

According to a 2020 national caregiving survey by the National Alliance for Caregiving and the American Association for Retired Persons, the number of American caregivers to adults over 50 years old has risen by 8 million (2.6%) to almost 42 million adults, since the previous survey in 2015. Currently, one out of six Americans are caring for an adult beyond 50 years old

(NAC & AARP, 2020a). Not only is the prevalence of informal elder care rising, but a greater proportion of caregivers (24%) are caring for more than one adult. Caregivers of parents are more likely to share caregiving with their parent's spouse, their own siblings or paid help (Tolkacheva et al., 2010; NAC & AARP, 2020b).

The practice of caregiving is associated with increased physical and psychological distress. Almost 1/4 of caregivers self-reported a reduction in their personal health as a direct result of caregiving (NAC & AARP, 2020b). The perceived burden of care or, *subjective burden*, often refers to elements of psychological and emotional distress resulting from caregiving, whereas *objective burden* notes demands and disruptions to life domains such as financial status and physical health of the caregiver due to caregiving (Hoenig & Hamilton, 1966). Despite close attention to dyads of primary caregivers and care recipients in the literature, the strenuous financial, emotional, and physical health consequences of *caregiving burden* stem from long-distance care management as well (Bevan, Rogers, et al., 2012).

Future Barriers to Care

The rapid increase in caregiving is explained by a number of factors, including the faster growth of baby boomers (adults born between 1946 and 1964) compared to younger generations, a shrinking eldercare workforce and a policy emphasis on adults remaining at home as they age. Despite the rising population of older adults and diminishing number of family members, over two-thirds of Americans anticipate depending on families for long-term support when their ability to self-care declines (Redfoot et al., 2013).

Effects of Societal Aging. In the 1990s when baby boomers were at peak caregiving age, the number of potential family caregivers to adults over 80 years old was 6.6. By 2010, the number of caregivers had increased to 7.2. The late twentieth century continued to see a decline

in long-term and nursing home utilization through Medicaid, while the number of older people with comorbid conditions and daily assistance needs rose by about 66% after 1995 (Redfoot et al., 2013). A policy and intervention focus on aging in place has enabled older adults with disabilities to remain in their homes longer through the use of community-based resources (Schulz, 2000; Zarit et al., 1999) and caregiver support programs (Brodaty & Peters, 1991; Peak et al., 1995).

This trend in population growth for both older adults and caregiving-aged adults will sharply reverse in the next ten years leading to "the 2030 problem." The number of middle-aged adults will increase by 1%, while the number of adults over 80 years old will expand by 79%. At that point, the potential caregiver ratio to 80-plus adults will drop to 4:1. As the boomer generation ages past 2030, the proportion of adults over 80 years old will increase by 44% with caregiver-aged adults growing only 10%. The caregiver ratio will reach its most narrow gap in 2040 when there will be only 2.9 middle-aged adults for every adult over 80 years old (Redfoot et al., 2013). Without interventions to address the limitations of the eldercare workforce and the dynamic long-term care needs of families, these figures project a future in which more families and systems are burdened by an underprepared transition to elder care.

Complex Care Demands. The growing reliance on family members for long-term support and services is compounded by the emergent issues of COVID-19 (Murray et al., 2020). Prior to the pandemic, more than two out of five adult caregivers were caring for a parent and 40% were living with their parent – an increase from 34% in only 2015 (NAC & AARP, 2020b). Due to the risk of COVID-19, older adults are avoiding high risk transmission settings, such as nursing homes and assisted living facilities, to be cared for by family members delivering services typically done by trained professionals (Murray et al., 2020).

The escalating intensity of relatives helping loved ones with complex care needs prompted policy makers to re-evaluate the sustainability of family caregivers, whose contributions are valued at $470 billion dollar in unpaid wages (Reinhard et al., 2019) by promoting greater access to caregiver compensation. Public programs such as those funded by Medicaid and the Veterans Health Administration system offer care recipients self-directed benefit options to compensate family caregivers for their services. However, Medicaid coverage varies by state with some eligibility exclusions to spouses, legally appointed guardians or co-residing family caregivers. Few long-term care insurance plans that include home health aides and personal care providers also cover expenses for informal caregivers. In the U.S., some families supplement the loss of caregiver income by paying their relatives for their time and efforts toward caregiving, although these arrangements are optimized by advance planning and documentation (Murray et al., 2020). Investment in caregiver compensation programs have the potential to limit the strain of all family members participating in the care of an aging relative – a burden predicted to increase in its complexity and duration over the next few decades (Murray et al., 2020).

Long-distance Caregiving

Conceptualizations of Long-distance Caregiving

Although geographic mobility in the United States has slowed (Wolf & Longino, 2005) and caregivers are more likely to co-reside with their care recipient in recent years (NAC & AARP, 2020a), the number of those providing remote care to an older adult continues to grow in response to the population shifts described above (Cagle & Munn, 2012; Redfoot et al., 2013). As the discourse on long-distance caregiving reemerges in empirical research, its understanding is complicated by its containment of both *caregiving* and *distance*, terms that lack conceptual

consistency in research (Cagle & Munn, 2012). While *care* is most easily understood as the provision of unpaid care to a person with a condition that restricts their ability to self-care (Parker et al., 2006), the literature is conflicted on how to identify caregivers. For example, some studies that include caregivers providing care from a distance enabled participants to self-identify as a caregiver (Baldock, 2000; Roff et al., 2007), to meet a list of caregiving task requirements to participate in a study or both (Rosalynn Carter Institute for Caregivers [RCI], Blue Star Families [BSF] & The Institute for Veterans and Military Families [IVMF], 2021). Other studies excluded caregivers with care recipients that are non-relatives (NAC, 2004) or living in a long-term care facility (Schoonover et al., 1988). Particular disciplines, such as nursing and gerontology have adapted a restrictive view of caregiving as direct care that necessitates physical closeness (Leira & Saraceno, 2006 as cited in Baldassar & Merla, 2013). While feminist theories introduced a critical lens to acknowledge the valuable contributions of unpaid care, a realm of work traditionally provided by women, it has also perpetuated the conception of care as a proximal task (Twigg, 2000; Gheaus, 2011).

The literature broadly defines *long-distance caregiving* as the provision of unpaid care to someone who has a condition that limits their ability to self-care while facing distance-related challenges. These challenges may be brought on by the physical distance between the caregiver and care recipient in conjunction with other access impediments, such as a restrictive transportation options, travel expenses or the length of time to reach the care recipient (Parker et al., 2006). In one of the most recent systematic reviews of long-distance caregiving, the authors found that studies that determined distance care by travel time required participants to be at least one hour away from the care recipient. Participants averaged four-hour travel time from their care recipient in one study (Wagner, 1997) and 7.23 hours in another (NAC, 2004). Studies that

used proximity for distance care set a minimum requirement of 100 miles between the caregiver and care recipient. When long-distance caregiving is situated within the discourse of transnational caregiving, there is no uniform determination of what constitutes long-distance caregiving (Li et al., 2018). To further muddle the process of identifying long-distance caregivers, caregiving can alternate between proximal and distance care as the distance caregivers are not typically stationary (Harrigan & Koerin, 2007; Cagle & Munn, 2012). The inconsistent approaches to defining *long-distance caregiving* by geographical proximity, travel time or distance-related challenges limits the ability to understand the role of distance in care and meet the needs of caregivers and care recipients impacted by distance. The tasks of distance caregivers also vary with no existing instrument or framework for the subgroup of LDCs (Fischer & Jobst, 2020) to capture the kinds of caregiving activities and factors that are specific to LDCs. Nevertheless, long-distance family members can be enabled to remotely engage in a number of caregiving tasks through advanced technology, including the provision of emotional support, financial maintenance, or care coordination (Cagle & Munn, 2012).

Military and Foreign Service Personnel at a Distance. Long-distance caregivers are likely to be a middle-aged adult (NAC & AARP, 2004; NAC, 2004) caring for a parental figure such as a biological parent, stepparent, or in-law. About half of LDCs are men (NAC, 2004; Wagner, 1997), married (72%) and earning at least $75,000 per year (NAC, 2004). The national demographic makeup of LDC is comparable to the profile of Foreign Service Officers. Entry-level Foreign Service Officers have starting salaries ranging from $50,000 to over $100,000 annually on a government pay schedule (DOS, 2019). They are also known to be college-educated, middle to upper middle class, 70.4% white and 55.1% male (DOS, 2022b). Active-duty members are similarly 68.9% white, with a higher representation of males at 82.8%

(Department of Defense [DOD], 2020). In contrast to the Foreign Service, only one-quarter of military service members have a college degree, but this figure reaches 85.5% for military officers (DOD, 2020) who are more likely to be middle-aged. While the number of women in the Department of the Defense and the Department of State, which employs most of the U.S. Foreign Service (American Foreign Service Association [AFSA], 2020), continues to rise, the proportion of males is larger for senior ranking officers in both agencies (DOD, 2020; DOS, 2022b).

Military communities are considered to be an important subgroup of long-distance caregivers due to their continual deployments to new locations stateside or abroad (Kosberg, 2002 as cited in Cagle & Munn, 2012). Military service members that are assigned overseas are primarily posted to sites as far as Europe (4.8%) and East Asia (6.2%). Approximately 10% of the Army and Navy and 16% of the Marine Corps and Air Force are overseas. Of the 156,615 (12%) active-duty service members serving outside of the United States, 25,105 are military officers who are as a group closer to parent caregiving age than enlisted members (DOD, 2020). Similar to the military, Foreign Service personnel and families are routinely separated from their families of origin for service. The Foreign Service is a much smaller group of 13,371 employees with 8,772 assigned to over 276 posts, including embassies, abroad (DOS, 2022a). Thus, far less empirical research has been conducted to understand distance caregiving practices and experiences in the Foreign Service.

Given the longstanding history of the military and Foreign Service, and a growing institutional interest in retaining personnel by supporting their families, studying these communities together may illuminate the shared and divergent characteristics, network compositions and practices linked to their level of burden. In the seminal book on the circulation of care within transnational families, Baldassar and Merla (2013) address the omission of

middle-class families from transnational migration studies. The resources of the middle-class enable mobility with fewer visa and passport restrictions to visit their loved ones and the means to hire paid professionals to provide direct care. While the middle-class is assumed to be the norm, they are a dwindling group (Pew Research Center, 2015) that the authors note are under researched due to assumptions about their relative wealth (Baldassar & Merla, 2013). More extensive research on caregivers in the military and Foreign Service may address beliefs about the attributes and resources considered most important to understanding long-distance caregiving burden both between these communities and within them.

Long-distance Caregiving Burden. Studies suggest that the stress of remote caregiving may be comparable to the experience of local caregivers providing direct care. In a 2004 nationally representative survey, caregivers living more than one hour away from their care recipient reported the highest level of emotional stress compared to those living with or closer to the care recipient (NAC & AARP). The subjective stress of long-distance caregivers is specifically marked by feelings of guilt (Conde-Sala et al., 2010; Kalavar et al., 2020) and worry (Parker et al., 2002; Baldock, 2000; Kalavar et al., 2020) as a result of not being available to fully access and provide adequate care to their aging parent by meeting their social obligations as adult children. The strenuous affective experience of adult children providing care to parents overseas has been referred to as *in-absentia caregiver stress* in the literature and can provide a basis from which to understand the combination of guilt, worry and helplessness that may stem from long-distance care (Kalavar et al., 2020). The notion of long-distance caregiver stress contrasts with a previous assumption in caregiving research that burden is primarily caused by the physical demands of direct care (Thompsell & Lovestone, 2002). In general, the context of

caregiving can be more predictive of mental distress or subjective burden than the physical health of caregivers (Pinquart & Sorenson, 2003).

Shared Caregiving. By virtue of providing care from great distances, long-distance caregivers in the government workforce may be more likely to provide part-time care within a network of paid or informal caregivers. Lower-hour caregivers (those providing care less than 20 hours per week) are a growing subgroup of caregivers who are increasingly providing care for longer durations of time and are more likely to report a lack of choice in becoming a caregiver than part-time caregivers, with duration and lack of choice both correlated with greater caregiver stress and strain (NAC & AARP, 2020b). Between decreasing fertility rates and longer life expectancies (Dhar, 2011), the need for long-term care is rising in conjunction with memory and mental health issues among the aging. The longer care is provided, the greater the likelihood of caring for a medically complex care recipient with two or more health conditions, increasing the amount of time, tasks and skill required to meet their needs. As the population gap closes between caregiving-aged and older adults, the demands of long-distance caregivers will continue to increase (NAC & AARP, 2020b).

Family Systems with a Life Course Perspective

Military and Foreign Service Families

The old adage, “If the Army wanted you to have a family, they’d have issued you one,” depicts the U.S. government’s attitude toward service members balancing family life with military service for most of its 250-year history. About a decade after the U.S. draft was ended in 1973, the federal government began to recognize the value of family in recruiting and retaining its military personnel. Initiatives for family-specific programs and services were launched to build resilience for military life challenges, such as frequent family relocations (Thompson,

2018; Bowles et al., 2015), which involve separation from kinship networks beyond the nuclear family (Wool, 2015). Given that nearly one-half (45%) of active-duty service members are below the age of 25 (DOD, 2020), and the average age of caregivers in the military is younger (37) than the general population of caregivers (49.4), programming for caregivers in the military generally focuses on the needs of military service members as parents (RCI et al., 2021). There has also been a growing interest in the needs of informal military caregivers of spouses supporting disabled military personnel and veterans following America's twenty-first century war on terror and involvement in international conflict (RAND Cooperation, 2014). Although there is much work left to do to support military families, the military's culture shift toward family inclusion in the last half-century reflects a new disposition to families as part of the "total force" of the military (Chu et al., 2007 as cited in Wool, 2015).

The U.S. Department of State is a federal agency that has existed almost as long as the military and employs most of America's Foreign Service, followed by the U.S. Agency for International Development (15% of the Foreign Service), the Foreign Commercial Service (2%), the Foreign Agricultural Service (1.5%) and the U.S. Agency for Global Media, comprising less than 1% of the total Foreign Service force (AFSA, 2020). The Department of State has taken a similar approach to employee retention by addressing the needs of officer's families, especially spouses, who are increasingly interested in maintaining personal and professional autonomy throughout the officer's career. In contrast to the military, Foreign Service spouses and children have been considered critical to the U.S. mission abroad and reputation of officers. Following the women's liberation movement of the 1960s and establishment of an association for foreign affairs employees and families, the Department of State issued the "1972 Directive" ending the requirement of Foreign Service spouses to "voluntarily" support activities and social events for

the benefit of the U.S. government. The directive also ended the inclusion of spouse's performances in these "voluntary" duties in the evaluation of Foreign Service Officers (Department of State, n.d., as cited in the National Archives, 1972; M. Beecroft, personal communication, April 9, 2022). This directive encouraged spouses to organize through the association for the foreign affairs community and host inter-agency round tables on family care challenges (Associates of the American Foreign Service Worldwide [AAFSW], 1998). A series of child and elder care policies were launched as a result, yet "family concerns" are still cited as the top reason Foreign Service personnel end their service earlier than anticipated (AFSA, 2021).

Family Systems Approach. Along with the ability to participate in parent care through financial resources, technological tools, and numerous communication channels comes the strain of navigating complex family dynamics in managing the recipient's care from afar. To further understand the positioning of remote caregivers within a network of informal support, researchers have employed *family systems theory* to capture the interlocked, developmental process of the caregiving experience (Hecker et al., 2014; Seaman, 2015). The value of understanding individuals in the context of their family system stems from the work of Gregory Bateson (1972) who bridged Ludwig von Bertalanffy's (1968) *general systems theory* on the interplay between elements of systems and Norbert Weiner's (1954) *cybernetic theory* on the leveraging of mechanisms to regain systems homeostasis. Together, Bateson applied these theories to families to understand how complex and dynamic exchanges within families operated upon the family, their subsystems and individual members (Hecker et al., 2014):

> "According to family systems theory, all members of the family system are interconnected, and a change in one part of the system means a change for the whole system. Therefore, it would be expected that other members of the family, and not just the primary caregiver and [care recipient] would also be profoundly affected…" (Gan & Schuller, 2002, p. 312).

Long-distance parent caregiving families typically comprise numerous interdependent pairs (e.g., subsystems that are both proximal and long-distance to military and Foreign Service personnel). These subsystems include those who are likely accompanying the service member at a distance from a parent, like spouses and children, along with parents, adult siblings and members of the extended family (Hecker et al., 2014). The availability and personal demands on the lives of these family members may have an immediate impact on the caregiving requirements of personnel as adult children. In response to life transitions within the family, such as parent illness, members can either restore harmony to the family's functioning by accommodating and evolving with the change or resisting change to preserve how the family currently operates (Hecker et al., 2014). At mid-life when adult children typically assume parent care and seek proximity to their parent (Choi et al., 2021), military and Foreign Service personnel may choose to adapt caregiving practices to their occupationally mobile careers, requiring ongoing negotiation of their distance caregiving practice with members of the caregiver network. Therefore, understanding the full demands and experiences of a distance caregiver may require engagement of their intergenerational support network and context.

Life Course Perspective. The social experience of developmental milestones and transitions over the lifespan are explained by the *life course perspective* which offers insight into the cross-generational caregiver burden with developmental tasks of both the caregiver and care recipient. Parental dependence typically arises in middle adulthood when most military and Foreign Service members are tenured, hold senior ranks and provide for families of their own. During this life phase, the decline of parental health renews sibling relationships, and may strengthen their relatedness as they share in caregiving duties and prepare for the inevitable death of their parents. Family systems theory recognizes the isolation of individual caregivers, which is

considerable in distance caregiving, and seeks solutions to caregiving issues through the perspective and interdependence of family units (Seaman, 2015). The need to address their participation barriers and optimize their roles becomes much more imperative.

Military and Foreign Service Family Involvement. Individuals facing continual geographic separations from their aging parents, such as active-duty military and Foreign Service members, approach the developmental tasks of parent caregiving through various means. Those providing care to family members in a different country, or transnational caregivers, are empowered to participate in caregiving through "technology, travel, finances, and governmental relations" (Dhar, 2011, p. 62). Advents of technological tools such as email, social media and teleconferencing applications create opportunities for military and Foreign Service members to instantaneously communicate with care recipients, family members and direct care providers for emotional support or care management. Home leave and benefits policies also enable diplomats to travel to the United States for up to several weeks at a time in cases of emergencies or planned visits.

The military and Foreign Service adhere to regulations under different agencies, the Defense Finance and Accounting Service (DFAS) and Department of State (DOS), respectively, to declare parents as financial dependents and access a wider array of benefits for parent care (Defense Finance and Accounting Service [DFAS], 2020). These benefits may be accessed to share housing with a parent while posted at a distance, consistent with the life course perspective, whereby adult children seek to be closer to their parents toward the end of the parent's life (Parker et al., 2006). A small minority of Foreign Service personnel choose to live with parent(s) while overseas, if the caregiving situation meets DOS criteria for cohabitation (Global Community Liaison Office [GCLO], 2020). Similarly, DFAS can grant secondary

dependency status to parent care recipients, enabling parents' access to primary care at military treatment facilities and financial benefits similar to the adult child service member (DFAS, 2020). Beyond the constraints of relocating an aging parent with a chronic and/or progressive illness, the requirements to access and recertify additional benefits under DOS and DFAS and local laws may be seen as stringent (GCLO, 2020; DFAS, 2020) and prolong responding to parent's care needs in a timely manner, compounding the stress of caring for parents from afar.

In addition, research on caregivers in the military suggests that the extent to which military service members participate in parent care may be influenced by the support of their leadership, unit personnel and wider community in balancing family and work demands (Bowles et al., 2015). Military culture embodies several strengths in caregiving, including family-focused resources (Bowles et al., 2015) and values that foster interdependence amongst military families. Values of altruism and care (Redmond et al., 2015) that underpin the military community normalize the practice of caregiving, enabling 15% of caregivers in military families to provide care to relatives of other active-duty military personnel outside of their immediate family units (RCI et al., 2021). To this researcher's knowledge, the current caregiving conditions of Foreign Service Officers have not been empirically researched. Based on the findings of the last inter-agency round tables on family care challenges hosted by spouses of the association for the foreign affairs community in 1998 and this researcher's interviews with elder care providers of the Foreign Service, an officer's ability to effectively care for their parents may be similarly influenced by the support of workplace personnel (Association of American Foreign Service Women FORUM, 1998) and ability to coordinate care with unpaid caregivers that are living in close proximity to the officer's parent(s).

Gender and Caregiving

Caregiving Burden of Men

The literature on caregiving burden points to few social and demographic characteristics, such as gender, that explain disparate wellbeing outcomes across caregiver subgroups (Schulz et al., 2020). As the U.S. population progressively ages, the imperative to understand gender-related factors in caregiving is of growing importance. The increasing life spans of women who are disproportionately diagnosed with dementia, i.e., conditions of memory loss, have compelled a greater number of dementia caregiving studies to primarily focus on the role of men as spousal caregivers in heterosexual relationships. Since men comprise close to half of long-distance caregivers (NAC, 2004) and spousal caregivers account for less than one percent of LDCs (Cagle & Munn, 2012), the paucity of present-day research on men caregivers and empirical focus on men as spousal caregivers limits an understanding of men's varied roles in caregiving.

Furthermore, when the familial relationship is factored into gender and caregiving burden, studies have reported conflicting findings on whether the type of relationship predicted burden (Campbell et al., 2008), with some reporting that male spousal caregivers have greater burden than sons (Papastavrou et al., 2009 as cited in Robinson et al., 2014) or that sons and women partners have higher levels of burden than male spouses (Conde-Sala et al., 2010). Although aspects of gender have been found to shape the caregiving process of those with multiple, ongoing health conditions, few studies have assessed the influence and implications of gender in carrying out the caregiving role. In a 2014 scoping review of men caring for persons with dementia, researchers found that of the ten articles identified on dementia caregiver stress (Robinson et al., 2014), only one study examined the stress of men who were caring for a relative who had dementia (Baker et al., 2010). The remaining nine articles contained samples with

inadequate representation of male dementia caregivers, a prevalent issue in broader caregiver research (Robinson et al., 2014).

The majority of research studies on men and caregiving have employed a binary approach to gender, whereby “gender” identities are represented by categories of women and men (Connell & Messerschmidt, 2005) and “sex” refers to the biological composition of females and males (Johnson & Repta, 2012 as cited in Robinson et al., 2014). Despite the dearth of gender and sexual diversity and lack of nuanced conceptualization of gender in caregiving studies, research has revealed some differences in how men approach and experience elder care. Men are more likely to focus on the concrete responsibilities of care provision, whereas women reportedly use a more emotion-centered approach to manage care. Men also express a preference for autonomy in their caregiver role and are less likely to use professional caregiving resources (Baker & Robertson, 2008; Cahill, 2000; Zodikoff, 2007). Furthermore, the extent to which men caregivers embody hegemonic ideals of masculinity also influences how they perceive their role and degree of burden in caregiving (Connell & Messerschmidt, 2005). Those that endorse more conservative views of masculinity are less likely to report burden related to their caregiving tasks and may construct their caregiving role in ways that affirm their modeling of masculinity (Baker et al., 2010).

In alignment with the men’s focus on the instrumental aspects of caregiving, studies have examined the objective burden of men related to role strain (Harris, 1998). However, the use of theoretical models of stress that consider the personal resources that mitigate the stress of caregiving, such as Pearlin’s stress-process model (1990), have emphasized that subjective burden also plays a significant role for men, including those that terminate their caregiving duties earlier than anticipated due to emotional distress (Ducharme et al., 2007). Numerous studies on

gender and caregiving have suggested that women generally express greater burden than men. However, caregiving research should consider the possibility that male caregiving burden may be underreported (Oliffe & Han, 2014) for reasons such as the feminine connotation of caregiving (Baker & Robertson, 2008). Although caregivers' construction of their gender identity lies outside the scope of this study, caregivers in the military and Foreign Service have self-selected into male-dominated work environments, which may or may not reflect their personal ideals of masculinity. Nevertheless, masculinity within the context of the most "gendered and gendering social institution[s]" (Mayer, 1999; Mosse, 1998, p. 25 as cited in Wool, 2015) may be influenced by a number of factors that promote or inhibit men's ability to participate in care (Connell & Messerschmidt, 2005).

Caregiving Burden of Women

In a 2020 national survey on caregivers in the U.S., the National Alliance for Caregiving found that women were more likely to report not having a choice in becoming a caregiver than they were five years ago. Women were also more likely to be the primary or sole caregiver, caring for two or more adults (27% in 2020 versus 20% in 2015), and providing care longer than men. Despite the overrepresentation of women as caregivers, this subgroup is more likely to be unemployed while caregiving and earning hourly wages. This contrasts with men caregivers who are more often employed and salaried while caregiving. Although more women depend on paid help (34%) and informal supports (47%) than they did in 2015, they are also more likely to report difficulty obtaining affordable caregiving services.

National caregiver surveys show mixed results in the gender composition of long-distance caregivers, but the overrepresentation of women as caregivers is less so among long-distance caregivers (Cagle & Munn, 2012). Despite the smaller gender gap, women long-

distance caregivers are still at higher risk of objective burden, as they typically spend more time and money on caregiving and lose more work hours to attend to caregiving obligations (NAC, 2004). They are more likely to consider geographic proximity a barrier to care (Brody et al., 1989), even though they will travel greater distances and more often than men (Joseph & Hallman, 1998). In the context of changing caregiving needs, women respondents in 2020 reported a decline in their personal health and higher emotional stress compared to just five years previously (NAC & AARP, 2020b).

Based on the greater representation of men that comprise the Foreign Service and military, as well as long-distance caregivers, it is likely that their parent care coordination depends on local caregivers who are more likely to be women. Daughters who co-reside with a parent to whom they are providing care express greater levels of burden and mental health issues (Conde-Sala et al., 2010). These factors will be considered in surveying the caregiving burden of the military and Foreign Service, as well as women caregivers experiencing the triple-bind of meeting social expectations to care for their parents and children, while working in male-centric environments. Previous qualitative research on female military officers proposed that women officers were at a disproportionately higher risk of caregiving burden due to their prominent role as parent caregivers (Parker et al., 2001).

Parent Illness

Conceptualizations of Burden and Parent Illness

In a 2008 study that compared caregiving burden by care recipient condition from a nationally representative sample of caregivers, researchers found two theoretical models effective in understanding caregiving burden: the Lazarus and Folkman (1984) stress-coping model to examine the role of caregiver resources in burden; and the illness, appraisal, and coping

model by Leventhal, Meyer and Nerenz (1980) (as cited in Kim & Schulz, 2008) to assess burden through caregivers' "common sense beliefs" about the care recipients' illness (p. 10). Researchers reported that the type of care recipient illness significantly predicted subjective burden in the form of emotional stress. In a comparative analysis of cancer caregiving with dementia, diabetes and frail elderly caregiving, researchers found that both cancer and dementia caregivers exhibited the greatest degrees of physical, psychological and financial burden. This was the case even when controlling for sociodemographic factors, the duration of care and hours of caregiving per week (Kim & Schulz, 2008).

Since the findings of this comparative study of illnesses, the prevalence of Alzheimer's Disease and Related Diseases (ADRD), a particularly costly condition, has grown significantly and is considered one of the most burdensome conditions for family caregivers (Conde-Sala et al., 2010; da Rocha et al., 2022, NAC & AARP, 2020a). Today, there are an estimated 5 million people living with dementia in America which is predicted to rise to 13.8 million in the next 30 years (Hebert et al., 2013; National Institute on Aging, [NIA] 2016). Nationwide, 11% of caregivers report ADRD as the primary condition necessitating their care. Overall, 26% of care recipients are diagnosed with dementia (up from 22% in 2015) and an astounding one-third of caregivers report ADRD for their recipients aged 65 and older. This is a notable increase from just 12% of care recipients with ADRD in 2015 (NAC & AARP, 2020b). The substantial cost of caring for persons living with dementia contributes to a greater financial burden on dementia caregivers.

Despite the presence of ADRD in nearly half of nursing home and assisted living residents, most persons living with dementia are aging outside of institutions with restrictions in their mobility and activities of daily living (Stevenson, 2020). In a cross-sectional study of

family caregivers of hospitalized older adults in Switzerland, caregiver burden was most significantly associated with “diseases of the nervous system,” such as Alzheimer’s disease (da Rocha et al., 2022). The study’s researchers explained that the study was conducted in a locality with a lower degree of institutionalization compared to the greater nation of Switzerland (Bureau D’information et de Communication de Communication de l’Etat de Vaud, 2012 as cited in da Rocha et al., 2022). The findings of their study may point to similar trends of elder care burden in the United States, where population aging and a shrinking healthcare workforce will sharply increase the dependence on family and community for older adults with progressive conditions, such as dementia.

Today, two-thirds of persons living with dementia in the United States are cared for by unpaid family and friends (Stevenson, 2020). Compared to 20% of non-dementia caregivers who report worsened health, 35% of dementia caregivers indicated that their health had declined. Additionally, almost 1/3 of this caregiver subset reported challenges in locating affordable local resources (NAC & Alzheimer’s Association, 2017). Along with cancer caregivers, dementia caregivers manage external services the most frequently (Kim & Schulz, 2008), expending more time to provide care and elevating the risk of objective burden. Long-distance caregivers who support instrumental activities of daily living, such as care coordination and money management, are likely impacted by the intensive demands of caring for a parent with dementia. The level of burden has also been found to fluctuate over time for adult children of parents with dementia. Burden can be particularly great at the initial diagnosis, decline for two years and increase from the third year onward (Conde-Sala et al., 2010). Researchers of a cross-sectional study of adult children and spouse caregivers of persons with dementia explained that greater access to

dementia information may cause more distress in adult children when symptoms first emerge (Marwit & Meuser, 2002; Conde-Sala et al., 2010).

Parent Illness in the Military and Foreign Service

While generally caregivers of multiple care recipients are more likely to be caring for several adults (NAC & AARP, 2020b), caregivers in the military who are caring for more than one person are more likely to care for both children (with or without special needs) and a parent or grandparent (RCI et al., 2021). The disparities in care recipient conditions between military and non-military families may be explained by the disparity in caregiver ages, whereby young caregivers of military families are providing care for congenital versus age-related conditions.

Caregivers in military families are more likely to care for someone with emotional or mental health issues (42%) compared to the general population of caregivers of which 27% are caring for a person with such conditions. Military families reported that assisting care recipients through "emotional 'storms' or outbursts" was the most stressful aspect of caregiving (61%) in conjunction with arranging and advocating for quality care. The authors indicated that military family caregivers of those with mental and emotional health issues may experience the subjective burden of mental health stigma in the military while engaged in care provision (RCI et al., 2021). Care recipients of caregivers in the military are also more likely to need care due to an intellectual or developmental disability (21%) compared to only 9% of the general population of caregivers in the United States (RCI et al., 2021).

No contemporary quantitative data on caregivers of the Foreign Service currently exists. Nevertheless, the requirements of the Foreign Service compel members to pursue advanced degrees and gain at least some work experience in their adult years before entering into service. Therefore, the older age of Foreign Service Officers and their care recipients are more likely to

reflect the caregiving situations of the general caregiver population. According to the Caregiving in Military Families report on the 2020 Military Family Lifestyle Survey, 63% of the general caregiver population are caring for recipients with a chronic physical health condition.

Caregiving Intensity

The degree to which a care recipient requires assistance by family members can adversely cause distress across the family system. Subjective burden in the form of guilt may arise for caregivers, such as long-distance caregivers, who are less involved in the direct caregiving tasks needed to adequately care for a parent (Joseph & Hallman, 1998). Proximal caregivers spending time delivering concrete, hands-on care may experience strained relationships with others, such as employers and other relatives, who they are responsible to in middle adulthood. Therefore, the *caregiving intensity*, i.e., time spent on care provision and the amount of care provided (NAC & AARP, 2020a), can be an important predictor of caregiving burden (NAC & AARP, 2020a; da Rocha et al., 2022). The relationship between caregiving intensity and burden has been found to be more significant for parent caregivers versus spousal caregivers of persons with dementia (Conde-Sala et al., 2010).

When the functional independence of a care recipient is greater, levels of burden are lower for family caregivers (Conde-Sala et al., 2010). Furthermore, the distribution of care provision across siblings has also been found to be more equitable when the care recipient has a greater functional capacity (Tolkacheva et al., 2014). Family caregiving burden may increase when care recipients have both cognitive and physical impairments, yet caregivers of those with cancer, dementia, diabetes or age-related frailty differ in their care provision and strains. Although cancer caregivers provide care for the shortest length of time, they support a similar number of activities of daily living (ADL) and instrumental activities of daily living (IADL)

tasks as dementia caregivers. Both groups provide a comparable degree of functional assistance and report the most physical distress of all disease types (Kim & Schulz, 2008).

On top of the amount of care provided, the hours expended on care is linked to personal and task-related tensions (Archbold et al., 1990; NAC & AARP, 2020a) that can lead to subjective and objective burden. Caregivers who spend more hours on care are more likely to report higher caregiving intensity with financial consequences, such as reduced work hours, taking a leave of absence or quitting their job (NAC & AARP, 2020). Long-distance caregivers who spend less time on direct care at greater distances (Joseph & Hallman, 1998) may report intensity for time spent finding affordable services local to the care recipient and difficulty finding the information or help they need. Higher-intensity caregivers are also more likely to feel alone and report worsened health as a result of caregiving (NAC & AARP, 2020a).

Although local or co-residing caregivers are more likely to spend time on caregiving through a greater number of activities of daily living, they are also more likely to report that caregiving gave them a sense of purpose or meaning in their life (NAC & AARP, 2020a). Understanding how proximal and distance caregivers are affected by caregiving intensity may reveal how caregivers can better support one another in meeting the demands of their respective tasks.

Preparedness for Caregiving

Unlike other forms of family caregiving, the care of parents by adult children is more likely to be anticipated as family members age and transition into new stages of life together. Adult children's involvement in the care of parents can still be unpredictably heightened by progressive illnesses and injuries that necessitate greater care of a parent (Parker et al., 2016). The importance of family preparedness for parent care may be viewed through a life course

perspective as a developmental task for many middle-aged adults (Roff et al., 2007). Preparedness for caregiving has been conceptualized in various ways, such as the caregiver's confidence to undertake caregiving tasks to meet the needs of a loved one (Archbold et al., 1990; Shyu et al., 2010; Zwicker, 2018). The extent to which a caregiver believes they are prepared to care may assist with recognizing those more vulnerable to experiencing subjective and objective caregiving burden (Shyu et al., 2010). However, few present-day studies have examined the relationship between the preparedness and burden of elder family caregivers (da Rocha et al., 2022).

Preparedness for Caregiving and Burden

One of the first studies on caregiving preparedness by Archbold, Stewart, Greenlick and Harvath (1990) examined how preparedness for caregiving, i.e., how caregivers' acquisition of skills and self-appraisal of their performance across caregiving domains, related to strain in the caregiving role. Researchers drew from role theory i.e., caregivers' implementation of their caregiver role (Schumacher et al., 2008) to study caregivers' preparedness for caregiving with dimensions of role strain over time. Attention to the relationship between caregiver role implementation and burden complements what is known about family caregiving burden through stress and coping theories, which focus on the characteristics of the caregiving-dyad in the context of stress (Schumacher et al. 2008; Lazarus & Folkman, 1984; Pearlin et al., 1990). Archbold and colleagues' landmark longitudinal study found that preparedness was predictive of caregivers' role strain as it related to particular dimensions of strain, including global strain and worry (1990). Subsequent studies have found a negative correlation between caregivers' perception of their preparedness to care and the degree of their burden (Scherbring, 2002; Naef et al., 2017). Consequently, a greater self-perception of preparedness for caregiving has been linked

to fewer mental health issues amongst family caregivers of persons with dementia (Shyu et al., 2010; Henriksson & Arestedt, 2013).

Researchers have since explored the presence of worry in caregiving burden, namely subjective burden, which is especially relevant to distance caregivers whose means to access the care recipient is through technological tools and/or persons proximal to their care recipient. In a mixed methods study on transnational caregiving by Asian Indians in the United States, respondents expressed worry from the lack of timely information about their parent and reliance on local family members for care provision (Kalavar et al., 2020). In pursuit of a comprehensive understanding of burden, some researchers have proposed that worry about one's caregiving performance should be a dimension of caregiving burden, in conjunction with role strain and personal strain (Li et al., 2018). Researchers of one study on senior military officers and distance caregiving (Parker et al., 2002), examined resources that helped officers cope with worry about their elderly parents. They found that developing a future *care plan*, written conditions of a parent's expressed treatment wishes, buffered worry by clarifying the health condition and needs of officers' parents.

Parent Care Plans

Establishing a *parent care plan*, i.e., a plan representing a parent's wishes for health, legal and other needs should they lose ability to make decisions autonomously or require end-of-life care (Parker et al., 2002), has the potential to support caregiving families and limit their care-related distress. Participants in one mixed methods study described the lack of advance care planning as a salient experience, as well as desiring more information on how to navigate end-of-life care for persons with advanced heart failure. Caregivers indicated that they felt least prepared for the future. The authors recommended advance care and anticipatory care planning

as a method to reduce their burden (McIlfatrick et al., 2018). Future care planning may also decrease health care expense, optimize patient-healthcare provider communication, and promote quality palliative care (Smith et al., 2017; Houben, et al., 2014; Brinkman-Stoppelenburg et al., 2014; Bischoff et al., 2013; Kirchhoff et al., 2012; Detering et al., 2010). Despite the significance of a parent care plan to help families prepare for the future, discussing the health changes or death of a parent can be emotionally demanding, especially while a parent is still in stable health (Roff et al., 2007).

Given the risk of injury or death of military service members (Bowles et al., 2015), intergenerational family planning is mandatory for personnel who have dependents and are preparing for deployments, a temporary duty assignment or relocation for other military duties. The plan includes directives and documents, such as a power of attorney, for a successive caregiver to meet the medical and legal needs of family members should the service member reach an untimely death or incapacitation (Parker et al., 2002). These plans are developed upon entry into service and periodically reviewed with major life transitions and deployments. However, the family plans are focused on dependents, which does not always include aging parents who are legally independent, especially those who are functionally autonomous at the time of deployment. Family care plans were also rendered void during the global pandemic of COVID-19 when the Department of Defense issued a stop-travel order in 2020 to prevent the spread of the coronavirus. Families with temporary care arrangements were left to find other accommodations (Albrycht & Grogan, 2020).

As a smaller population with fewer incidences of family separation, parent care planning has been slower to be institutionalized in the Foreign Service. However, elder care needs captured the State Department’s attention by the late 1990s when the volume of baby boomers entering

the life stage for parent caregiving increased by 77%, exceeding the growth of persons over 80 years old, which had only risen to 62% (Redfoot et al., 2013). Although most parent care benefits are designed to address current caregiving challenges in the Foreign Service, some services are available to develop elder care plans. The growing literature on the relationship between preparedness for caregiving and caregiving burden suggests that pre-planning may support military and Foreign Service members in reducing global distress around parental well-being and care delivery.

Sibling Caregiver Network

Number of Siblings

Research on shared caregiving indicates that a larger caregiving network offers adult children a sense of emotional safety as they are assuredly not expecting to manage caregiving on their own (Bagga, 2008; Tolkacheva et al., 2011). For senior ranking military officers, a group comparable to diplomats facing prolonged parent separation due to reassignments, the stress, worry and ambiguity around parent care needs are compounded by the absence of sibling support to shoulder the burden of parental care. Researchers found that a greater number of siblings filled informational gaps for officers in regard to care needs and alleviated worry, a mediator for burden, due to the increased monitoring of parents (Parker et al., 2002; Kalavar et al., 2020). Multiple siblings raised the likelihood that at least one sibling would share caregiving with the distant caregiver (Parker et al., 2002) consistent with other studies that report that having a larger family to share caregiving results in more equitable care distribution, lessening the strain on individual siblings (Tolkacheva et al., 2014). Thus, distance caregivers with a higher number of siblings are more likely to report lower degrees of subjective burden.

Distance of Sibling Caregivers

The presence of a sibling that lives with or near the parent care recipient is an important predictor of sibling participation in parent caregiving (Matthews & Rosner, 1988). Long-distance caregivers are more likely to share caregiving with a sibling and more than twice as likely to share caregiving with a sibling proximal to the care recipient (NAC, 2004). For members of the military and Foreign Service who coordinate family care from far distances over extended periods of time, the role of a local contact to share caregiving and respond to emergencies may be more important than other distance caregiver subgroups. Without an available caregiving sibling, male senior ranking military officers were at greater risk of experiencing stress related to care management, including financial maintenance and oversight of care provision. Officers delivering distance care also reported worry related to contacting care recipients during medical crises when no local siblings were available to communicate health updates to them. Sibling availability was even more meaningful when parents were too unwell to be contacted by the officers directly (Parker et al., 2002). Thus, the relationship between caregiving burden and the availability of sibling support in caregiving will be developmentally appropriate to study for these subgroups of parent caregivers.

Sibling Caregivers and Burden

Within the complex dynamics of shared caregiving, a few studies have pointed to aspects of sibling caregiver networks that influence how caregiving tasks are distributed and experienced by siblings (Baldock, 2000; Ingersoll-Dayton et al., 2003; Kalavar et al., 2020). In line with the trends of long-distance caregivers, adult children of the military and Foreign Service are likely to depend on informal and professional caregivers to deliver direct care and act as intermediaries with parents and health providers. Long-distance caregivers are often more affluent than their local caregiver counterparts and contribute to financial maintenance (Cagle & Munn, 2012),

while proximal siblings are able to provide hands-on support, such as transporting the parent, maintaining the home and visiting regularly (Roff et al., 2007). Therefore, when long-distance caregivers have siblings, especially proximal siblings to share care, sibling participation is more likely to mediate the subjective stress of LDCs. In turn, distance siblings can reciprocate support by taking on direct care tasks and providing respite to local siblings during face-to-face visits with parents (Cicirelli, 1995). The few studies that include geographically blended caregiver networks have also noted that effective caregiving coordination may enhance the experience of shared care provision (Tolkacheva et al., 2011; Andersson, 2018).

Socio-demographic and Emotional Characteristics

Sociodemographic Characteristics and Burden

Sociodemographic characteristics, such as race and number of children, were not significant to caregiver stress in a study on senior ranking male officers providing distance caregiving in the military (Parker et al, 2002). However, some studies have found basic sociodemographic information and caregiver-care recipient relationship to be related to burden (Lemme, 1999; NAC & AARP, 2020b; NAC & AARP 2020a; Schulz et al., 2020). Based on a 2020 review of literature on the impact of caregiving, authors reported that sociodemographic characteristics, such as gender, age, education, income and co-residence with the care-receiver to be related to burden (Schulz et al., 2020). Beyond sociodemographic characteristics, the literature pointed to caregiving intensity as was one of the most impactful aspects of caregiving on caregiver’s wellbeing. They also cautioned that many risk factors were interrelated and more research with a larger sample was needed to review risk factors, while enabling a better understanding of their importance in addressing caregiving burden (Schulz et al., 2020).

Social Support

Key mediators of distress, such as social support, are negatively associated with both subjective and objective burden (Lazarus & Folkman, 1984; Pearlin, 1990). Caregivers' appraisal of having a satisfactory system of supports on whom they can depend, or social support, has been cited in numerous studies as strongly negatively correlated with caregiving burden (Sarason et al., 1987). The presence of family and friends was found to play a more powerful role in lowering the depressive symptoms of long-distance parent caregivers than caregivers residing with a parent care recipient (Li et al., 2018). In networks of family caregivers, the instrumental support of shared caregiving tasks signals a shared responsibility by members of the network that can be experienced as emotional support by adult children, depending on the quality and degree of coordination and contribution (Tolkacheva et al., 2011).

Hypotheses

A review of the literature suggests that the following factors may correlate with the subjective and objective burden of long-distance caregivers in the Foreign Service and military: caregiver gender, the availability of siblings proximal to the parent to share care, a parent's health condition and a caregiver's preparedness to provide care. Caregivers who identify as women may be more likely to express personal stress from caregiving and expend more time and resources to provide parent care. The ability to share caregiving tasks with a local sibling might also facilitate a greater understanding of care recipients' health and transact emotional and concrete support as family members partner in the developmental tasks of parent caregiving. The type of parent illness may require more caregiving demands that elevate a caregiver's subjective and objective burden. A self-perceived preparedness for caregiving might also serve a reassuring and informative function in feeling informed and less stressed about the caregiving role and its conflicts with other roles in a caregiver's life. To account for other common correlates of burden

in caregiving research, instrumental support and caregiving intensity will also be examined to understand their relationship to the subjective and objective burden of long-distance caregivers.

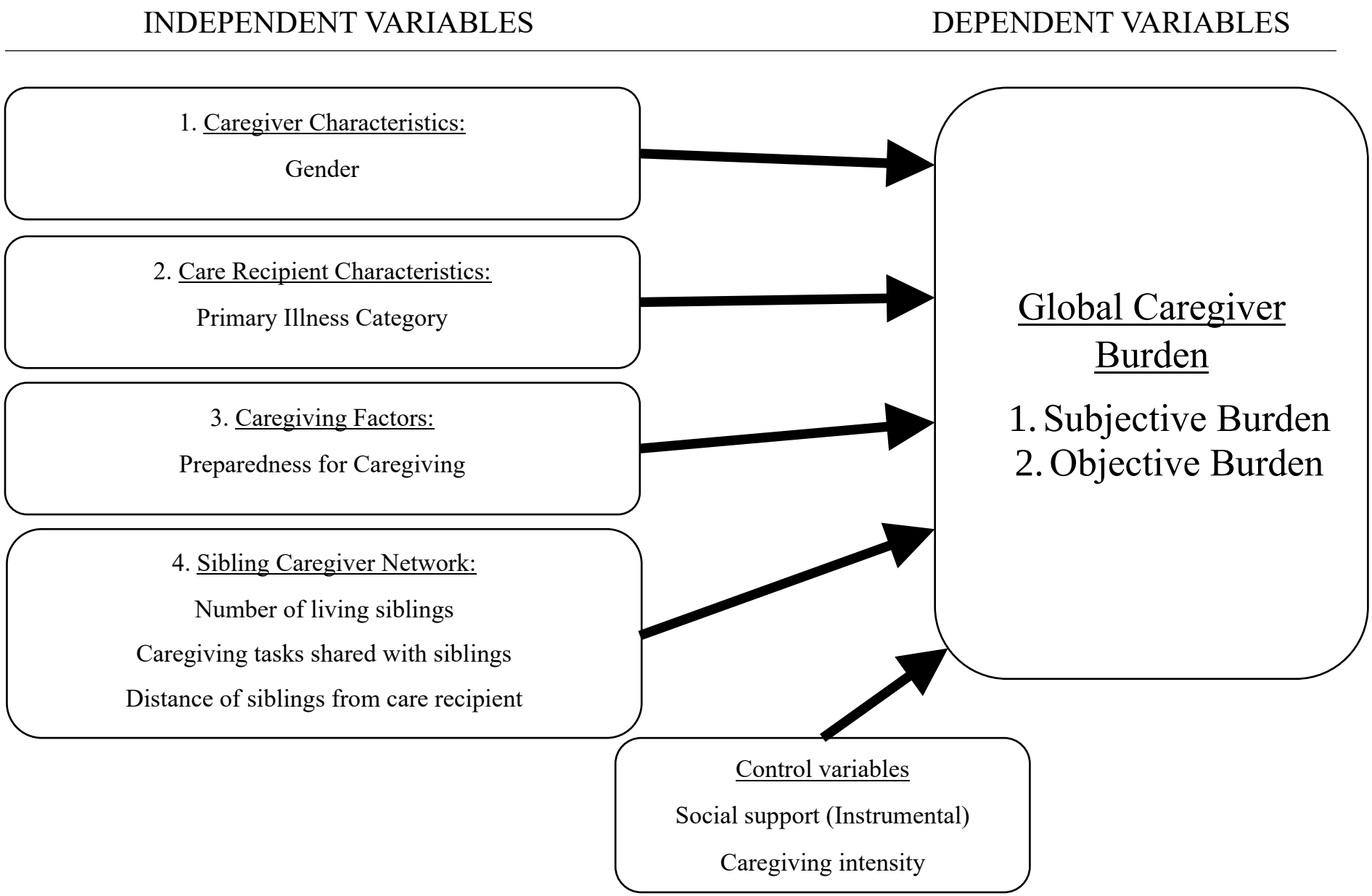
Therefore, this study will examine the following hypotheses:

H1: A greater degree of subjective burden will be related to being a woman caregiver, less available sibling support, less preparedness for caregiving and the illness category of the parent, while controlling for caregiving intensity and social support.

H2: A greater degree of objective burden will be related to being a woman caregiver, less available sibling support, less preparedness for caregiving and the illness category of the parent, while controlling for caregiving intensity and social support.

Figure 1

Conceptual Model of Factors Explaining Burden Among Long-Distance Parent Caregivers



Chapter 2. Research Design and Methods

Study Design

Justification of the Study Design

This correlational, cross-sectional study assessed the relationship between the burden of distance caregivers in the military and Foreign Service (dependent variable) and gender, available sibling support, preparedness for caregiving and the parent's primary illness (independent variables). Based on the most current systematic reviews and evaluative reviews on long-distance caregiving, this is one of the few quantitative studies of long-distance caregiving in the United States that includes caregivers who are based overseas (Cagle & Munn, 2012; Bledsoe et al., 2010). Studies of caregivers caring across national borders are primarily conducted outside of the United States using qualitative methodologies in disciplines outside of social work (Bledsoe et al., 2010), which has contributed to understanding the practice and socioemotional experiences of transnational care (Baldock, 2000; Collins et al., 2003; Harrigan & Koerin, 2007; Kodwo-Nyameazea & Nguyen, 2008; Roff et al., 2007). This quantitative social work study offers a steppingstone to understand the factors that correlate with the burden of Americans providing international care to their parents and determine how to effectively support such geographically dispersed families in practice and research.

Furthermore, the inclusion of the military in this study will promote greater heterogeneity of the sample and generalizability of the findings to the long-distance caregiver population. While long-distance military and Foreign Service members share commonalities in lifestyle and governmental resources, the literature suggests that they are demographically different and are likely to be caring for persons of varying age groups and health conditions as a result. Thus, the data between the caregiver subgroups was assessed in consideration of their differences, such as

the military's higher sociodemographic diversity and institutionalized family planning infrastructure, by inclusion of a binary control variable of military or Foreign Service.

To understand burden distinctions of the long-distance military and Foreign Service workforce, this study adapted part of the 2020 AARP and NAC online survey that assessed a nationally representative caregiver sample. Since 2004, the AARP and NAC have conducted national caregiving surveys of both proximal caregivers (living within an hour of the care recipient) and long-distance caregivers (living more than an hour away from the care recipient). These surveys have occurred in approximately five-year increments with the first national profile of caregiving captured in 1997. The 2020 report examined the growing role of technological supports, as well as the prevalence of caregiving, sociodemographic characteristics of caregivers and care recipients, caregiver activities and subjective and objective impact of caregiving. To strengthen the utility of this study's findings, sections of the survey, such as caregiving characteristics; the length and tasks of care; other involved caregivers; work-related conditions; and caregiving information and services were modified to fit the respondent population. Psychometrically validated measures were also included to assess the global (subjective and objective) burden of long-distance care.

Procedure and Incentive

The anonymous online survey was available through Qualtrics to reach caregivers at their respective posts in the United States and overseas. The ability for the survey to adapt to mobile phones and other technological devices enabled military and Foreign Service Officers to privately access the survey from most locations and increase the likelihood of participation. The survey was available in English only and took an average of 30 – 35 minutes for respondents to complete.

The online survey was completed by respondents who self-determined that they met eligibility requirements before consenting to participation. Prior to beginning the survey, the purpose of the study and eligibility criteria were presented (See the "Sample Size and Respondent Eligibility" section below for eligibility criteria). Once an individual self-determined their eligibility for study participation, they were directed to the consent form (Appendix B) displayed on a page prior to start of the survey. Respondents consented by ticking a box with a corresponding statement that they were above the age of consent to complete the survey and agreed to the conditions of survey participation. Respondents were also informed of their anonymity before starting the survey. If the individual determined that they did not meet eligibility criteria, they were automatically redirected out of the survey and thanked for their time.

To align with the design of the NAC and AARP (2020) survey, this survey repeatedly prompted respondents to answer all items in response to the parent for whom they provided the most care in the past year: "For the following questions, please think about the parent for whom you provided the **most** care in the past year." In addition to responding to measures for the independent, dependent and control variables, respondents also reported their sociodemographic backgrounds and information related to the caregiving situation. Survey branching and skip logic allowed for respondents to complete questions that were most relevant to their caregiving situation (RCI et al., 2021). For example, respondents who indicated that they had no siblings were not shown questions related to shared caregiving with a sibling. Respondents that completed the survey were provided the option to voluntarily participate in a gift card drawing at the end of the survey for an opportunity to receive one out of eight $25 Visa gift cards (Appendix C). Respondents that indicated interest in the incentive agreed to be rerouted to a different survey

to provide their email address for the gift card drawing. The second survey was decoupled from the primary survey to separate email addresses from survey responses and maintain respondents' anonymity.

Setting

As a geographically dispersed population, Foreign Service Officers and military personnel participated in the survey by accessing a weblink on a web-based platform, Qualtrics. The survey link was circulated through personal and professional contacts of the researcher, a spouse of a Foreign Service Officer. Recruitment avenues included a survey advertisement in a journal for Foreign Service personnel, military and Foreign Service media groups and organizations, embassy newsletters, military colleges, overseas military installations and personal contacts with access to military and Foreign Service personnel. For the privacy of the administrators and staff that assisted with the survey, the names of particular groups and sites that were contacted by this researcher will not be listed in this study.

Survey Design Limitations

The cross-sectional design of this study has been used in a number of previous studies to research the same independent and dependent variables (NAC, 2004; NAC & AARP, 2004; NAC & AARP, 2020; Parker et al, 2002; Kalavar et al., 2020; da Rocha et al., 2022; Archbold et al., 1990; Pucciarelli et al., 2014; McIlfatrick et al., 2018). While a cross-sectional design enabled this researcher to conduct the study using information collected within a short time frame, the design inhibits the study's explanatory nature and the ability to understand events that take place over a period of time (Rubin & Babbie, 2014). Although causation falls outside of the scope of this study design, its findings may be used toward longitudinal research to further understand the relationship between variables and the plausibility that certain independent

variables may cause long-distance caregiving burden (Rubin & Babbie, 2014). Cross-sectional surveys and questionnaires can also pose a risk of inflated correlations and telescoping bias, i.e., an error in the perceived timing of an event based on respondents' recall (Parker et al., 2002). To minimize biases of time, the survey inclusion criteria limited participation to caregiving that took place in the past 12 months, consistent with the 2020 NAC and AARP survey of caregivers.

The risk of social desirability bias, i.e., socially favorable answers provided by the respondent may exist in survey research. In a mixed methods study on intra-family stressors of adult siblings sharing parental caregiving (Ngangana et al., 2016), social desirability was cited as a limitation of analyzing questionnaire responses. Since this study's response rate fell below the number of respondents anticipated, a short-form version of the Marlowe-Crowne Social Desirability Measure (Strahan & Gerbasi, 1972) was unable to be used to control for social-desirability bias in analysis. However, social desirability bias is known to be less common in online surveys in the absence of an interviewer administering the survey to respondents (RAND Corporation, 2014).

Sample Size and Respondent Eligibility

Sample Size

As a hidden population, the number of active-duty military and Foreign Service Officers providing parent care from a distance is unknown. However, an estimated 14% of federal employees are providing care to an elder or adult dependent, including parents or other relatives (*Federal work-life survey results*, 2018). Therefore, approximately 1,228 of the total 8,772 (14%) Foreign Service Officers and 22,408 of 160,059 (14%) active-duty military serving overseas may be within the sampling frame, totaling 23,363. These estimates exclude the number of Foreign Service Officers and military personnel who are providing distance care from within

the United States as determined by this study, a threshold of 1,000 miles between the parent and care recipient. Thus, this figure may be an underestimate of foreign and military service members providing parent care from a distance.

Cohen's (1992) statistical power estimation, a medium effect size for multiple regression analysis with five independent variables in this study required a sample size of 91 and a small effect would have required 645. To expand on Cohen's index for effect size (i.e., 0.2 = small, 0.5 = medium, 0.8 = large), researchers have recommended additional considerations to interpret effect size, such as the sample, sample size and research context (Bakker et al., 2019). Similar to other studies on family caregiving burden that cited mild to moderate effect sizes (Chien et al., 2011; Gitlin et al., 2003; Northouse, 2010; Vernooij-Dassen et al., 2011), this study used a medium effect size to determine the strength between variables. For reasons described in the following sections, the sample resulted in 79 surveys for analysis: 67 Foreign Service Officers and 12 military service members.

Inclusion Criteria

Some survey items adapted from the 2020 AARP and NAC national study on caregivers were removed or modified to fit this study's sample of long-distance caregivers, yet this study maintained similar eligibility criteria for elder caregivers (e.g., those providing unpaid care to a relative or friend over the age of 50 years old). In order to participate in this study, respondents were required to be at least 18 years of age; currently employed as a member of the U.S. Foreign Service or Armed Forces; provided unpaid help to a parent over the age of 50 in the form of emotional support, financial maintenance or care coordination, within the past 12 months; and resided at least 1,000 miles from the care recipient during the period of parent care.

Exclusion Criteria

Certain subgroups of the military and Foreign Service community were excluded from study participation due to the distinguished demands of their roles that might have influenced the contextual factors of their caregiving situations. Some subgroup members who were excluded contacted this researcher by email and Facebook with comments on their interest in and exclusion from the survey. (See the “Strengths and Limitations” section for further discussion.) Individuals with parents living outside of the United States were excluded due to infrastructural differences of both the parent’s country of residence (e.g., healthcare, and other systems for the aging) and the caregiver’s employing agency (e.g., the Department of State’s leave of absence options to provide in-person care to a parent outside of the United States) that may influence caregiver stress.

Prior to the COVID-19 pandemic, this researcher planned to exclusively study the caregiving burden of U.S. Government employees overseas. To prevent the transmission of COVID-19, U.S. and foreign governments halted deployment between nations and ordered the immediate return of some military and Foreign Service personnel to the United States. In response to the varied relocation circumstances of the study population, this study broadened the distance inclusion criteria from caring across national boundaries to being 1,000 miles from the parent care recipient during the period of care. As a result, certain federal government groups were excluded from this survey, such as Civil Service personnel who are also assigned to posts overseas (DOS, 2022a). Maintaining the Civil Service in this study would have inadvertently opened the survey to other civil servants in the United States like employees of the U.S. Postal Service, whose parent care would primarily take place in the United States (e.g., a postal carrier in California caring for a parent in Florida) and be distinguished from the occupationally mobile military and Foreign Service. Similarly, other active and retired U.S. Government employees

outside of the military and Foreign Service were excluded based on resource and lifestyle differences. Lastly, military and Foreign Service spouses were excluded from this survey. Given the unique demands and experiences of military and Foreign Service spouses described in the "Background and Significance" section, spouses navigating parent care should be studied separately from active-duty military service members and Foreign Service Officers.

Recruitment

Recruitment methods

Recruitment for this study took place over an eight-month period from September 2021 to April 2022. The respondents were Foreign Service Officers and active-duty military service members residing in different locations worldwide. Military caregiving research primarily focuses on military caregivers, i.e., unpaid caregivers of military members, and have documented challenges to sampling caregivers without a formal registry or method to reach them (RAND Corporation, 2014). Survey research on military caregivers have primarily depended on snowball sampling by which service agencies distributed survey invitations to military caregivers within their own networks. To address the challenges of recruiting from a hidden population of distant parent caregivers, a non-probability sample was recruited through multiple avenues (as described below), including snowball sampling via email to distribute the survey through Foreign Service and military networks of the researcher, a Foreign Service spouse (Appendix J). The email described the purpose of the study; anonymity and voluntary participation conditions, the survey incentive and how to contact the researcher. One personal contact within the researcher's network forwarded the survey to persons they believed may be eligible and interested in survey participation. To protect the identity of persons referred, the survey could only be accessed using an anonymous link on the survey platform, Qualtrics.

Snowball sampling was also conducted with respondents who completed the survey (Rubin & Babbie, 2014). At the end of the survey, the following message was displayed to respondents: “Do you know anyone that may be interested in completing this survey?” The respondent was provided the option to share a link of the survey or forward the survey to others by inputting a referees’ email address into the survey (Appendix C). To maintain anonymity, the researcher set up survey forwarding in Qualtrics to automatically email the survey to referred persons when respondents inputted their email addresses. The email addresses of those referred were not linked to the survey responses of the respondents that had originally referred them.

In addition to enhancing recruitment efforts through snowball sampling, respondents were incentivized to participate in the survey and enter a lottery to receive one out of eight Visa gift cards each valued at $25. Incentives are known to increase survey participation and limit nonresponse bias when the topic of a survey is emphasized during recruitment (Groves & Peytcheva, 2008).

Respondents were primarily recruited using Facebook groups for Foreign Service and military communities, such as the “Trailing Houses” group of over 20,000 members (Appendix F). Thirty-one out of 46 Facebook group administrators agreed to post the survey information to their discussion boards for members to access the survey. One Facebook group administrator agreed to post the survey information to their discussion board under the condition that the researcher shared the survey results with the group. This researcher agreed to this request and posted the survey link and flyer to the group discussion board, along with a link to the dissertation repository where the dissertation would be available once the study was completed. Other Facebook group administrators and commenters offered to distribute the survey through their own networks, such as a Foreign Service affinity group on a Microsoft Teams channel, a

caregiver e-mail distribution list and military Facebook groups of which this researcher was unable to join as a civilian. The survey link and flyer were reposted to Facebook groups every two to four weeks to increase survey response rates (Rubin & Babbie, 2014).

To reach members that were not on social media, the researcher emailed nine public affairs offices and alumni programs of U.S. military war college graduate schools and six organizations that research or provide elder care services to military and Foreign Service families. Out of the164 embassies and consulates this researcher asked to distribute the survey, 16 agreed to share the survey with local Foreign Service members through email, Facebook or community newsletter. This researcher also contacted the family programs of 14 military installations overseas. However, none assisted with recruitment. One family program administrator responded by email stating that the program was unable to assist with distribution, since government entities cannot endorse surveys by advertising them or distributing information about them.

The survey was also advertised in the September 2021 monthly issue of The Foreign Service Journal (Appendix H) which is freely accessed digitally and provided in hard copy to members of the American Foreign Service Association, a professional association in which close to 80% (7,440) of active-duty Foreign Service members are enrolled (AFSA, 2019). Due to an increase in overseas mail disruption during COVID-19, this researcher did not receive the September 2021 issue of the Foreign Service Journal until January 2022. It is possible that other Foreign Service personnel experienced a delay in receiving this issue and viewing the advertisement for the survey.

Survey responses

The hidden nature of caregiving and geographic diversity of distance caregivers can pose challenges in determining response rates and characteristics of non-respondents. Therefore, this study employed multiple recruitment methods to reach and engage respondents for the survey. Data collection took place during a period of global events that required the intensive response of the Foreign Service and military workforce, along with other U.S. Government employees worldwide. These events included the aftermath of the turbulent withdrawal from Afghanistan in August 2021 and the Russian invasion of Ukraine in February 2022. However, Foreign Service Officers and the military personnel are trained and tasked with responding to unanticipated events year-round. It is likely that other factors influenced their participation in this survey. As the recruitment process unfolded, this researcher adjusted recruitment methods (as described below) in response to a slow survey participation rate and disproportion of individuals who were within the sampling frame but not participating in the survey.

Reactions to the survey length and content. It is important to note that out of the 309 times that someone clicked on the survey link to access the survey, including for fraudulent purposes discussed in the "Excluded surveys" section, the survey was completed 99 times (32%). Forty (13%) of those that accessed the survey exited upon seeing the first survey page describing the survey purpose, a statement on the voluntary and anonymity of the survey and IRB contact information. The page also included the survey time estimate of 30-35 minutes, which might have been a deterrent to those who were initially interested (Groves & Peytcheva, 2008).

Almost the same proportion (11%) of persons indicated that they met inclusion criteria, provided informed consent and viewed the first page of sociodemographics ("The following questions refer to those within your caregiving network. They are for classification purposes only.") before leaving the survey. Although self-administered surveys provide the convenience

of accessing the sample with more immediacy, they also enable prospective respondents to review questions in advance to determine their interest in participating without the assistance of an interviewer to address concerns about the survey. A perception that the survey could cause distress (e.g., self-discovery that the respondent is not providing enough care to the parent) based on the description or questions can increase non-response bias (Groves & Peytcheva, 2008). The length and content of the survey could not be changed once it was available to the public. Therefore, a recruitment flyer containing the same information as the first survey page (the survey purpose, a statement on the voluntary and anonymity of the survey and survey contact information) was created to accompany text posts about the survey in Facebook groups (Appendix G). Once the flyer was used, this researcher observed that a greater number of people who accessed the survey completed the survey.

Sample population and caregiving. According to Groves, Presser and Dipko (2004), emphasizing a survey topic in recruitment can motivate some individuals to participate based on interest in the topic (Groves & Peytcheva, 2008). Thus, respondents who were most interested in the topic of long-distance caregiving likely comprised much of the respondent pool. Another aspect for consideration is how respondents identify themselves in relation to the survey topic (RCI et al., 2021). Early in the recruitment process, this researcher noted the disproportionate number of women-identified respondents completing the survey. Although only 17.2% of active-duty military (DOD, 2020) and 29.6% of Foreign Service Officers (DOS, 2022b) identify as women, about 90% of this study's initial survey responses were from respondents who identified as women.

In the Blue Star Families' annual report on the 2020 Military Family Lifestyle survey (2021), the researchers allowed two options for individuals to participate in the survey: to self-

identify as a caregiver or identify by caregiving tasks. Most respondents (62%) identified themselves as a caregiver using the study's adapted definition of a "caregiver" (NAC & AARP, 2020a) and reported feeling "exceedingly burdened" (p.8) by caregiving tasks. The remaining 26% that reported excessive caregiving burden did not identify as a caregiver. The researchers explained the disparity in self-identification as the cultural conception of caregiving where some military families may view their unpaid support to a loved one as a moral obligation of their familial role rather than a practice that goes beyond what is expected of them (RCI et al., 2021). This is consistent with the literature on male caregivers of spouses with dementia, whereby men are less likely to self-identify as a caregiver or disclose caregiving burden (Oliffe & Han, 2014; Baker et al. 2010) due to social constructions of their familial role and desire to perceive their care recipient as a family member versus someone who is solely dependent upon them. Therefore, those that did not self-identify as a caregiver to participate in this study may hold alternative explanations for their care that may or may not relate to their level of caregiving burden.

Efforts were made during the recruitment process to address diverse definitions of "caregiving," such as explaining the concept of "care" in recruitment material for the purpose of the study. To promote the recognition of distant caregiving tasks as "care," this researcher changed distance care examples during recruitment from the initial list of "financial management, service coordination or emotional support" to a modified list of "overseeing services, advocating for better treatment or managing legal and/or financial responsibilities" in recruitment texts and flyers. This decision was aligned with the literature on male caregivers who are more likely to focus on the practical tasks of caregiving and compare their care to the duties of their respective careers (Calasanti & King, 2007; Pretorius et al., 2009; Russel, 2007). As a

caregiving study, this researcher maintained the use of “care” in all recruitment material for continuity with the survey, which features “care” and “caregiving” in several items and measures. In addition to differences in identifying “care,” a report on nonresponse bias in government surveys found that respondents that are least likely to participate in surveys tend to be young and employed with higher education and income (Heffetz & Reeves, 2019). The sociodemographic characteristics of this sample population may or may not have similarly influenced the response rate of this survey.

Excluded surveys

After screening completed surveys for fraudulent responses (n= 12) and respondents who did not meet the employment (n= 4) or distance criteria (n= 4) to participate, only 79 out of 99 completed surveys were used in the current analyses. All surveys that were completed up to the 94% mark, which sufficiently provided information on all dependent and independent variables, were considered for inclusion in analysis. Fraudulent responses were identified by the survey platform help desk that referred to the fraudulent respondents as “bots,” i.e., software applications that are able to fulfill pre-programmed tasks, that completed 12 surveys to enter the gift card drawing. After security measures, such as CAPTCHA, were added to screen bots at the start of the survey, fraudulent responses were no longer an issue. The four surveys excluded for employment reasons contained occupation-related responses that were improbable and/or inconsistent. For example, one respondent indicated that they worked for both the Department of Defense and the Foreign Agricultural Service, an agency with less than 165 Foreign Service personnel (AFSA, 2020).

To obtain a more accurate picture of long-distance caregiving burden for the study population, this survey limited the NAC and AARP’s (2020) criteria for long-distance care

(living one hour or more from the recipient) to those residing at a minimum of 1,000 miles from their parent during the period of care. While determining distance care using a single criterion can limit the complex ways in which distance caregiving is conceptualized in the literature, this researcher established a more stringent requirement of 1,000 miles to gain responses from caregivers facing greater access impediments, such as higher travel costs, more logistical planning and at least one day of travel to reach their parent (Parker et al., 2006).

Of the 11 surveys that fell below the 1,000-mile distance requirement, four cases were excluded for being less than a 10-hour drive from their participant. Seven surveys remained in the study due to travel factors that would have required at least one day to reach a parent. Six out of the seven surveys that remained in the study were a 13.5 – 17-hour drive from their parent. Assuming respondents had to travel independently to respond to a parent crisis, they would have needed at least one day to reach their parent by car. One respondent who was at a 584-mile distance would have had to travel by plane from overseas to visit their parent with at least one day in advance to a complete a COVID-19 test and receive administrative approval from human resources. Therefore, these seven cases demonstrated comparable distance-related challenges to caregiving and were included in the final analysis.

Measures

Dependent Variable

Caregiving burden. Survey respondents completed a revised version of the Zarit Burden Interview (ZBI) (Zarit et al., 1987), a widely used, psychometrically sound measure for the global burden of caregivers of older adults (Liu et al., 2020). The Zarit Burden Interview consists of 22 items to assess the impact of caregiving in the areas of emotional health, family, finances and mastery over one’s life. ZBI items employ a 5-point Likert scale ranging from “never” to

"nearly always." A higher sum of the overall score (0-88) suggests a greater degree of overall burden.

To assess the subjective and objective burden of respondents, a two-factor model of personal strain and role strain was used (Li et al., 2018). This study's adaptation of the two-factor model of personal strain and role strain to measure subjective burden and objective burden, respectively, offered a means to measure the objective burden of long-distance caregivers. To this researcher's knowledge, no such instrument yet exists to examine the objective burden of long-distance caregiving. The role strain subscale measures the conflict between the respondent's caregiving role and the other roles they carry out (Li et al., 2018) and seemed the most appropriate fit of available objective burden measures to understand the objective burden of long-distance caregivers, which refers to the demands and disruptions to life domains of the caregiver as a result of caregiving (Hoenig & Hamilton, 1966).

The subscale for personal strain, i.e., the stressful experience of caregiving assessed subjective burden and contained the following items: 2, 3, 6, 11, 12 and 13. Respondents were asked to answer the items in response to the parent for whom they had provided the most care in the past year. The personal strain subscale includes questions, such as "Do you feel you don't have enough time for yourself?" and "Do you feel your relative affects your relationship with others in a negative way?" Role strain refers to the conflict between the respondent's caregiving role and other roles they carry out, as well as being overwhelmed by caregiving tasks (da Rocha et al., 2022; Li et al., 2018). The role strain subscale (items 1, 4, 5, 8, 9, 14, 16, 17, 18, 19, 20 and 21) was used to measure objective burden and contained questions like "Do you feel your relative seems to expect you to take care of him / her as if you were the only one he/she could depend on?" and "Do you feel you should be doing more for your relative?" (Whitlatch et al.,

1991; da Rocha et al., 2022). A higher mean score of each subscale will indicate a higher degree of burden. Therefore, score ranges from 1- 5 for personal strain and role strain.

The Zarit Burden Interview was used in this study based on its validation across diverse caregiving populations and ability to adapt to a study on the transnational caregiving burden of adult children in the United States (Kalavar et al., 2020). According to Whitlach, Zarit and von Eye (1991), the ZBI's personal strain and role strain subscales have demonstrated good internal consistency with a Cronbach's alpha of 0.80 for personal strain (subjective burden) and 0.81 for role strain (objective burden). In this study, the subjective burden and objective burden also reflected good internal consistency. The Cronbach's alpha was 0.83 for subjective burden and 0.86 for objective burden.

Independent Variables

Preparedness for caregiving. Respondents reported their level of self-perceived readiness for caregiving, including managing personal stress, coordinating services, and meeting the needs of the care recipient using the Preparedness for Caregiving Scale (PCS). Respondents were asked to answer the items in response to the parent for whom they had provided the most care in the past year. Respondents rated their agreement with eight items on a four-point scale from "not at all prepared" to "very well prepared." Items included statement such as "How well prepared do you think you are to find out about and set up services for your parent?" and "How well prepared do you think you are to respond to handle emergencies that involve your parent?" The mean score of all ratings was used to calculate the score, which ranged between 0 and 4. A higher score indicated a greater degree of preparedness for caregiving.

The researchers that originally developed and tested the PCS found construct validity between items for lack of resource strain and strain from caregiver worry (Archbold et al., 1990).

Subsequent studies found good psychometric properties for the PCS. In a study on the psychometric properties of the PCS in caregivers of stroke survivors, the internal consistency was at a high 0.94 Cronbach's alpha and 0.92 test-retest reliability (Pucciarelli et al., 2014). Researchers that studied the psychosocial characteristics of palliative family caregivers reported adequate internal consistency and 0.93 Cronbach's alpha (Hudson & Hayman-White, 2006). In this study, the Preparedness for Caregiving Scale reflected good internal consistency with a Cronbach's alpha of 0.88.

Gender. Gender was operationalized as the respondent's self-identified gender. Respondents were asked the following questions: "With which gender identity do you most identify?" and "Do you identify as transgender?" Respondents reported their gender as man, woman, gender-fluid, gender-neutral, gender questioning, genderqueer, non-conforming, non-binary and prefer to self-describe (open text box). For analysis, a new variable was created using *Gender: GenderBinary*, in which *1=Female*, *0=Male*, and all other categories were set to missing (See the "Results" section for complete information on the gender diversity of this sample.)

Sibling caregiver network. The sibling caregiver network was operationalized as the number of living siblings, whether each of the respondent's siblings assisted in parent care and the distance of siblings from the care recipient. Respondents were asked to report the number of living siblings: "Please indicate the number of your living siblings." The number of siblings ranged from 0 to 15. Respondents reported the city, state, and country of each sibling and the parent care recipient by answering the following: "Where did each sibling reside during the period of parent care?" For analysis, the number of living siblings was represented as *Number of Siblings*. The distance of siblings was operationalized as the number of miles between the sibling

that lived closest to the location of the parent for whom the respondent provided the most care: *Sibling Miles.* Respondents were also asked to report whether or not each of their siblings assisted in caring for the parent, i.e., *Multiple Sibling Assistance,* by responding "yes or no" to this question: "Did this sibling assist with providing care to your parent?" The sum across each respondent's sibling group (0 – 5) provided the Multiple Sibling Assistance score.

Primary Illness. The primary illness of care recipients was operationalized as the primary condition that necessitated the respondent's care. Respondents were asked to answer the item in response to the parent for whom they had provided the most care in the past year. Respondents answered the following prompt: "Please select the ***primary*** reason your parent needed care in the past year." Respondents selected one reason from a list of options: short-term physical condition; long-term physical condition; emotional or mental health problem; developmental or intellectual disability; behavioral issue; or memory problem.

Control variables

Caregiving intensity. Caregiving intensity was operationalized as the Level of Care Index (LOCI) used by the NAC and AARP (2020) to measure the caregiving intensity of caregivers caring for elders across all condition types: weekly number of hours spent on caregiving with the number of activities of daily living (ADL) and instrumental activities of daily living (IADL) provided to the parent to whom the respondent provided the most care in the past year. Respondents reported the approximate number of weekly hours they spent on care provision to their parent by answering the following prompt: "Thinking now of all the kinds of help <u>you</u> provided for your parent, about how many hours did you spend in an average week, helping them? Your best estimate is fine."

Respondents then completed two items to indicate the number of ADLs and IADLS for which the parent required assistance (Cicirelli et al., 1992; NAC & AARP, 2020b; Kim & Schulz, 2008). To modify the LOCI to the activities of long-distance caregivers, respondents were asked to report the number of ADLS and IADLS for which the parent required assistance ("Which of these did your parent receive help with?") as opposed to the NAC and AARP (2020) survey that asks for respondents to report the activities they helped with directly. Although this adjustment does not capture the tasks performed by respondents, it represents the demands of the caregiving situation. To assess the number of ADLs and IADLs anyone provided to the parent, the respondent was asked "Which of these did your parent receive help with?" and selected "yes" or "no" to the following ADL tasks (1-7): eating, transitioning in and out of bed, getting dressed, using the toilet, dealing with incontinence or diapers, bathing and administering medicine. The IADL tasks (1-6) included tasks, such as managing finances, shopping, housework, meal preparation, transportation and arranging outside services (e.g., home care aides or meals-on-wheels).

Afterward, the number of ADLs and IADLs the parent required assistance with, and the number of hours spent caregiving were analyzed to determine the category of caregiving intensity from low to high. Per the categories used by NAC and AARP (2020) to determine caregiving intensity, the weekly number of hours respondents attended to caregiving was scored by range of hours: 0-8 hours (1); 9-20 hours (2); 21-40 hours (3); and greater than 40 hours or constant care (4). The number of ADLs and IADLS was also assigned a score: 1 IADL/0 ADL (1); 2 + IADLs/0 ADLs (2); 1 ADL with or without IADLs (3); and 2 + ADLs with or without IADLs (4). The sum of hours and types of care scores was assessed against the level of burden index from least-intense level of caregiving (1) to most intense (5). The five levels are collapsed

into three categories of intensity: low intensity (levels 1 and 2); medium intensity (level 3); and high intensity (levels 4 and 5). For the purpose of analysis, caregiving intensity was treated as a continuous variable of 1-3 with a higher score indicating a higher degree of caregiving intensity.

Instrumental support (Social support). Respondents reported the degree of instrumental caregiving support provided by an informal network of kin and non-kin members. The informal caregiving network items included the size and composition of the unpaid caregiving network, the duration of shared caregiving, the percentage of shared caregiving tasks with other caregivers. Respondents first reported the number of unpaid persons that provided care to their parent in the past year from a dropdown list of 0-9 ("Not including yourself, how many unpaid caregivers gave help to this parent in the past 12 months?")

Afterward, respondents were asked to provide additional information on the top three unpaid caregivers that provided the most care, not including the respondent ("The following questions apply to **up to three unpaid caregivers**, not including yourself, that gave the **most** care to your parent in the past 12 months."). To examine the care contributions and shared tasks amongst the network, respondents reported the types of care provided (yes/no) by the other unpaid caregivers, including the respondent, from a list of options: household tasks, personal care, nursing care, emotional support, administrative help and helping with visits. The percentage of task types shared between the respondent and the other caregivers were found by calculating the number of task types performed by the respondent and the number of task types performed by other caregivers, then finding the percentage of shared tasks between the respondent and other caregivers (Tolkacheva et al., 2011). For analysis, instrumental support was employed as a continuous variable ranging from 0 to 100.

Descriptive variables of Caregivers and Care Recipients

The following information was collected to operationalize descriptive variables for both respondents (caregivers) and the parent for whom they provided the most care in the past year (care recipients).

Age. Age was operationalized as the age of the respondent and care recipient at the time the study was completed. Respondents reported their age and the age of the parent for whom they provided the most care in the past year by answering the following prompts: "What is your current age?" and "How old was your parent at their most recent birthday?"

Race and ethnicity. Race and ethnicity were operationalized as the race or ethnic category with which the respondent identified themselves and the parent for whom they provided the most care in the past year. Respondents reported their racial identity by selecting from the U.S. Census Bureau categories of race ("What race or ethnicity do you identify with ***most***?" and "Which race would you say your parent would identify with ***most?****"*): white, Black / African American, Latino or Hispanic, Asian, Native American, Native Hawaiian or Pacific Islander or prefer to self-describe (open text box).

Marital status. Marital status was operationalized as the marital status of both the respondent and the parent for whom they provided the most care in the past year as the marital status reported by the respondent. Respondents were asked the following: "Which best describes your marital status during your most recent caregiving of your parent?" and "Please select your parent's marital status." Respondents selected from the following list for themselves and their parent: married; living with a partner; widowed; separated; divorced; single, never married; or prefer to describe.

Education. Level of education was operationalized for the respondent and the parent for whom they provided the most care in the past year asking respondents to report their highest

level of education completed ("What is the highest degree or level of education you have completed?" and "What was the highest degree or level of education your parent completed?"): some high school, high school / GED, bachelor's degree, master's degree, or PhD or equivalent.

Income level. Income levels for the respondent and parent for whom they provided the most care in the past year was operationalized by the respondent indicating the range of annual household income from a list: Below $25,000; $25,001 - $50,000; $50,001 - $75,000; $75,001 - $100,000; $100,001 - $150,000; $150,001 - $200,000; or more than $200,000.

Specific Descriptive Variables of Caregivers

The following information was collected to operationalize descriptive variables for the respondent (caregivers) only for professional characteristics.

Department or agency. The U.S. department and/or agency that employs the respondent was operationalized using a list of multiple options ("For which department of agency do you currently work?"): Foreign Service – U.S. Department of State; Foreign Service – U.S. Agency for International Development; Foreign Service – U.S. Department of Commerce; Foreign Service – U.S. Department of Agriculture; Active-duty Military – Army; Active-duty Military – Air Force; Active-duty Military – Marines; Active-duty Military – Navy; and Other _____ [Please specify…]. Respondents selected one option to report their department or agency of employment with the U.S. government.

Rank-in-person. Rank-in-person was operationalized using U.S. Government pay scales that were aligned between Foreign Service and military employees. Respondents were asked "What is your rank / pay grade? Respondents reported their rank within the military or Foreign Service by selecting one option from the following list: SFS / SES / 0-7 and above; FS-1 / GS-15 / 0-6; FS-2 / GS-14 / 0-5; FS-3 / GS-13 / 0-4; FS-4 / GS-12 / 0-3; FS-5 / GS-11 or 10 / 0-2; or FS-6 /

GS-9 / 0-1 and below. The data was collapsed into categories of entry level (FS-4 / GS-12 / 0-3; FS-5 / GS-11 or 10 / 0-2; or FS-6 / GS-9 / 0-1 and below), mid-level (FS-1 / GS-15 / 0-6; FS-2 / GS-14 / 0-5; FS-3 / GS-13 / 0-4) and senior level (SFS / SES / 0-7 and above).

Current location. The current location of respondents was operationalized using the city, state, and country where they currently reside. Respondents were asked "Where do you currently reside?" and they entered their city, state / province / district, and country of residence.

Specific Descriptive Variables of Care Recipients

The following information was collected to operationalize a descriptive variable for the parent for whom the respondent provided the most care in the past year (care recipients).

Gender. Gender was operationalized as how the respondent identified the gender of the parent for whom they provided the most care in the past year. Respondents were asked the following questions: "With which gender identity would you say your parent ***most*** identified?" and "Do you think that your parent identified as transgender?" Respondents reported the parent's gender as man, woman, gender-fluid, gender-neutral, gender questioning, genderqueer, non-conforming, non-binary and prefer to self-describe (open text box). For analysis, a new variable was created using *Gender: GenderBinary*, in which *1=Female*, *0=Male*. No responses for care recipient gender fell outside of this gender binary despite additional options being provided.

Care recipient location. The location of care recipients, i.e., the parent for whom the respondent provided the most care in the past year, was operationalized using the city and state where the parent resided at the time the responded provided care. Respondents were asked "What city and state did your parent live in at the time you provided care?" and entered the city and state of where their parent was located during the period of care.

Data Preparation

In preparation for hypothesis testing, one new variable was created, and diagnostic tests were run. The new variable, *GenderBinary,* was created using *Gender*, in which *1=Female*, *0=Male*, and all other categories were set to missing.

Skew

To test the assumption that continuous variables were normally distributed, skew diagnostics were conducted for each continuous variable. Two variables were found to have skew statistics >2.0: Number of Siblings and Sibling Distance (Miles). Number of Siblings (*Skew* = 3.75) was examined and found to have an outlier that was likely a data entry error (Siblings *n* = 15). The outlier was Winsorized to the next highest number of siblings in the dataset (*n* = 8), which reduced the skew to 1.79. The Winsorized variable was then included in hypothesis testing. Sibling Distance had a *Skew* = 3.66, likely due to the high percentage of data points (50%) = 0 miles, which represented siblings that lived in the same city as parent care recipients. Sibling Distance was included in hypothesis testing with no adjustments. Outcomes were interpreted with caution.

Multicollinearity

There was no evidence of multicollinearity among any of the independent variables as all VIF values were <2.0.

Analysis Plan

Descriptive statistics were used to summarize the sample group as a whole. Mean, SD, Min, and Max values were calculated for all continuous variables: CaregiverAge, CareRecipientAge, Subjective Burden, Objective Burden, Caregiver Number of Living Siblings, Caregiver Multiple Sibling Assistance, Caregiver Sibling Distance Miles, Caregiver Instrumental Support, Caregiving Intensity, and CaregiverPreparednessforCaregiving. Frequencies were

calculated for all categorical variables: CaregiverGender, CaregiverRace, CaregiverMarital Status, CaregiverEducation, CaregiverHousehold Income, CaregiverEmployment Status, CaregiverMilitary Status, CaregiverBranches and Departments, CareRecipientGender, CareRecipientRace, CareRecipientMarital Status, CareRecipientEducation, CareRecipientHousehold Income, Care Recipient Primary Need for Care.

Hypothesis Testing

Multiple regression analysis and One-way Analysis of Variance (ANOVA) were used to test the first hypothesis. One multiple regression model was tested with Subjective Burden as the dependent variable and Number of GenderBinary, Military/Foreign Service Status, Living Siblings, Multiple Sibling Assistance, Sibling Distance Miles and Preparedness for Caregiving as the independent variables, while controlling for Instrumental Support Percent in multiple regression analysis. Three ANOVAs were conducted to test for differences in Subjective Burden by categories: Multiple Sibling Distance, Care Recipient Primary Need for Care and a control variable, Caregiving Intensity.

Multiple regression analysis and One-way Analysis of Variance (ANOVA) were also used to test the second hypothesis. One multiple regression model was tested with Objective Burden as the dependent variable and GenderBinary, Military/Foreign Service Status, Number of Living Siblings, Multiple Sibling Assistance, Sibling Distance Miles and Preparedness for Caregiving as the independent variables, while controlling for Instrumental Support Percent in multiple regression analysis. Three ANOVAs were conducted to test for differences in Objective Burden by categories: Multiple Sibling Distance, Care Recipient Primary Need for Care and a control variable, Caregiving Intensity. Exploratory analysis was also used to explore the relationship between Objective Burden and Caregiving Intensity.

Protection of Human Subjects

Prior to the engagement of human subjects and initiation of this study recruitment, the study was approved by the University of Pennsylvania Institutional Review Board. Afterwards, participants were able to access and learn about the survey through various recruitment avenues, including social media platforms, a professional journal and embassy newsletters and emails from the researcher's social work contacts. The introductory page of the Qualtrics survey appeared when participants clicked the survey link. The respondent could only proceed to take the survey after indicating that they met inclusion criteria: 1) They were either a Foreign or Civil Service Officer, or a military service member; 2) provided unpaid help to a parent over 50 years old in the past 12 months; 3) resided at least 1,000 miles from the parent during the period of care; and 4) consented to the conditions of the survey. Clicking on the "Agree" button indicated informed consent to access the survey (See Appendix B).

Survey items required respondents to consider past experiences with parent illness that could produce mild emotional distress. The web-based format of the survey permitted participants to complete the anonymous survey in a place and time most convenient to them. Therefore, risks to physical harm or confidentiality were limited. The survey did not require respondents to report illegal activities or otherwise implicate themselves in criminal activities. As an anonymous survey, respondents' identities were unknown to the researcher, as well as others. There was no risk of occupational or socioeconomic harm. The survey data were contained in an encrypted Qualtrics system and password protected by the researcher.

There were no direct benefits to the respondents. However, respondents may have indirectly benefited from the study by considering relationships with their caregiver support systems, advance care plans for their parents and identities as parent caregivers while responding

to survey questions. Broader benefits of the study included the potential motivation to better prepare for caregiving activities within the U.S. government workforce.

Chapter 3. Results

Description of Sample Respondents and Care Recipients

The demographic characteristics of 79 respondents are presented in Table 1. Respondents were most likely to be white (81%), a woman (81%) and married (67.1%) with a master's degree (73.4%). Care recipients were similarly white (83.5%) women (63.3%) who were more likely to be widowed (35.4%) or divorced (24.1%). The education and income gaps between caregivers and care recipients were quite wide. Caregivers were more likely to have earned an advanced degree. All caregivers had at least a bachelor's degree compared to 60.7% of care recipients. The majority of caregivers had a master's degree or higher (81%). While close to half of caregivers earned between $100,000 – 150,00 per year (46.8%), a similar proportion of care recipients have an annual income of up to $50,000 (53.1%). See Table 1 for a summary of demographic characteristics.

Table 1 - Demographic Characteristics

	Caregiver		Care Recipient	
	N	%	N	%
Gender				
Woman	64	81.0	50	63.3
Man	13	16.5	29	36.7
Gender-Fluid	1	1.3		
Prefer to self-describe	1	1.3		
Race / Ethnicity				
White	64	81.0	66	83.5
Black / African American	4	5.1	4	5.1
Latino or Hispanic	5	6.3	4	5.1
Asian	2	2.5	2	2.5
Prefer to self-describe	4	5.1	3	3.8
Marital Status				

Married	53	67.1	26	32.9
Widowed			28	35.4
Separated	2	2.5	3	3.8
Divorced	8	10.1	19	24.1
Single, never married	16	20.3		
Prefer to Describe			3	3.8
Household Income				
below $25,000			20	25.3
$25,001 - $50,000			22	27.8
$50,001 - $75,000	2	2.5	20	25.3
$75,001 - $100,000	9	11.4	8	10.1
$100,001 - $150,000	37	46.8	6	7.6
$150,001 - $200,000	18	22.8	1	1.3
More than $200,000	13	16.5		
Missing			2	2.5
Education				
Some High School			3	3.8
High School/GED			27	34.2
Bachelor's Degree	15	19.0	28	35.4
Master's Degree	58	73.4	14	17.7
PhD or Equivalent	6	7.6	6	7.6
Other			1	1.3

Professional Characteristics of Caregivers

The professional characteristics of caregivers are presented in Table 2. A majority of caregivers (86.1%) were employed by the U.S. Department of State (73.4%%) or U.S. Air Force (12.7%). The remaining 13.9% of caregivers were working in the Foreign Service under a different agency (8.8%), U.S. Army or Navy (2.6%) or other (2.5%). Caregivers were most likely to hold mid-level rank (73.4%) within the military or Foreign Service, while over one-third

of caregivers were entry-level (35.8%). The current living location of respondents was considered to be their assigned location for employment. Over two-fifths of caregivers (42.9%) were located in the United States (30.4%) or the greater Western Hemisphere (12.5%), the closest possible geographic regions to parent care recipients based on this study's eligibility criteria for the parent care recipient to reside in the United States. Only 11.4% resided in regions the furthest distance away from the United States, specifically the regions of East Asia and the Pacific and South and Central Asia. See Table 2 for additional detail.

Table 2 - Professional Characteristics of Caregivers

	N	%
Departments and Branches / Agencies		
U.S. Department of State	58	73.4
Department of Defense - Air Force	10	12.7
U.S. Agency for International Development	5	6.3
U.S. Department of Commerce	2	2.5
Department of Defense – Army	1	1.3
Department of Defense – Navy	1	1.3
Other	2	2.5
Rank		
Senior Level	**2**	**2.5**
SFS / SES / O-7 and above	2	2.5
Mid-Level	**58**	**73.4**
FS -1 / GS -15 / O-6	15	19.0
FS-2 / GS-14 / O-5	26	32.9
FS-3 / GS-13 / O-4	17	21.5
Entry Level	**18**	**35.8**
FS-4 / GS-12 / O-3	13	16.5
FS-5 / GS-11 or 10/ O-2	3	3.8
FS-6 / GS-9 / O-1 and below	2	2.5

Missing	**1**	**1.3**
Current Location by Region		
United States	24	30.4
Europe and Eurasia	16	20.3
Sub-Saharan Africa	13	16.5
Western Hemisphere	10	12.5
East Asia and the Pacific	8	10.1
Near East (Middle East and Northern Africa)	7	8.9
South and Central Asia	1	1.3

Primary Reason the Care Recipient Needed Care

The primary conditions that necessitated the care recipients' care (*N* = 79) are presented in Table 3. Nearly one-half (49.4%) of respondents were primarily providing care due to a care recipient's long-term physical condition. The second most prevalent condition to require care was emotional or mental health problems (20.3%), followed by memory problems and short-term physical conditions each at 15.2%. See Table 3 for more detail.

Table 3 - Primary Reason the Care Recipient Needed Care

	Frequency	Percent	Valid Percent	Cumulative Percent
Short-term physical condition	12	15.2	15.2	15.2
Long-term physical condition	39	49.4	49.4	64.6
Emotional or mental health problem	16	20.3	20.3	84.8
Memory problem	12	15.2	15.2	100

Scores for Scales and Measures of Study Variables

See Table 4 for the distribution of data for the scores of measures and study variables.

Number of Siblings. Number of Siblings was obtained from a single question with an open text box. From the completed responses (*N* = 79), the lowest number of siblings for

respondents was zero and the highest number was 15, with a mean score of 1.88 and a standard deviation of 2.07.

Sibling Miles. The distance of siblings was operationalized as the number of miles between the sibling that lived closest to the location of the parent for whom the respondent provided the most care. From the completed responses (n = 58), the lowest number of miles was zero and the highest number was 7,091. The mean score was 535.55, and the standard deviation was 1,360.36.

Multiple Sibling Assistance. Multiple Sibling Assistance, as determined in this study, included one "yes or no" item asking whether each of the respondent's siblings assisted in caring for the parent care recipient. The sum across each respondent's sibling group provided the Multiple Sibling Assistance score. From the completed responses (N = 79), the lowest number of siblings providing parent care assistance was 0 and the highest number was 5. The mean score was 1.2, and the standard deviation was 1.13.

Instrumental Support. Instrumental Support was measured by percentage, consisting of ten questions total: one question asking the respondent to identify the types of caregiving tasks they provided to their parent out of six options; three questions to identify the other top three unpaid persons caring for the parent, not including the respondent; and six "yes or no" questions to indicate whether each unpaid person provided caregiving tasks to the parent out of the six options. Instrumental Support was the percentage of caregiving task types that overlapped between the respondent and another unpaid caregiver (Tolkacheva et al., 2011). From the completed responses (N = 79), the minimum percentage of shared tasks was 0 and the maximum was 100, while the mean was 47.76, and the standard deviation was 45.73.

Preparedness for Caregiving. Preparedness of Caregiving (PCS) consisted of 8 questions using a 5-point Likert Scale. The range of possible preparedness scores was 0-4 with a higher mean score indicating a higher self-perceived preparedness for caregiving (Archbold et al., 1990; McIlfatrick et al., 2018). From the completed scales (n = 75), the lowest score was 0.38 and the highest score was 3.88 with a mean of 1.7 and a standard deviation of 0.73.

Caregiving Intensity. Caregiving Intensity was measured using three questions: one open-ended question to indicate the average number of weekly hours the respondent spent caring for their parent and two multiple-choice questions for the number of activities of daily living and instrumental activities of daily living assistance the parent required. Caregiving Intensity was scored by assigning points to the range of hours the respondent spent on care and the total number of activity types provided to the parent (NAC & AARP, 2020). The possible range of scores was 1-3 with a higher score indicating a higher degree of caregiving intensity. From the completed responses (n = 53), the lowest score was 1 and the highest score was 3. The mean score was 1.92, and the standard deviation was 0.85.

Subjective Burden. This study utilized the personal strain subscale of the Zarit Burden Interview (ZBI) to measure Subjective Burden. The subscale consists of six items measuring the stressful experience of caregiving rated on a 5-point Likert scale (da Rocha et al., 2022; Li et al., 2018). The mean score ranges from 1-5 with a higher score indicating more severe personal strain, i.e., subjective burden. From the completed scales (N = 79), the lowest score was 1 and the highest score was 4.33. The mean score was 2.47 with a standard deviation of 0.81.

Objective Burden. This study also used the ZBI to measure objective burden through the role strain subscale, i.e., the conflict between the respondent's caregiving role and other roles, as well as task overload (da Rocha et al., 2022; Li et al., 2018). The subscale includes twelve

questions rated on a 5-point Likert scale. The mean score ranges from 1-5 with a higher score indicating more severe role strain, i.e., objective burden. From the completed scales, (N = 79), the lowest score was 1 and the highest score was 4.33, with a mean score of 2.69 and a standard deviation of 0.69.

Table 4 - Scores for Scales and Measures of the Study Variables

	N	Min	Max	Mean	SD
Number of Siblings	79	0	15	1.88	2.07
Multiple Sibling Assistance	79	0	5	1.2	1.13
Sibling Miles	58	0	7091	535.55	1360.36
Instrumental Support	79	0	100	47.76	45.73
Preparedness for Caregiving	75	0.38	3.88	1.71	0.73
Caregiving Intensity	53	1	3	1.92	0.85
Subjective Burden	79	1	4.33	2.47	0.81
Objective Burden	79	1	4.33	2.69	0.69

Hypothesis Testing

As seen in Table 5, Objective and Subjective Burden were highly correlated (r=0.69, p<0.01). Preparedness for Caregiving was correlated with both Objective (r=0.32, p<0.01) and Subjective Burden (r=0.32, p<0.01).

Table 5 - Correlations Among Continuous Variables

	Objective Burden	Subjective Burden	Num Siblings	Instr Support	Sibling Distance
Objective Burden	--				
Subjective Burden	0.69*	--			
Num Siblings	0.01	0.03	--		
Instr Support	-0.05	0.06	0.06	--	
Sibling Distance	0.04	-0.03	-0.22	-0.02	--
Preparedness	-0.32*	-0.32**	-0.06	0.21	0.09

* p< 0.01 (2-tailed)

Hypothesis Testing

As shown in Table 6, the combination of variables in the first multiple regression model explained 19% of the variance in Subjective Burden, though the overall model was not significant [R^2= 0.19 [F(7, 45) =1.51, p=0.19]. Preparedness for Caregiving was the only independent variable with a significant relationship to Subjective Burden, with ~ 1/2-point decrease in Subjective Burden with every 1-point increase in Preparedness (B= -0.45, p=0.01). This supports the first hypothesis that preparedness for caregiving has a significant inverse relationship with subjective burden.

Table 6 - Multiple Regression Analysis of Subjective Burden, Sibling Caregiving Network, and Preparedness for Caregiving

	B	SE	*B*	t-value	p-value
(Constant)	3.00	0.45		6.72	.0.001
Gender	0.10	0.28	0.05	0.35	0.73
Military v Foreign Service	0.02	0.46	0.01	0.05	0.96
Number of Siblings	0.14	0.12	0.25	1.17	0.25
Multiple Sibiling Assist	-0.24	0.16	-0.34	-1.52	0.13
Sibling Miles	-0.00003	0.0001	-0.06	-0.40	0.69
Instrumental Support	0.005	0.003	0.27	1.84	0.07
Preparedness for Caregiving	-0.45	0.16	-0.41	-2.73	0.01
R2 = 0.19 [F(7, 45)=1.51, p =0.19]					

There was no significant difference in Subjective Burden based on the proximity of locations of multiple siblings [F(4, 31) =0.25, p=0.91]. The following categories were assigned based on how far siblings lived from the parent care recipient: Same city; not same city but same state; connecting U.S. states; non-connecting U.S. state; international and multiple distances (for sibling sets living at different proximities from the parent). One-way Analysis of Variance (ANOVA) was conducted to compare the means of Subjective Burden between these groups and within these groups to determine the difference in Subjective Burden based on the proximity of

locations of multiple siblings to the parent care recipient. See Table 7 for additional detail. This analysis did not find significant differences between these groups and does not support the first hypothesis that sibling caregiver network, when measured as multiple sibling distance, is correlated with lower Subjective Burden.

Table 7 - One-way Analysis of Variance (ANOVA) of Subjective Burden and Multiple Sibling Distance

	Sum of Squares	df	Mean Square	F	p-value
Between Groups	0.61	4	0.15	0.25	0.91
Within Groups	18.93	31	0.61		
Total	19.55	35			

There was no significant difference in Subjective Burden based on the reason the recipient needed care [$F(3, 75) = 0.73$, $p = 0.54$]. The following categories were used in this analysis: Short-term physical condition; long-term physical condition; emotional or mental health problem; or memory problem. The means of Subjective Burden between these groups and within these groups were analyzed to determine the difference in Subjective Burden based on the parent's primary need for care. See Table 8 for additional detail. This analysis does not support the first hypothesis that the primary reason for care has a significant relationship with Subjective Burden.

Table 8 - One-way Analysis of Variance (ANOVA) of Subjective Burden and Primary Need for Care

	Sum of Squares	df	Mean Square	F	p-value
Between Groups	1.45	3	0.48	0.73	0.54
Within Groups	49.33	75	0.66		
Total	50.78	78			

There was a significant difference in Subjective Burden based on the level of caregiving intensity, a control variable [$F(2, 50) = 5.53$, $p = 0.01$]. The following categories of caregiving intensity were used based on the Level of Care Index (LOCI): Low intensity, medium intensity and high intensity. The means of Subjective Burden between these groups and within these groups were analyzed to determine the difference in Subjective Burden based on the level of caregiving intensity. See Table 9 for additional detail.

Table 9 - One-way Analysis of Variance (ANOVA) of Subjective Burden and Caregiving Intensity

	Sum of Squares	df	Mean Square	F	p-value
Between Groups	5.39	2	2.69	5.53	0.01
Within Groups	24.36	50	0.49		
Total	29.75	52			

As a result of this significant finding in one-way ANOVA, post-hoc analysis of the difference in Subjective Burden was conducted. The analysis suggests that based on the level of caregiving intensity (control variable) that those with high intensity caregiving had, on average, significantly higher feelings of subjective burden than those with low level caregiving intensity ($p = 0.01$) and medium level caregiving intensity ($p = 0.03$). The Bonferroni adjusted post-hoc t-tests were conducted in SPSS, which accounted for the multiple tests so that p-values under 0.05 were found significant by the adjusted standards. See Table 10 for additional detail.

Table 10 - Bonferroni Adjusted Post-hoc t-tests of Subjective Burden and Caregiving Intensity

	Mean	SD	SE	Mean Diff	p-value
Low Intensity	2.27	0.74	0.16	0.02	1.00
Medium Intensity	2.29	0.72	0.19		
Low Intensity	2.27	0.74	0.16	0.69	0.01
High Intensity	2.96	0.62	0.15		
Medium Intensity	2.29	0.72	0.19	0.67	0.03
High Intensity	2.96	0.62	0.15		

As shown in Table 11, the combination of variables in the second multiple regression model explained 18% of the variance in Objective Burden, though the overall model was not significant [R^2= 0.18 [F (7, 45) =1.42, p=0.22]. Preparedness for Caregiving was the only independent variable to be significantly correlated with Objective Burden, with ~1/3 of a point decrease in Objective Burden with every 1-point increase in Preparedness (B= -0.36, p=0.01). This supports the second hypothesis that preparedness for caregiving is correlated with lower Objective Burden.

Table 11 - Multiple Regression Analysis of Objective Burden, Sibling Caregiving Network, and Preparedness for Caregiving

	B	SE	*B*	t-value	p-value
(Constant)	2.98	0.37		8.09	<0.001
Gender	0.06	0.23	0.04	0.26	0.79
Military v Foreign Service	-0.01	0.38	-0.005	-0.03	0.98
Number of Siblings	0.16	0.10	0.33	1.57	0.12
Multiple Sibiling Assist	-0.18	0.13	-0.31	-1.38	0.17
Sibling Miles	0.00002	0.0001	0.04	0.29	0.77
Instrumental Support	0.002	0.002	0.16	1.13	0.26
Preparedness for Caregiving	-0.36	0.14	-0.40	-2.64	0.01
R2 = 0.18 [F (7, 45)=1.42, p =0.22]					

There was no significant difference in Objective Burden based on the proximity of locations of multiple siblings [$F(4, 31)=0.62$, $p=0.65$]. The following categories were assigned based on how far siblings lived from the parent care recipient: Same city; not same city but same state; connecting U.S. states; non-connecting U.S. state; international and multiple distances (for sibling sets living at different proximities from the parent). The means of Objective Burden between these groups and within these groups were analyzed to determine the difference in Objective Burden based on the proximity of locations of multiple siblings to the parent care recipient. See Table 12 for additional detail. This analysis does not support the second hypothesis that sibling caregiver network, when measured as multiple sibling distance, is correlated with lower Objective Burden.

Table 12 - One-way Analysis of Variance (ANOVA) of Objective Burden and Multiple Sibling Distance

	Sum of Squares	df	Mean Square	F	p-value
Between Groups	0.86	4	0.22	0.62	0.65
Within Groups	10.83	31	0.35		
Total	11.70	35			

There was a significant difference in Objective Burden based on the reason the recipient needed care [$F(3, 75)=0.2.69$, $p=0.05$]. The following categories were used: Short-term physical condition; long-term physical condition; emotional or mental health problem; or memory problem. The means of Objective Burden between these groups and within these groups were analyzed to determine the difference in Objective Burden based on the parent's primary need for care. See Table 13 for additional detail. While this supports the second hypothesis that there are differences in Objective Burden based on the reason for care, post-hoc analysis found no inter-group differences that passed the Bonferroni adjusted cutoff for significance.

Table 13 - One-way Analysis of Variance (ANOVA) of Objective Burden and Primary Need for Care

	Sum of Squares	df	Mean Square	F	p-value
Between Groups	3.64	3	1.21	2.69	0.05
Within Groups	33.91	75	0.45		
Total	37.55	78			

Exploratory Analysis

The control variable of caregiving intensity was examined using exploratory analysis. As caregiving intensity is not a continuous variable, one-way Analysis of Variance was used. There was no significant difference in Objective Burden based on the level of caregiving intensity [$F(2, 50)=1.16$, $p=0.32$]. The following categories of caregiving intensity were used based on the Level of Care Index (LOCI): Low intensity, medium intensity and high intensity. The means of Objective Burden between these groups and within these groups were analyzed to determine the difference in Objective Burden based on the level of caregiving intensity. See Table 14 for additional detail.

Table 14 - One-way Analysis of Variance (ANOVA) of Objective Burden and Caregiving Intensity

	Sum of Squares	df	Mean Square	F	p-value
Between Groups	1.11	2	0.55	1.16	0.32
Within Groups	23.84	50	0.48		
Total	24.94	52			

Chapter 4. Discussion and Implications

This study sought to understand the relationship between caregiving burden and the caregiver's gender and preparedness for caregiving, the type of care recipient illness that necessitated care and the availability of a sibling support network, while controlling for the intensity of care and degree of social support. Hypothesis 1 proposed that caregiver gender, perception of their preparedness for caregiving, care recipient illness and sibling support network would have a significant relationship to subjective burden. Hypothesis 2 posited that caregiver gender, perception of their preparedness for caregiving, care recipient illness and sibling support network would have a significant relationship to objective burden.

The results indicated that caregivers' self-perceived preparedness to care was the most significant correlate of both subjective and objective burden, supporting Hypothesis 1 and 2. The health condition that necessitated parent care was not significantly associated with subjective or objective burden, which did not support Hypothesis 1 or 2. However, the control variable of caregiving intensity, i.e., the hours spent on care provision and number of activities of daily living and instrumental activities of daily living provided to the parent, was significantly correlated with objective burden, which supported Hypothesis 2. The gender of the caregiver, sibling caregiving network factors and instrumental support (control variable) were not determined to have a significant relationship with subjective or objective burden and did not support Hypothesis 1 or 2 using multiple regression analysis and one-way Analysis of Variance. There was also no significant relationship between burden and being an active-duty military service member or Foreign Service Officer. Although objective burden and subjective burden were highly correlated (r=0.69, p<0.01), this was not a problem statistically as they were both

measures of the dependent variable. The following subsections will examine each of these findings in greater detail.

Preparedness for Caregiving

Preparedness for caregiving was the only independent variable with a statistically significant relationship with both subjective burden and objective burden out of all independent variables and control variables. Preparedness had an even stronger negative correlation with subjective burden (B= -0.45, p=0.01) than objective burden (B= -0.36, p=0.01), indicating that respondents' feeling of preparedness had a stronger relationship to personal stress from caregiving than strain from the demands of caregiving and its disruptions to other life domains. The weaker relationship between preparedness and the demands of the caregiving role may partially be explained by the buffering function of distance in limiting respondents' exposure to providing direct care (Joseph & Hallman, 1998; Silverstein & Litwak, 1993) and life disruptions as a result of care (Berg-Weger et al., 2000). Although role strain may arise in arranging leave from work and traveling to provide direct care to the parent periodically, these intensive periods are typically episodic compared to the continuous care provided by proximal caregivers. Numerous studies have explained prominent aspects of the emotional and psychological challenges that long-distance caregivers face (Bevan & Sparks, 2011; Roff et al., 2007; Ingersoll-Dayton et al., 2003; Parker et al., 2002; Parker et al., 2006) with some finding the emotional stress (NAC & AARP, 2004) and depressive symptoms of long-distance caregivers exceeded that of local caregivers (Li et al., 2018). While caregiving demands may be lower for long-distance caregivers, depending on other caregivers to provide quality care to a parent may potentially heighten uncertainty around the caregiving situation and increase the emotional pain of supporting an aging parent from a distance (Parker et al., 2002; Kalavar et al., 2020). This

study did not explore this relationship, yet future studies with larger samples may help understand the relationship between distance caregiving burden and distance caregivers' perception of the quality of care delivered to their parent based on care coordination amongst network members.

Some studies on preparedness for caregiving and burden amongst family caregivers have observed that levels of preparedness for caregiving oscillate over time (da Rocha et al., 2022) with new caregivers generally reporting a higher self-perceived preparedness for caregiving at the start of caregiving (Grant et al., 2013). In contrast, this study's sample, of which close to 70% began caregiving in the past year, had an overall preparedness for caregiving score lower than other studies of preparedness, indicating that respondents generally did "not [feel] too well prepared" to care for their parent. Another burden and preparedness for caregiving study of family caregivers of hospitalized elders had a similarly low overall preparedness mean score of 1.76 (da Rocha et al., 2022) in their sample. The authors argued that since the literature had discovered an inverse relationship between preparedness for caregiving and burden (Scherbring, 2002), then a low level of preparedness should have indicated that burden would lessen the longer care was provided (da Rocha et al., 2022). However, this assumption would have countered studies that demonstrated that burden rises with a longer duration of care (Scherbring, 2002). Researchers posited that family caregivers may perceive a greater level of preparedness as they gain more experience, which leads to lower burden (da Rocha et al., 2022). In other words, the low baseline of this sample's overall preparedness score could reflect their early stage of care provision and may change with experience and time.

Primary Illness Category

No significant relationship was found between the primary reason the recipient needed care and objective burden and subjective burden. While analysis demonstrated that the primary need for care might be associated with objective burden, this relationship was not found to be significant in post hoc analysis. This finding diverges from the research that determined that the type of care recipient illness was associated with the degree of caregiving burden, with some studies finding dementia to have the strongest relationship to elder caregiving burden (Kim & Schulz, 2008; Conde-Sala et al., 2010; NAC & AARP, 2020a; da Rocha et al., 2022) or conditions requiring management of behavioral symptoms most likely to correlate with burden (Pinquart & Sorenson, 2003).

The inconclusive finding between the primary need for care and burden in this study compared to other caregiving studies that found a relationship between the primary reason for care and burden may partially be explained by the health conditions represented in this sample. Nearly one-half (49.4%) of respondents primarily provided care due to a care recipient's long-term physical condition, followed by emotional or mental health problems (20.3%) and memory problems and short-term physical conditions each at 15.2%. No respondent reported "behavioral issue" as a primary condition, despite miliary families reporting that helping recipients through emotional "storms" or outbursts was one of the most stressful aspects of caring for a loved one of any age (61%) in the 2020 Military Family Lifestyle Survey (RCI et al., 2021). The survey found that emotional or mental health problems were the most common reasons caregivers in the military provided care to a recipient of any age (42% vs 27% of care recipients in the general population), whereas long-term physical conditions (27% vs 63% of care recipients in the general population).

Given that the average age of caregivers in the military are younger (37) than the general population of caregivers in the United States (49.4) and that Foreign Service Officers comprised most of the sample (82.2% Foreign Service vs. 15.3% military vs. 2.5% “other”), it is possible that the sample did not represent health conditions most correlated with burden for military families (RCI et al., 2021; NAC & AARP, 2020a). The representation of dementia, which some studies reported to have the strongest relationship to elder caregiving burden (Kim & Schulz, 2008; Conde-Sala et al., 2010; NAC & AARP, 2020a; da Rocha et al., 2022), was also undetermined in this study. As “dementia” was not a category used in the final analysis, it is possible that respondents caring for a parent who had dementia may or may not have selected the “memory problem” category to indicate dementia. Even if all respondents caring for a parent who had dementia had selected “memory problem” as the primary condition, “memory problem” only comprised 15.2% of care recipient conditions compared to 32% of elder care recipients in the general population (NAC & AARP, 2020a). Future research with a large sample size, especially with military service members, in which a higher number of specific conditions may be analyzed, may provide greater representation of the conditions correlated with burden in this population and offer a clearer understanding of the relationship between the primary need for care and burden.

Caregiving Intensity

Interestingly, there was a significant difference in subjective burden based on the level of a control variable, caregiving intensity. Respondents with a high caregiving intensity had significantly greater subjective burden compared to those with low or medium levels of caregiving intensity. To assess the intensity of care provision, this study adapted the NAC and AARP (2020a) national study measure for caregiving intensity, the Level of Care Index, which

used the average number of weekly hours caregivers provided care and the number of caregiving task types the caregiving situation required to determine the level of caregiving intensity. Research on caregiver outcomes based on the time spent delivering care and number of caregiving tasks have found that these factors together significantly correlated with global strain, as well as depressive symptoms and mood disturbance (Schumacher et al., 2008).

As with the preparedness for caregiving variable, long-distance caregivers' ability to provide direct care and experience the physical demands of caregiving are restricted by access to the parent. The health reason a parent requires care reflects a range of possible tasks to manage symptoms but does not indicate the stage of illness or demands for their care. For example, a caregiver supporting a parent with early onset of dementia may not necessitate the same caregiving involvement as a parent with long-term mobility issues. Other contextual factors would likely explain the caregiver's degree of subjective and objective burden. However, the number of tasks needed to care for a parent may represent subjective stressors related to the parent, such as the parent's health-related suffering (Schulz et al., 2020). Concern over the health status of a parent with a history of serious illness has also been found to increase worry in senior ranking military officers as adult children (Parker et al., 2002). Furthermore, when a parent has greater functional capacity, care provision is more likely to be equitable across adult siblings (Tolkacheva et al., 2014), which likely lessens the guilt, worry and other personal strains of long-distance caregivers that they are not providing enough care (Conde-Sala et al., 2010; Kalavar et al., 2020; Parker et al., 2002; Baldock, 2000).

Sibling Caregiver Network

One interesting finding was that there was no significant relationship between burden and the proximity of siblings to the care recipient. Out of the total number of respondents that had at

least one sibling (*n* = 58), 29 (50%) respondents had a sibling living in the same city as the parent care recipient. This high proportion might help understand why there may not have been a relationship between burden and siblings by distance.

Social Support

This study also found no relationship between burden and the control variable, instrumental support, i.e., the contribution of parent care by other unpaid caregivers in the caregiving network. However, the relationship between instrumental support and the degree of subjective burden approached significance ($p<0.07$), with each 1-percentage point increase in instrumental support associated with a 0.005 of a point in subjective burden. This study did not find a significant correlation between instrumental support and the degree of objective burden. Given that the relationship between instrumental support and subjective burden was positive, i.e., increases in instrumental support was correlated with increases in subjective burden, it may be that the relationship is causally reversed such that those with higher subjective burden may elicit more instrumental support.

It is also possible that the duration of shared caregiving did not occur over a long enough period to establish a relationship with burden. In a study on the impact of informal caregiving networks on the burden of adult children, a longer duration of care shared between network members was associated with a decrease in individual caregiving hours, reducing the caregiving intensity and burden of adult children (Tolkacheva et al., 2011). Since most of the study sample of long-distance caregivers reported beginning or resuming care within the past year, it is possible that instrumental care had not been shared long enough to decrease respondents' caregiving intensity, or be perceived as social support (Tolkacheva et al., 2011). The role of shared care with a sibling versus informal caregivers of other relations in long-distance

caregiving burden also remains inconclusive in this study due to the lack of statistically significant findings.

Caregiver Gender

There was no significant relationship between the gender of the respondent and subjective burden (B= 0.10, p= 0.73) or objective burden (B= 0.06, p= 0.79). Despite the male-dominated environments of the military and Foreign Service, this study's sample reflected a disproportionate caregiver gender distribution toward those that identified as women, similar to the bulk of caregiving research (Robinson et al., 2014), which limited the ability to determine the relationship between gender and burden in this sample and generalize findings on gender to a broader population of long-distance caregivers. Although this study did not find a relationship between gender and distance caregiving burden, decades of family caregiving research have established the relationship between gender and caregiving burden, as women are more likely to report caregiving-related emotional and psychological stress (Pinquart & Sorenson, 2006; NAC & AARP, 2020a), expend more time and money on caregiving (NAC, 2004; NAC & AARP, 2020a) and perform more caregiving tasks (Schulz et al., 2020) than male caregivers. The lack of gender diversity of this sample also inhibited the ability to understand the burden of gender non-conforming caregivers who are seldom included in caregiving studies and commonly represented as lesbian, gay, bisexual and/or transgender (LGBTQ) in caregiving research (NAC & AARP, 2020a).

Strengths and Limitations

Although the cross-sectional design of this study did not enable a determination of causality between variables, its establishment of a relationship between preparedness and burden for long-distance caregivers is among this study's strengths. Efforts to recruit both military

service members and Foreign Service Officers provided greater sociodemographic and geographic diversity of the sample and a greater understanding of long-distance caregiving of U.S. government employees assigned to some of the furthest posts from the United States. The adaptation of the national caregiving survey (NAC & AARP, 2020b) provided a baseline from which to understand caregiving trends in this sample, and the inclusion of psychometrically validated measures in this study strengthened the validity of its findings.

Generalizability

A few considerations should be made to generalize this study's findings. First, two occupational groups were selected, i.e., the military and Foreign Service, that comprise a large proportion of U.S. Government employees overseas. Their standardized housing, lifestyle and access to resources enabled this study to focus on the characteristics of the caregiver and care recipient to closely examine factors related to caregiving burden. As discussed in the "Sample Size and Respondent Eligibility" section, distinguished subgroups were excluded: individuals with parents living outside of the United States, members of the civil service, retired U.S. Government employees and military and Foreign Service spouses. The varied caregiving contexts of these subgroups warrant their own research to build upon this study's findings. Second, while this sample represents only one segment of the nine million Americans who are living overseas (DOS, 2020) for other purposes, such as repatriation or employment through the private sector, this study's findings may be generalized to the broader people of Americans overseas with caution. The findings suggest that even with the resources of a government infrastructure and transnational mobility to meet caregivers' needs, the self-perception that one is prepared for caregiving is quite salient in determining one's degree of long-distance caregiving burden.

Non-response bias

This research relied on a convenience sample of respondents using snowball sampling techniques. While the recruitment strategy was appropriate to the design and population of this study, its methods and the small sample size of this study limit the ability to generalize findings to the broader population of distance caregivers. This researcher employed various recruitment methods to enhance representativeness of the sample, including consistent attempts to define "care" and "caregiving" on all recruitment material for the purpose of the study, tailoring caregiving examples to focus on the practical tasks of caregiving to relate to the predominantly male sample population (Calasanti & King, 2007; Pretorius et al., 2009; Russel, 2007). In addition to the common survey challenge of recruiting respondents who are young and employed with higher education and income (Heffetz & Reeves, 2019), there were likely other reasons persons within the sampling frame may not have participated in the study.

Outside Membership of the Researcher. As discussed in the "Research Design and Methods" section, this researcher is the spouse of a Foreign Service Officer and had greater access to networks and social media groups of Foreign Service personnel as a member of the Foreign service community. Although this researcher is a descendant of military members, personal communication channels were not pre-established with the military, a group known for its "military family" culture (RCI et al., 2021), given some of the hardships and distinct lifestyle experiences that cultivate a sense of privacy. Therefore, greater efforts were made to reach caregivers in the military by contacting the administrators of Facebook military groups to post recruitment material and emailing military institutions and organizations to distribute the survey to caregivers in the military outside of the researcher's network. It is possible that this

researcher's outsider status restricted the ability to engage members of this tight-knight community for survey participation.

Given government entities' concern of appearing to endorse external surveys by advertising them or distributing information about them to employees, researchers who wish to recruit from the U.S. military or Foreign Service may yield a higher response rate by conducting research from within the respective institutions – however, this risks making participation in the survey appear to be a directive from within the government hierarchy or that the results of the survey could somehow impact an employee's job. Alternatively, researchers could partner with trusted community members to recruit outside of official communication channels and avoid the perception that study participation is being requested through government agencies.

Characteristics of the Sample Population. Although caregivers in the military comprised most of the sample population and are more likely to identify themselves as caregivers of a child or adult (32%) versus the general caregiving population (21%), they are also more likely to be sandwiched between multiple care recipients (44%) across generations and report feeling most burdened by the emotional and mental challenges of their care recipients (RCI et al., 2021; NAC & AARP, 2020b). Given these differences in the characteristics of caregivers and care recipients in the military, and the propensity for military members to be younger and married (RCI et al., 2021) and separated from the nuclear family by deployment, it is possible that present-day strains are most pronounced for military service members with children. As society ages and generational shifts increase the elder care expectations of adults, it will be important to consider how caregivers in the military will be prepared and supported in meeting the demands of elder care as they are much more likely to be engaged in caregiving than other groups of caregivers (RCI et al., 2021).

It is important to acknowledge that only 16.5% of this study's sample were male-identified, compared to over half of Foreign Service personnel (55.1%) and four-fifths of active-duty military (82.8%) who identify as men, according to the Department of State (2022b) and Department of Defense (2020), respectively. While hidden and varied conceptions of caregiving can impede understanding the characteristics of non-respondents, it is possible that men in this sample population did not participate for reasons cited in previous caregiving research. For example, male spousal caregivers of women are more likely to self-identify as a husband than a caregiver to preserve their spouses' role as a wife versus a recipient of care (Black et al., 2008). In another cross-sectional study on response bias in male caregivers of spouses with dementia, researchers found that caregivers who carefully presented how they described their caregiving relationship reported less burden than those who did not self-monitor their description of the caregiving relationship (O'Rourke et al., 1996), suggesting that the expression of burden is linked to the degree of burden that caregivers are open to reporting (Baker et al., 2010). As explained by authors of a scoping review of male caregiver research, revealing challenges to coping with care may convey personal inadequacies or a lack of "manhood," inhibiting some men from self-disclosing strain from caregiving (Baker et al., 2010). Thus, it is possible that those who were reluctant to report on their caregiving challenges due to gender role expectations did not participate in the survey.

As discussed in the "Research Design and Methods" section, this survey only enabled participation to respondents that self-identified as a caregiver (Bevan & Sparks, 2011; NAC & AARP, 2020b). To address the moral and cultural connotations of caregiving and increase participation in the 2020 Military Family Lifestyle Survey, researchers included an option for respondents to identify by caregiving tasks, in addition to self-identifying as a caregiver (RCI et

al., 2021; NAC & AARP, 2020b). This enabled 26% of respondents experiencing excessive caregiving burden to contribute to the survey through tasks versus identity. While the study was intended for the military community as a whole (e.g., active-duty spouses and domestic partners, veterans, etc.) and 88% of respondents were female-identified, innovative methods such as task-identified survey inclusion may engage more individuals who would otherwise not participate in a caregiving survey (RCI et al., 2021). To broaden the reach to distant caregivers in the military and Foreign Service, future researchers with government agency support could request affiliated providers, such as embassy or consulate medical units, family liaison offices, training departments and professional associations and foundations to engage personnel who are providing parent care. However, this would likely need to be an internal research initiative originating from within such agencies in consideration of governmental reservations regarding external research.

Quantitative Measures

Objective burden

Preparedness for caregiving was the only independent variable to have a significant relationship with objective burden in this study. As discussed earlier in this section, this may partially be explained by the nature of distance caregiving, which limits caregivers' direct care demands (Joseph & Hallman, 1998; Silverstein & Litwak, 1993) and life disruptions as a result of care (Berg-Weger et al., 2000). Reports of lower objective burden in this sample may also be attributed to the measure used for objective burden. Few instruments currently exist to adequately measure distance caregivers' objective burden, i.e., caregiving-related demands and disruptions to life domains (Hoenig & Hamilton, 1966) that include "the time, efforts, tasks,

services and financial supports involved in the caregiving situation that would disrupt or change the caregiver's life situation" (Koerin & Harrigan, 2003, p. 66).

As a widely used and adapted measure of burden, this study utilized the personal strain (subjective burden) and role strain (objective burden) subscales from the Zarit Burden Interview (Zarit et al., 1987; Liu et al., 2020; Whitlatch et al., 1991). The role strain subscale contains questions related to the conflict between the respondent's caregiving role and other social roles, as well as being overwhelmed by caregiving tasks but did not include challenges more likely to be faced by long-distance caregivers. For example, this ZBI item was not available in the subscale for role strain: "Q15: Do you feel you don't have enough money to care for your relation, in addition to the rest of your expenses?". However, future research of objective burden in long-distance caregiving may use subscales of instruments, such as those found in the Caregiver Burden Inventory, a five-factor model (i.e., time-dependence, developmental, physical, social and emotional burden), used to compare the caregiving burden of adult children in Shanghai, China living one hour from their parent to those co-residing with their parent (Li et al., 2019). Researchers found that objective burden was lower for distance caregivers compared to those living with a parent and suggested that distance might have served as a protective factor in restricting caregiving-related life disruptions for adult children caring from afar (Li et al., 2019).

Despite these constraints, the ZBI's role strain subscale seemed the optimal choice for a psychometrically validated measure of objective burden in this study and demonstrated good internal consistency (a = 0.86). Preparedness for caregiving and caregiving intensity had strong relationships with subjective burden, and their items were more likely to capture the personal experience of caregiving for those who are not proximal to their care recipient. In order to

determine how to support long-distance caregivers, it is important to have a comprehensive understanding of the strains of implementing the distant caregiver role, in addition to the emotional and psychological dimensions of stress.

Caregiving Intensity

The demands of a caregiving situation, operationalized as the weekly number of hours and the number of activities of daily living (ADL) and instrumental activities of daily living (IADL) required to care for a care recipient, is recognized as a correlate of burden in the caregiving literature (NAC & AARP, 2020a; Kim & Schulz, 2008; Schulz et al., 2020; Schumacher et al., 2008). To this researcher's knowledge, no measure of caregiving intensity currently exists for the long-distance caregiving population. To implement this widely used measure for this study, the ADL and IADLs questions were modified from "Which of these did you help your parent with?" to "Which of these did your parent receive help with?" to incorporate the degree of functional assistance the parent's care required, in addition to the average number of weekly hours the respondent spent on care. To assign a score for caregiving intensity, the hours were first scored based on a range of hours (e.g., 0-8 = 1) up to 40 hours or constant care, which would be unusually high for a long-distance caregiver, as would the provision of ADL tasks (e.g., eating, transitioning in and out of bed, etc.) due to the degree of proximity required to fulfill the task.

In this study, caregiving intensity was found to only be correlated with the subjective burden of the sample. For reasons described earlier in the "Discussion" section, it is possible that a higher functional dependence of a parent invoked emotions such as worry about the parent's health (Parker et al., 2002) and guilt for not doing enough to provide care, which are often reported in long-distance caregiving burden research (Conde-Sala et al., 2010; Kalavar et al., 2020; Parker et al., 2002; Baldock, 2000). A standardized measure of caregiving intensity for

long-distance caregiving would capture the role demands that do not require physical proximity and provide a more accurate picture of caregiving intensity for the distant caregiver.

Control variables

Due to the smaller sample size of this study (*N* = 79) than originally designed, a reduced number of independent variables and control variables were used to maintain power to be able to detect the effect of the independent variables on the dependent variables. The excluded control variables were based on concepts from stress-coping theory and role theory that are commonly operationalized in correlational caregiving burden research. The following variables that are interrelated to burden were excluded in the final analyses: the quality of the caregiver-care recipient relationship, i.e., mutuality, a strong correlate of role strain over time (Archbold et al., 1990); self-efficacy, i.e., the confidence to undertake caregiving tasks, which affects physical and mental health strain (Bandura, 1997 as cited in George & Steffen, 2014); and social desirability, i.e., the self-reporting of socially favorable answers (Strahan & Gerbasi, 1972). Therefore, some of this study's statistically significant findings may be partially explained by these variables.

Implications for Theory

The conceptual framework for this study was based on prominent theories of caregiving burden in the literature, including stress and coping models (Pearlin et al., 1990; Lazarus & Folkman, 1984) and role theory (Archbold et al., 1990; Burr et al., 1979; Schumacher et al., 2008) with a family systems, life course perspective to capture the interlocked, developmental process of the caregiving experience (Hecker et al., 2014).

Stress Theories and Distance Caregiving

Stress Process Theory

The findings of this study contrasted with some components of the Pearlin stress process theory (1990), which posits that caregiver stress outcomes are produced by the following domains: caregiving context (e.g., caregiver characteristics, caregiver network composition, etc.); primary stressors (e.g., the care recipient's cognitive status, functional dependence, etc.); secondary role strains (e.g., job-caregiving conflict); secondary intrapsychic strains (e.g., caregiver mastery, caregiver competence, etc.) and mediators (coping and social support). No correlation between distance caregiver characteristics, such as gender, and burden were found in this study, which may be explained by the predominantly woman-identified sample that restricted the ability to examine degrees of burden by gender in analysis. There was also no significant relationship between burden and the parent's condition (a primary stressor) that necessitated their care. As discussed in the "Parent Illness Category" section of this discussion, analysis revealed that the primary need for care might be associated with objective burden but was not found to be significant in post hoc analysis. Future research with a large sample size, especially with military service members, in which a higher number of specific conditions may be analyzed, may provide greater representation of the conditions correlated with burden in this population and offer a clearer understanding of the relationship between the primary need for care and burden.

This study did not find that personal resources, such as social support, related to distance caregiver stress as there was no significant relationship between burden and instrumental support from unpaid caregivers or sibling support systems. As discussed in the "Social Support" subsection, the positive correlation between instrumental support and subjective burden only approached significance ($p<0.07$), with each 1-percentage point increase in instrumental support associated with a 0.005 of a point in subjective burden. The cross-sectional design of this study

limits the ability to understand the directionality of this potential relationship. In other words, distance caregivers with greater subjective burden may elicit more instrumental support, or those receiving more instrumental support may subsequently experience more subjective burden. It is also possible that instrumental care had not been shared long enough with this study's sample to be perceived as social support or decrease respondents' caregiving intensity (Tolkacheva et al., 2011), a correlate of subjective burden in this study. As the role of sibling support and informal caregivers of other relations in long-distance caregiving burden were inconclusive, this study did not support Pearlin's (1990) stress process model that greater social support correlated with less distance caregivers' burden.

The primary stressor of caregiving intensity was found to be related to caregiver stress and strain in other studies (NAC & AARP, 2020a; da Rocha et al., 2022; Conde-Sala et al., 2010). Therefore, this study controlled for caregiving intensity (hours spent on care provision and number of activities of daily living and instrumental activities of daily living provided to the parent) and found a significant correlation between caregiving intensity and subjective burden, reinforcing the role of caregiving intensity as a primary stressor in caregiver stress, per Pearlin's stress process model (1990). Research with a larger and more diverse sample size of distance caregivers may assist in better understanding relationships between caregiving stress and concepts of the stress process model (Pearlin et al., 1990).

Transactional Theory of Stress and Coping

The findings of this study aligned with the Lazarus and Folkman's (1984) transactional theory of stress and coping, whereby the perceived ability to cope with a stressor determines an individual's stress response. After an individual's primary appraisal of an external antecedent (e.g., parent illness that necessitates care), events that are considered to be a challenge bear the

potential for a positive outcome if adequate coping resources are accessible (Biggs et al., 2017). In the secondary appraisal, one takes inventory of their coping resources (e.g., caregiving competence), coping styles (e.g., how a person has coped in the past) and situational variables (e.g., control over one's employment) that, in conjunction, determine one's response to the initial stressor (Biggs et al., 2017; Dewe & Cooper, 2017). A cognitive reappraisal of one's performance in managing stress assesses the degree to which coping resources were effective, leading to either positive emotions or negative emotions with future attempts and reappraisal of their efforts (Biggs et al., 2017).

As distance caregivers' self-determined readiness to care for a parent had the strongest correlation with objective and subjective burden compared to other independent variables, the relationship between their self-perceived resources for parent care and burden seems consistent with the individual-environmental transactional theory of stress and coping (Lazarus & Folkman, 1984). Similarly, Pearlin's (1990) emphasis on secondary intrapsychic strains (e.g., caregiver mastery, caregiver competence, etc.) and coping to manage a stressor to decrease caregiver stress outcomes, may align with this study's finding that preparedness for caregiving is negatively correlated with the degree of distance caregiving burden. Future research should explore distance caregivers perceived self-efficacy to cope with parent care and its relationship to the degree of their burden.

Researchers have also suggested investigating the role of future-oriented coping (Folkman & Moskowitz, 2004), i.e., the anticipated ability to self-cope before a stressor occurs. In contrast with *reactive coping* which addresses immediate stressors or those that have already occurred, the concept of *preventive coping* encourages the acquisition of coping resources to mitigate the harm of a future stress that is likely to occur at some point in time (Schwarzer & Knoll, 2003).

Future research on increasing distance caregivers' preparedness for caregiving through preventive coping may contribute to understanding and intervening upon caregiving burden through advance planning.

Role Theory and Distance Caregiving

One of this study's key findings is the relationship between burden and distance caregivers' self-perceived preparedness for caregiving, a concept that was introduced to caregiving research based on role theory, i.e., caregivers' implementation of their caregiver role (Schumacher et al., 2008). This study found that preparedness for caregiving was negatively correlated with role strain, i.e., objective burden as defined in this study, and therefore supports the applicability of role theory to this sample of long-distance caregivers.

Interactionist Role Theory

More recent studies on the effects of preparedness for caregiving on family caregiver outcomes applied an interactionist approach to role theory to focus on aspects of role implementation, such as the activities of the caregiver, the co-construction of the caregiving role between the caregiver and care recipient and *anticipatory preparedness*, i.e., feeling prepared to meet the demands of care (Schumacher et al., 2008). From a family systems and interactionist role theory perspective, the acquisition of the caregiver role may be initiated at the inception of a parent's illness or loss of functional autonomy (Schumacher, 1995), which may trigger the co-construction of the adult child's caregiving role expectations based on interactions with the parent and the parent's interactions with them.

The *mutuality* of the caregiver-care recipient relationship, i.e., the quality of the caregiver-care recipient relationship, in role strain was of interest to the architects of the preparedness for caregiving concept (Archbold et al., 1990). This study was initially designed to assess mutuality

alongside caregiving preparedness, which was found to be associated with negative caregiver moods, such as anger and depression in previous studies (Schumacher et al., 2008). However, due to the small sample size of this study (N = 79) than originally designed, mutuality was excluded from the final analysis to maintain power to be able to detect the effect of the independent variables on the dependent variables. Future research on long-distance caregiving burden may explore the role of mutuality between caregivers and their care recipients and consider expanding assessment to the relationships between the distance caregiver and other key members of the caregiver network through whom they coordinate care to understand role-making and burden from a family systems perspective (Gan & Schuller, 2002).

Integrative Role Theory

An integrative approach to role theory would complement interactionist role theory with *structural role theory* to consider how prescribed social-structural expectations of distance caregivers (e.g., a belief that women should assume caregiving responsibilities) shapes caregivers' conceptualization of their role in conjunction with caregiver-care recipient interactions (Stryker & Statham, 1985 as cited in Schumacher, 1995). Given that preparedness for caregiving had the strongest relationship with burden compared to other characteristics and factors of the caregiving network (e.g., gender, availability of sibling support, etc.), interactionist role theory may better explain the strains of distance caregivers of this sample who may be making meaning of their role through interactions with others versus their social position (Schumacher, 1995). As this study found that preparedness had a stronger negative correlation with subjective burden (B= -0.45, p=0.01) than objective burden (B= -0.36, p=0.01), consistent with other research that found preparedness for caregiving had a greater association with dimensions of mood for caregivers of cancer patients (Schumacher et al., 2008), the formation of

one's distance caregiving role and self-expectations through other caregiving network members may be important toward both the emotional and psychological health of caregivers, as well as their ability to carry out their role with others throughout various life transitions.

Implications for Social Work

Social work is a field that ethically anchors the dignity and worth of all persons in practice and research (National Association of Social Workers [NASW], 2021). Therefore, social workers are well-positioned to promote the self-determination of long-distance caregivers and their families, as their complex needs evolve over the life course. Findings from this study may be used toward multisystem interventions that engage long-distance caregivers and advance their preparedness for parent care early on in care provision. Social workers in direct practice with members of a caregiving network can mobilize families to navigate care coordination and engage in future parent care planning together, especially to prepare for times when burden is most severe and the distribution of tasks become disproportionately shared across caregivers (Tolkacheva et al., 2011), such as at times of emergencies or the times of increased functional dependence of a parent.

The primacy of preparedness for caregiving in long-distance caregiving burden underscores the importance of caregivers feeling equipped to meet the demands of parent care, i.e., *anticipatory preparation* (Burr et al., 1979 as cited in Schumacher et al., 2008). Unlike most caregiver subgroups that report a higher self-perception of preparedness at the start of caregiving (Grant et al., 2013), close to three-quarters (70%) of this study's sample began caregiving in the past year, and, on average, did not feel well prepared to care for their parent. Social workers should plan to initiate care planning discussions with long-distance caregivers prior to or at the entry point into caregiving to mitigate the likelihood of caregiving burden. Care planning

discussions should also specify existing resources available to the distance caregiver and the parent care recipient to increase the likelihood of service utilization when such resources are needed. An early intervention would also provide social workers the opportunity to meet the social needs of male caregivers who have reported difficulty transitioning into caregiving due to the feminization of caregiving activities (Allen, 1994; Baker & Robertson, 2008), and may subsequently be deterred from seeking formal services or reporting caregiving-related stress (Baker et al., 2010). Social work ethics of competence and client respect (NASW, 2021) are of equal importance when engaging male caregivers in caregiving preparedness. Studies on male caregiving have reported that male caregivers are more likely to focus on practical caregiving tasks and be deterred from caregiving services following a negative experience, such as unsuccessful service referrals or emotionally painful interactions with service providers (Robinson et al., 2014). Male caregivers' disengagement from services may increase the risk of enduring care challenges on their own, limiting the quality of care provided to them and their family system.

Societal aging and increased dependence upon multiple adults for elder care (Redfoot et al., 2013) should encourage social workers to go beyond primary caregiver and care recipient dyads by engaging the informal caregiving network as a dynamic system. When working with military or Foreign Service families, it is important to note that distance caregivers who are younger or have greater caregiving needs, such as high caregiving burden or low functional status of a care recipient, are more likely to utilize supportive services for caregiving (Zucchetto et al., 2021). To not exclude those that are less likely to report care provision or caregiving-related challenges, social workers should implement measures to screen for and identify caregivers, within the informal and formal caregiving network (RCI et al., 2021). Assisting

families in identifying caregivers may help them delegate and coordinate care amongst network members. Social workers should work with family caregivers to develop plans that are responsive to the interdependent needs and resources of a mobile family. Although long-distance caregivers report low service utilization for caregiving, they are most likely to use technology-based tools and resources to interact with parents (Zucchetto et al., 2021). The use of technology-based services to remotely monitor a parent's safety, finances and medical records, while respecting parent's privacy to the greatest extent (Wang et al., 2021), might also benefit distance caregiving families. Network coordination with long-distance caregivers may involve caregivers' provision of respite to proximal caregivers when the distant caregiver is in town to visit the parent.

Although the role of an informal caregiving network was not found significant in this study, previous studies have established that sharing tasks with a larger caregiving network is associated with lower degrees of burden for adult children (Tolkacheva et al., 2011). Researchers suggested that distributing tasks across a caregiver network allows individuals to expend fewer caregiving hours, and consequently, lessening caregiving intensity (Tolkacheva et al., 2011). Thus, it is important for social workers to challenge Western notions of physical co-presence as necessary for caregiving (Baldassar & Merla, 2013) and support families in enhancing the capacity of all members to contribute care and alleviate burden on the family system.

Fortunately, interventions to enhance the caregiving preparedness of long-distance caregivers and their families can also be implemented at the programmatic and policy level. The support of military leadership has been found to be one of the most supportive resources to military service members in managing the needs of family with military service (Bowles et al., 2015), as is the support of personnel in requesting time off to care for older relatives

(Association of American Foreign Service Women FORUM, 1998). Social workers can help foster the retention of personnel by promoting their wellbeing through flexible work schedules and other family care arrangements (Bowles et al., 2015). Per the findings of the last inter-agency round tables on family care challenges hosted by spouses of the association for the foreign affairs community in 1998, Foreign Service personnel would also benefit from greater access to elder care information and medical care across posts. Participants of the round table requested elder care workshops, guides and information on post-specific conditions that are conducive to having an older relative live with a Foreign Service Officer who is posted overseas. To offset the costs of maintaining multiple households while an officer is abroad, participants also recommended expanding the Separate Maintenance Allowance to include dependent parents residing separately from the service member without the requirement that the officer and parent had previously lived together (Association of American Foreign Service Women FORUM, 1998).

Scholars of caregiving in the military also have developed and implemented an asynchronous, online intervention program, i.e., AgeReady, based on the military's "family care plan," to guide participants through the development of a long-term parent care plan (Parker et al., 2016). Such pre-need planning interventions should be made widely available to all U.S. Government employees. A web-based pre-need planning program could be offered to Foreign Service Officers as part of their onboarding training and revisited between tours or in conjunction with direct services as their caregiving situation and families' circumstances change.

Directions for Future Research

This study's findings build on existing knowledge of long-distance caregiving in the literature by affirming the relevance of caregiving intensity linked to proximal caregiving burden

in research (NAC & AARP, 2020a; Kim & Schulz, 2008; Schulz et al., 2020; Schumacher et al., 2008) and discovering a statistically significant relationship between preparedness for caregiving and long-distance caregiving burden. Given these findings and the dominance of attention on caregiver-care recipient dyads in caregiving literature (Baldassar & Merla, 2013), aspects of distance care require further examination in future studies. For example, the effectiveness of distance care may depend upon the functioning of a broader caregiving network, future research should attempt to obtain input from the care recipient and other network members to understand how family caregiving patterns and processes with the distance caregiver impact caregiving burden using a family systems approach with a life course perspective (Seaman, 2015). Similarly, research may also explore how distance caregivers can navigate the development of parent care plans in partnership with adult siblings and other unpaid caregivers, accounting for the life course transitions of the care recipient and the caregivers, such as retirement, that would affect one's participation in parent care. Future research on the efficacy of interventions to educate long-distance caregivers in the Foreign Service and the military on providing parent care from a distance may be advantageous, given the importance of preparedness for caregiving in caregiving burden in this study and that adult children may gain more from educational interventions due to their higher educational level (Lavoie et al., 2005) and greater interest in discussing parent care needs with health care professionals (NAC & AARP, 2020a).

In addition, more research is needed to develop conceptual frameworks and measures tailored to long-distance caregiving. There is no standardized measure for the objective burden or caregiving intensity of long-distance caregivers, whose role strain would be associated with the demands of the distance care role, such as financial management and coordination of services (Cagle & Munn, 2012). In order to determine how to support long-distance caregivers, it is

important to have a comprehensive understanding of the strains of implementing the distant caregiver role, in addition to the emotional and psychological dimensions of stress. Future research should explore the tasks of long-distance caregivers as they meet the demands of parent care and other life course transitions. Studies should also capture how role expectations and contributions of distance caregivers may fluctuate between care delivered remotely and in person during their face-to-face visits with parents. Furthermore, given the potentially episodic nature of long-distance caregiving and range of what is considered to be "long-distance caregiving" in the literature, research should investigate the spatially related dimensions of caregiving to understand the relationship between burden and various degrees of distance from a care recipient (Fischer & Jobst, 2020).

As described earlier, this study struggled to recruit male-identified individuals for survey participation. The proportion of the sample that did not respond to the survey appeared to be predominantly men who may be better suited for qualitative interviews or focus groups to begin with how they construct their social and familial identities in relation to the care they provide to an aging parent. This might also be a meaningful contribution to the literature on male caregiving that has predominantly focused on their care to spouses (Robinson et al., 2014), despite men comprising close to half of long-distance caregivers (NAC, 2004) and spousal caregivers accounting for less than one percent of LDCs (Cagle & Munn, 2012). In addition, using a theoretical basis, such as an integrative approach to role theory (Stryker & Statham, 1985 as cited in Schumacher, 1995) or Lazarus and Folkman's (1984) transactional theory of stress and coping, may illuminate how male-identified caregivers construct their caregiver role and experience caregiving burden from a distance.

This study appears to have only scratched the surface of understanding the subjective stress and coping resources of long-distance, specifically transnational, caregivers from the United States. Subjective burden was significantly correlated with high caregiving intensity and feeling under prepared for caregiving. To deepen an understanding of this sample population's subjective stress, quantitative research should be conducted to investigate distance caregivers' correlates of guilt, an emotion commonly reported by adult children caring for their parents (Kalavar et al., 2020; Ankri et al., 2005; Conde-Sala et al., 2010). A sense of guilt is known to increase for adult children who do not reside with their parent care recipient, conflicting with a moral expectation to meet more needs of the parent (Conde-Sala et al., 2010).

This sample reported a low level of preparedness for caregiving. Given that worry is commonly associated with long-distance caregivers (Parker et al., 2002; Kalavar et al., 2020) and preparedness for caregiving has the strongest relationship to worry in the long-term (Archbold et al., 1990), future research should also investigate the presence and impact of worry in long-distance caregivers of the U.S. military and Foreign Service. Findings on emotional and psychological stressors will be particularly important in determining the most socially and culturally responsive interventions for these communities. The mental health stigma of the military (Hernandez et al., 2016) and concerns regarding security clearances in the Foreign Service can be deterrents to seeking professional services for mental distress. In addition, longitudinal research should be conducted with a larger sample to understand the role of social support and instrumental support in long-distance caregiving burden. Although this sample population is more likely to be interested in the tasks of caregiving due to their composition of gender and professions (Robinson et al., 2014), it is possible that other forms of social support are needed to buffer their experience of burden. Mechanisms for social support may involve the

purposeful use of social media, web-based communication and technological devices to reinforce social and emotional connections across distance (Madianou & Miller, 2012; Baldassar et al., 2016).

Finally, this study should be considered a steppingstone to future distance caregiving studies of U.S. Government employees and other Americans living abroad. The varied caregiving contexts of transnational caregiver subgroups, such as those in the private sector or on a religious mission, warrant their own research to build upon this study's findings. For example, the transnational care of an immigrant to the United States with ties between two nations may have a distinguished burden experience in carrying out their role, such as visa restrictions or conditions in their country of origin that prevent safe and timely travel in the event of a parent crisis (Herbst et al., 2022). These findings suggest that even with transnational mobility and the resources of a governmental infrastructure, the self-perception of preparedness for caregiving is quite salient in determining the degree of one's long-distance caregiving burden. Additional research would enable comparisons between groups to further explore this study's findings. Future research should also examine the independent variables of this study over time to better understand their relationship with long-distance caregiving burden.

Conclusion

Long-distance caregivers of the military and the Foreign Service represent a resourceful group of public servants trained to face some of the most complex global challenges. Yet, the challenge of caring for a parent from a distance cannot be underestimated. Despite the professional competencies of this caregiver sample, they reported a lower self-perception of preparedness for caregiving compared to other samples in the caregiving literature (Grant et al., 2013; da Rocha et al., 2022). Findings from this study suggest that long-distance caregivers'

preparedness to care for a parent correlates with their emotional, psychological and role-related burden. Therefore, social workers should engage caregivers in parent care planning prior to or at the start of parent care provision. It is also important that social workers develop cultural competence in working with geographically diverse and mobile family caregivers and advocate for changes that accommodate dynamic caregiving arrangements in the workplace and healthcare systems. Future research should explore the long-distance caregiving burden of other U.S. Government employees and Americans abroad to build on this study's findings and develop culturally responsive interventions that support caregivers as the global dependence on families for elder care continues to rise (Redfoot et al., 2013).

Appendix A - Inclusion Criteria Template

Thank you for your interest in completing this survey. The survey will last about 30-35 minutes. Your participation is entirely voluntary. You may choose not to participate or leave the survey at any time. All responses will be anonymous.

The survey results will be used to increase our understanding of U.S. military and Foreign Service personnel caring for aging parents while living at a distance. This survey is being conducted by Christine D. Holmes, MSW, LICSW, LCSW, for her doctoral dissertation.

If you still have questions or concerns about your rights as a participant in this survey, you may contact the Office of Regulatory Affairs at the University of Pennsylvania by phone: (215) 898-2614.

YOU MUST BE 18 YEARS OF AGE OR OVER TO PARTICIPATE IN THIS SURVEY.

By clicking "YES, I meet the criteria to participate in this study," I am agreeing to the following:

1) I am a member of the U.S. Foreign Service or U.S. Armed Forces; *
2) I provided unpaid care** in the past 12 months to a parent in the United States over 50 years old; AND
3) I lived at least 1,000 miles from the parent during the period of care.

* Spouses / partners and other relatives (e.g., Eligible Family Members, Members of Household, etc.), are not eligible to participate in this study.

** Care may include emotional support, managing finances and/or arranging services to help meet your parent's personal needs due to a condition that limits their ability to care for themselves (e.g., illness, aging-related condition, etc.).

- YES, I meet the criteria to participate in this survey.
- NO, I do not meet the criteria to participate in this survey and will discontinue participation in the study at this time.

Appendix B - Informed Consent Template

Terms of Informed Consent and Study Requirements

Purpose/Procedure: You are invited to voluntarily participate in this study because you are in the U.S. foreign or military service and have provided distance caregiving to your parents in the United States. The study seeks to understand factors that impact the level of burden military and Foreign Service personnel experience while meeting the care needs of their parents from a distance. Your participation will involve completion of an online survey, which will take an estimated 30-35 minutes. This study is being conducted through the University of Pennsylvania for a doctoral social work dissertation.

Risks: The risks from the survey are minimal. You will be asked to consider past experiences with caregiving that may produce minimal distress. If you experience discomfort during the survey, you may end your participation in the survey at any point.

Benefits: There will be no direct benefits to you. The results of the survey, however, will help increase our understanding of foreign and military service members' roles as parent caregivers. Participants may have the indirect benefit of contributing to a study that may assist in supporting future parent care planning within the foreign and military service communities.

Privacy: The web-based format of the survey will permit you to complete the survey in a private environment most convenient to you. You will not be asked for personally identifiable information and your identity as a participant will be anonymous. Your IP address and location data will not be recorded. The survey data will be contained in an encrypted Qualtrics platform and will be kept for potential future research. All efforts will be made to maintain security of the data.

At the end of the survey, you will have the option to enter a gift card lottery by submitting your email address. Should you choose to opt out of the gift card drawing, you will be exited from the survey without submitting your email address. If you choose to enter the gift card lottery, you will be redirected to another link prior to submitting your email address so that your email address is not connected to your survey responses.

Notice of privacy practices for residents of the European Union (EU)*:* In compliance with European privacy law, the collection of personal information from persons living in the European Union, such as an email address, is subject to the General Data Protection Regulation. The data used in this study, as well as its transfer to a third country, i.e., the United States, will be collected and processed for the legitimate interest of research. Such data will include demographic information (e.g., race and ethnicity) and information related to your parent caregiving. If you choose to participate in this study as an EU resident, all privacy conditions outlined in this consent apply to you. In addition, you may contact the Student Investigator of this study (holmesch@upenn.edu) to request and/or verify that your email address has been deleted from the encrypted Qualtrics platform.

Voluntary Participation and Withdrawal: Survey participation is open to participants over the age of 18 years old. Your participation is completely voluntary. There will be no repercussions for withdrawing your consent to participate at any point during the survey.

Reward: Participants that complete the survey will have the option to enter into a lottery to receive one out of eight Visa gift cards each valued at $25. The gift card recipients will be randomly selected through an encrypted Qualtrics platform. Participants that are randomly selected will receive a $25 gift card by email.

Contact Person: The Student Investigator, Christine Holmes, may be contacted for questions or concerns about the research study. Christine Holmes can be reached at holmesch@upenn.edu. Alternatively, you may reach the Office of Regulatory Affairs at the University of Pennsylvania. They can be reached at the following phone number: (215) 898-2614.

- I AGREE: I have read, understood and agreed to the survey conditions described above and provide informed consent to take part in this research study.
- I DO NOT AGREE with the survey conditions and DO NOT PROVIDE informed consent to take part in this research study.

Appendix C - Survey Content

The following questions refer to those within your caregiving network. They are for classification purposes only.

A **caregiver** refers to "anybody who provides unpaid help, or arranges for help, to a relative or friend because they have an illness or...[a condition that limits their ability to care for themselves, including aging-related conditions]."

Therefore, **care** may include emotional support, managing finances and/or arranging services to help someone meet their personal needs.

Section: Caregiving Socio Demographics

For the following questions, please think about the parent for whom you provided the **most** care in the past year.

1. From what location did you primarily provide caregiving in the past 12 months?

○ City _____

○ State / Province / District _____

○ Country _____

2. Where do you currently reside?

○ City _____

○ State / Province / District _____

○ Country _____

3. What is your current age?

○ Age in years _____

4. What race or ethnicity do you identify with ***most***?

○ White

○ Black / African American

- ○ Latino or Hispanic
- ○ Asian
- ○ Native American
- ○ Native Hawaiian or Pacific Islander
- ○ Prefer to self-describe _____

5. What other races do you identify with? Check all that apply.

- ○ No other races
- ○ White
- ○ Black / African American
- ○ Latino or Hispanic
- ○ Asian
- ○ Native American
- ○ Native Hawaiian or Pacific Islander
- ○ Prefer to self-describe _____

6. With which gender identity do you ***most*** identify?

- ○ Man
- ○ Woman
- ○ Gender-Fluid
- ○ Gender-Neutral
- ○ Gender Questioning
- ○ Genderqueer

- ○ Non-Conforming
- ○ Non-binary
- ○ Prefer to self-describe _____

7. Do you identify as transgender?

- ○ Yes
- ○ No

8. With which sexual orientation/identity do you ***most*** identify?

- ○ Asexual or Gray-sexuality
- ○ Bisexual
- ○ Gay
- ○ Heterosexual or Straight
- ○ Lesbian
- ○ Pansexual
- ○ Queer
- ○ Questioning
- ○ Prefer to self-describe _____

9. Which best describes your marital status during your most recent caregiving of your parent?

- ○ Married
- ○ Living with a partner
- ○ Widowed
- ○ Separated

○ Divorced

○ Single, never married

○ Prefer to self-describe _____

10. What is the highest degree or level of education you have completed?

○ Some high school

○ High school / GED

○ Bachelor's degree

○ Master's Degree

○ PhD or equivalent

11. How many people, including children, live in your household? Please include yourself.

○ Number of people in your household _____

12. During your most recent caregiving of your parent, were there any children or grandchildren living in your household under 18 years of age?

○ Yes

○ No

[If "Yes" ask following question]

How many children lived at home with you?

○ Number of children _____

13. What type of health insurance or health coverage did you have? Please select your ***main*** source of health insurance.

○ No insurance

○ Military healthcare (TRICARE)

○ Foreign Employees Health Benefit Program (FEHBP) (e.g., Foreign Service Benefit Plan,

Blue Cross Blue Shield, etc.)

○ Plan bought directly (from an insurance company, using an agent, or using an exchange / marketplace)

○ Some other type of coverage [Please specify…]_____

Section: Caregiver Occupation

14. Are you currently employed on active duty military status?

○ Yes

○ No

15. Are you currently employed in a Foreign Service position?

○ Yes

○ No

16. Are you currently active duty military and in the Foreign Service?

○ Yes

○ No

17. For which department or agency do you currently work?

○ Foreign Service - U.S. Department of State

○ Foreign Service - U.S. Agency for International Development

○ Foreign Service - U.S. Department of Commerce

○ Foreign Service - U.S. Department of Agriculture

○ Active duty Military - Army

○ Active duty Military - Air Force

○ Active duty Military - Marines

○ Active duty Military - Navy

○ Other _____ [Please specify...] _____

18. What is your rank / pay grade?

○ SFS / SES / O-7 and above

○ FS -1 / GS -15 / O-6

○ FS-2 / GS-14 / O-5

○ FS-3 / GS-13 / O-4

○ FS-4 / GS-12 / O-3

○ FS-5 / GS-11 or 10/ O-2

○ FS-6 / GS-9 / O-1 and below

19. What is your annual household income?

○ Below $25,000

○ $25,001 - $50,000

○ $50,001 - $75,000

○ $75,001 - $100,000

○ $100,001 - $150,000

○ $150,001 - $200,000

○ More than $200,000

Section: Parent Sociodemographics

For the next set of questions, please think about the parent for whom you provided the **most** care in the past year.

20. How old was your parent at their most recent birthday?

○ Age in years _____

21. Which race would you say your parent would identify with ***most***?

○ White

○ Black / African American

○ Latino or Hispanic

○ Asian

○ Native American

○ Native Hawaiian or Pacific Islander

○ Prefer to describe _____

22. What other races would you say your parent would identify with? Check all that apply.

○ No other races

○ White

○ Black / African American

○ Latino or Hispanic

○ Asian

○ Native American

○ Native Hawaiian or Pacific Islander

○ Prefer to describe _____

23. With which gender identity would you say your parent ***most*** identified?

○ Man

○ Woman

○ Gender-Fluid

○ Gender-Neutral

○ Gender Questioning

○ Genderqueer

○ Non-Conforming

○ Non-binary

○ Prefer to describe _____

24. Do you think that your parent identified as transgender?

○ Yes

○ No

25. With which sexual orientation/identity do you think your parent would ***most*** identify?

○ Asexual or Gray-sexuality

○ Bisexual

○ Gay

○ Heterosexual or Straight

○ Lesbian

○ Pansexual

○ Queer

○ Questioning

○ Prefer to describe _____

26. Please select your parent's marital status:

- ○ Married
- ○ Living with a partner
- ○ Widowed
- ○ Separated
- ○ Divorced
- ○ Single, never married
- ○ Prefer to describe _____

27. What was the highest degree or level of education your parent completed?

- ○ Some high school
- ○ High school / GED
- ○ Bachelor's degree
- ○ Master's Degree
- ○ PhD or equivalent
- ○ Other [Please specify...] _____

28. Please select the ***primary*** income source for your parent.

- ○ Employment
- ○ Self-employment
- ○ Pension
- ○ Social security income
- ○ Public assistance
- ○ Property income

- ○ Your funds
- ○ Funds from your sibling (s)
- ○ Funds from other relatives
- ○ Other: [Please specify…] _____

29. Please select all other applicable income sources for your parent.

- ○ Employment
- ○ Self-employment
- ○ Pension
- ○ Social security income
- ○ Public assistance
- ○ Property income
- ○ Your funds
- ○ Funds from your sibling (s)
- ○ Funds from other relatives
- ○ Other: [Please specify…] _____

30. What was your parent's annual household income?

- ○ below $25,000
- ○ $25,001 - $50,000
- ○ $50,001 - $75,000
- ○ $75,001 - $100,000
- ○ $100,001 - $150,000

○ $150,001 - $200,000

○ More than $200,000

31. Did your parent ever serve in the U.S. Armed Forces? This includes Army, Navy, Air Force, Marines, Coast Guard, Women's Armed Forces, National Guard, or Reserves.

○ Yes

○ No

○ Not sure

Section: Caregiving

A caregiver refers to "anybody who provides unpaid help, or arranges for help, to a relative or friend because they have an illness or...[a condition that limits their ability to care for themselves, including aging-related conditions]."

Therefore, care may include emotional support, managing finances and/or arranging services to help someone meet their personal needs. For the following questions, please think about the parent for whom you provided the most care in the past year.

32. What city and state did your parent live in at the time you provided care?

○ City _____

○ State _____

33. On average, how often did you visit your parent?

○ Few times a month

○ Once a month

○ Once every 3 months

○ Twice a year

○ Once a year

○ Less than once a year

34. Which of the following best describes where your parent **primarily** lived at the time you provided care?

- ○ Private, single-family home or residence
- ○ Assisted living residence or facility
- ○ Nursing home, skilled nursing facility, with or without a separate unit for persons with dementia
- ○ Independent living residence or facility
- ○ Group home
- ○ Long-term care residence or facility
- ○ Community living center (VA nursing home)
- ○ Senior housing, senior living facility or complex
- ○ Or somewhere else? [Please specify...] _____

35. Who normally lived with your parent?

- ○ Your parent's spouse / partner
- ○ Your sibling
- ○ Your adult child
- ○ Professional caregiver
- ○ Other relative [Please specify...] _____
- ○ Non-relative [Please specify...] _____
- ○ Not applicable (N/A). Your parent lived alone.

Section: Parent Clinical

For the following questions, please think about the parent for whom you provided the **most** care

in the past year.

36. Please select the ***primary*** reason your parent needed care in the past year.

- ○ Short-term physical condition
- ○ Long-term physical condition
- ○ Emotional or mental health problem
- ○ Developmental or intellectual disability
- ○ Behavioral issue
- ○ Memory problem

37. Please select any other reasons your parent needed care in the past year.

- ○ Short-term physical condition
- ○ Long-term physical condition
- ○ Emotional or mental health problem
- ○ Developmental or intellectual disability
- ○ Behavioral issue
- ○ Memory problem

38. What was the ***main*** problem or illness for which your parent needed your care?

- ○ Alzheimer's, confusion, dementia, forgetfulness
- ○ Arthritis
- ○ Back problems
- ○ Blood pressure, hypertension
- ○ Brain damage or injury

- ○ Broken bones
- ○ Cancer
- ○ Developmental or intellectual disorder or disability
- ○ Diabetes
- ○ Feeble, unsteady, falling
- ○ Hearing loss, deafness
- ○ Heart disease, heart attack
- ○ Lung disease, emphysema, COPD
- ○ Mental illness, emotional illness, depression
- ○ Mobility problem, can't get around
- ○ Old age, Aging
- ○ Parkinson's
- ○ Stroke
- ○ Substance, drug, alcohol abuse
- ○ Surgery, wounds
- ○ Vision loss, blindness, can't see well
- ○ Other [Please specify...] _____
- ○ Not sure

39. Did your parent have a secondary problem or illness for which they needed your care?

- ○ Yes
- ○ No

[If "No" skip to next section "Care Logistics"]

40. What was the secondary problem or illness for which your parent needed your care?

- ○ Alzheimer's, confusion, dementia, forgetfulness
- ○ Arthritis
- ○ Back problems
- ○ Blood pressure, hypertension
- ○ Brain damage or injury
- ○ Broken bones
- ○ Cancer
- ○ Developmental or intellectual disorder or disability
- ○ Diabetes
- ○ Feeble, unsteady, falling
- ○ Hearing loss, deafness
- ○ Heart disease, heart attack
- ○ Lung disease, emphysema, COPD
- ○ Mental illness, emotional illness, depression
- ○ Mobility problem, can't get around
- ○ Old age, Aging
- ○ Parkinson's
- ○ Stroke
- ○ Substance, drug, alcohol abuse
- ○ Surgery, wounds

○ Vision loss, blindness, can't see well

○ Other [Please specify...] _____

○ Not sure

41. Did your parent have a third problem or illness for which they needed your care?

○ Yes

○ No

[If "No" skip to next section "Care Logistics"]

42. What was the third problem or illness this parent had for which they needed your care?

○ Alzheimer's, confusion, dementia, forgetfulness

○ Arthritis

○ Back problems

○ Blood pressure, hypertension

○ Brain damage or injury

○ Broken bones

○ Cancer

○ Developmental or intellectual disorder or disability

○ Diabetes

○ Feeble, unsteady, falling

○ Hearing loss, deafness

○ Heart disease, heart attack

○ Lung disease, emphysema, COPD

- ○ Mental illness, emotional illness, depression
- ○ Mobility problem, can't get around
- ○ Old age, Aging
- ○ Parkinson's
- ○ Stroke
- ○ Substance, drug, alcohol abuse
- ○ Surgery, wounds
- ○ Vision loss, blindness, can't see well
- ○ Other [Please specify...] _____
- ○ Not sure

Section: Care Logistics

For the following questions, please think about the parent for whom you provided the **most** care in the past year.

43. Which of these did your parent receive help with?

	Yes	No
a. Getting in and out of beds and chairs	○	○
b. Getting dressed	○	○
c. Getting to and from the toilet	○	○
d. Bathing or showering	○	○
e. Dealing with incontinence or diapers	○	○

f. Feeding them	○	○
g. Giving medicines, like pills, eye drops, or injections for their condition	○	○

44. Which of these did your parent receive help with?

	Yes	No
a. Managing finances, such as paying bills or filling out insurance claims	○	○
b. Grocery or other shopping	○	○
c. Housework, such as doing dishes, laundry, or straightening up	○	○
d. Preparing meals	○	○
e. Transportation, either by driving them, or helping them get transportation	○	○
f. Arranging outside services, such as nurses, home care aides, or home food deliveries (e.g., Meals on Wheels)	○	○

45. Which of the following best describes how much care or help your parent required, because of their condition(s), in a normal week? Did your parent require care…

○ All the time or almost all the time: 24 hours a day, 7 days a week

○ 8-12 hours a day, 7 days a week

○ Once a day

○ A few days a week

○ Once a week

○ Once every two weeks

46. In the last 12 months, approximately how many times was your parent hospitalized overnight?

47. A **caregiver** refers to “anybody who provides unpaid help, or arranges for help, to a relative or friend because they have an illness or...[a condition that limits their ability to care for themselves, including aging-related conditions]."

Therefore, **care** may include emotional support, managing finances and/or arranging services to help someone meet their personal needs.

Please indicate the approximate time frame you provided care to this parent.

If you are still providing care, put the current month and year as the end date. Your best estimate is fine.

From: Month / Year To: Month / Year

48. Did you perform the following tasks for this parent in the past 12 months?

	Yes	No
a. Household tasks	○	○
b. Personal care	○	○
c. Nursing care	○	○
e. Emotional support	○	○
f. Administrative help	○	○
g. Helping with visits	○	○

49. Thinking now of all the kinds of help you provided for your parent, about how many hours did you spend in an average week, helping them? Your best estimate is fine.

Section: Other Care

For the following questions, please think about the parent for whom you provided the **most** care in the past year.
50. Has anyone else provided unpaid help to your parent during the last 12 months?

○ Yes

○ No

[If "No" skip to Question 55]

51. Who would you consider to be the person who provided most of the unpaid care of your parent?

○ You (yourself)

○ Your parent's spouse / partner

○ Your sibling

○ You split it evenly with someone else.

○ Other [Please specify…] _____

52. Not including yourself, how many unpaid caregivers gave help to this parent in the past 12 months?

○ Number of unpaid caregivers _____

53. The following questions apply to **up to three unpaid caregivers**, not including yourself, that gave the **most** care to your parent in the past 12 months.

Who was the unpaid caregiver?	In the past 12 months, please indicate whether this caregiver performed the following tasks for your parent. Check all that apply.	Please indicate the approximate time frame this caregiver provided care to your parent. (Note: If they are still providing care, put the current month and year as the end date.)

a. Your spouse / partner b. Your child c. Your parent's spouse / partner d. Your sibling e. Other family member f. Your parent's friend g. Your friend h. Other non-family member	○ Household tasks ○ Personal care ○ Nursing care ○ Emotional support ○ Administrative help ○ Helping with visits	From: Month / Year To: Month / Year

54. Please indicate how often you experience disagreements with other unpaid caregivers of your parent, as related to the following issues:

	Seldom to never	Regularly	Often
a. The type of care that should be given	○	○	○
b. How often care should be given	○	○	○
c. The division of the caregiving tasks	○	○	○
d. Placing the parent in an institution	○	○	○

55. Please indicate the number of your living siblings.

Number of living siblings _____

[If "Number of living siblings" is greater than 0 display following]

For the following questions, please provide information regarding each living sibling and their involvement in providing care to your parent over the past 12 months. ***[Up to nine siblings can be entered]***

Did this sibling assist with providing care to your parent?	Where did each sibling reside during the period of parent care?	What is the gender of this sibling?

Yes No	State/ District / Province Country	○ Man ○ Woman ○ Gender-Fluid ○ Gender-Neutral ○ Gender Questioning ○ Genderqueer ○ Non-Conforming ○ Non-binary ○ Prefer to describe ○ Transgender

56. During the last 12 months, was a family member paid to provide direct care (e.g., bathing, toileting, feeding, etc.) to your parent?

○ Yes

○ No

[If "Yes" display the following question]

Who paid for the majority of this parent care provided by a family member?

○ State Medicaid program

○ U.S. military veteran benefits

○ Parent's long-term care insurance

○ You (yourself)

○ Other [Please specify…] _____

57. During the last 12 months, did your parent receive paid help from formal caregivers, such as home health aides or housekeepers?

○ Yes

○ No

[If "Yes" display the following question]

Please think about all of the healthcare professionals or service providers who gave care or treatment to your parent.

How easy or difficult was it for you to coordinate care between those providers?

○ Very easy

○ Somewhat easy

○ Somewhat difficult

○ Very difficult

○ Not applicable

Section: Work and Care

For the next few questions, please think about the most recent time in the last year when you were working and providing care. Your responses should be based on the parent for whom you provided the **most** care in the past year.

58. About how many hours a week, on average, did you work?

○ Average number of work hours per week
_____

59. Which of the following does your employer offer to you? Check all that apply.

○ Flexible work hours

○ Telecommuting or working from home

○ Programs like information, referrals, counseling, or an employee assistance program, to help caregivers like yourself

○ Services to assist with making plans for a parent's future care, such as instructions for handling financial matters, healthcare decisions, or living arrangements

○ Paid family leave, where you could take extended paid time off from work (in weeks) to care for an ill family member

○ Unpaid family leave, where you could take extended time off (in weeks) without pay to

care for an ill family member

60. As a result of caregiving, did you ever experience any of these things at work?

	Yes	No
a. Took paid or unpaid leave to provide care to your parent	○	○
b. Turned down a promotion or a career opportunity	○	○
c. Received a warning about your performance or attendance at work	○	○

61. Have you ever felt that your responsibilities as a caregiver to your parent led to you being penalized or discriminated against at work?

○ Yes

○ No

Section: Access Future

For the following questions, please think about the parent for whom you provided the **most** care in the past year.

62. In your experience as a caregiver for your parent, have you ever done the following things online?

	Yes	No
a. Had a virtual or online visit with a healthcare provider who could care for your parent.	○	○
b. Created an online or shared calendar to organize caregiving schedules or activities	○	○
c. Managed your parent's prescription refills or delivery on an app or website.	○	○
d. Placed an online order such as groceries or household supplies for your parent.	○	○
e. Ordered home-delivered meals programs, such as Meals on Wheels.	○	○

f. Ordered a ride service like Lyft, Uber or senior transportation for your parent.	○	○
g. Searched online for support services, aides, facilities, or other help for your parent.	○	○
h. Connected with other caregivers online using social media or support groups.	○	○
i. Watched videos to learn how to do different things you need to care for your parent.	○	○

63. Where did you go for help or information about caring for this parent? Check all that apply.

○ Doctor or health care professional

○ Friends or family [Please specify…]
_____

○ Government agencies or organizations (local, state, or federal)

○ Local hospital or other care facility

○ Online or social media

○ Books or other printed material

○ Organization or non-profit for aging, caregiving, or specific condition [Please specify...]
_____

○ Somewhere else [Please specify…] _____

○ Not applicable: You never get help or information

64. How difficult was it to get affordable services in your parent's local area or community that would have helped you care for your parent, like delivered meals, transportation, or in-home health services?

○ Not at all difficult

○ Somewhat easy

- ○ Neither easy nor difficult
- ○ Somewhat difficult
- ○ Very difficult
- ○ Not applicable: I did not search for affordable services in my parent's local area or community that would have helped me care for them.

65. Which of the following topics do you feel you need more help or information? Check all that apply.

- ○ Keeping this parent safe at home.
- ○ Managing this parent's challenging behaviors, such as wandering.
- ○ Activities you could do with this parent.
- ○ Choosing a home care agency, assisted living facility or nursing home.
- ○ Managing your emotional or physical stress.
- ○ Making end-of-life decisions.
- ○ Finding non-English language educational materials.
- ○ Figuring out forms, paperwork, or eligibility for services or support for this parent.
- ○ Managing or handling your own personal finances.
- ○ Using technology to care for this parent.
- ○ Something else? [Please specify…] _____
- ○ None of the above

66. Does your parent have plans in place for their future care, such as instructions for handling financial matters, healthcare decisions, or living arrangements?

- ○ Yes

○ No

○ Not sure

[If "Yes" display following questions]

What type of instructions are included in your parent's future care plan?

○ Financial matters

○ Healthcare decisions

○ Living arrangements

○ Not sure

○ Other: [Please specify…]

_____

What is your role in your parent's future care plan?

○ I am / will become a representative to make medical decisions by myself.

○ I am / will become a representative to make medical decisions with someone else.

○ I am / will become a representative to make financial decisions by myself.

○ I am / will become a representative to make financial decisions with someone else.

○ I am / will become a representative to make medical AND financial decisions by myself.

○ I am / will become a representative to make medical AND financial decisions with someone else.

○ Not sure

○ Other: [Please specify…] _____

[If responsibility is shared with someone else display following question]

You indicated that you will share decision-making with someone else in your parent's future care plan. Who will be the person(s) with whom you will share decision-making with per your

parent's future care plan?

- ○ Your parent's spouse / partner
- ○ Your sibling
- ○ Your spouse / partner
- ○ Your adult child
- ○ Other relative [Please specify…] _____
- ○ Non-relative [Please specify…] _____
- ○ Not sure

67. Do you have plans for your own future care, such as handling financial matters, healthcare decisions, or living arrangements?

○ Yes

○ No

[If "Yes" display following question]

Does your future care plan designate your parent caregiving responsibilities to someone else in the event that you are unable to continue caregiving?

○ Yes

○ No

[If "Yes" display following questions]

According to your future care plan, who is the person(s) designated to assume your parent caregiving responsibilities in the event that you are unable to continue caregiving? Check all that apply.

- ○ Your parent's spouse / partner
- ○ Your sibling

- ○ Your spouse / partner
- ○ Your adult child
- ○ Other relative [Please specify…] _____
- ○ Non-relative [Please specify…]_____

In the event that you were unable to continue parent caregiving, is the person(s) designated to assume your caregiving responsibilities aware of the plan?

- ○ Yes
- ○ No

Section: Stress and Care

The following questions refer to the social and emotional experiences of caregiving.

For the following questions, please think about the parent for whom you provided the **most** care in the past year.

68. How much of a physical strain would you say that caring for your parent was for you?

- ○ Not a strain at all
- ○ A little strain
- ○ A moderate amount of strain
- ○ A lot of strain
- ○ Very much a strain

69. How emotionally stressful would you say that caring for your parent was for you?

- ○ Not at all stressful
- ○ A little stressful
- ○ A moderate amount of stress

○ A lot of stress

○ Very stressful

70. How much of a financial strain would you say that caring for your parent was for you?

○ Not a strain at all

○ A little strain

○ A moderate amount of strain

○ A lot of strain

○ Very much a strain

71. During your most recent caregiving of your parent, was your health…?

○ Poor

○ Fair

○ Good

○ Very good

○ Excellent

72. How would you say taking care of your parent affected your health?

○ Made it better

○ Not affected it

○ Made it worse

73. Do you feel you had a choice in taking on this responsibility for caring for your parent?

○ Yes

○ No

74. How much do you agree or disagree with each statement below about being a caregiver for

your parent?

	Strongly disagree	Disagree	Neither	Agree	Strongly agree
a. My role as a caregiver gave me a sense of purpose or meaning in my life.	○	○	○	○	○
b. I found it difficult to take care of my own health.	○	○	○	○	○
c. I felt alone	○	○	○	○	○

75. As a result of providing care to your parent, have you ever experienced any of these financial issues?

	Yes	No
a. Took on more debt (credit cards, loans, lines of credit)	○	○
b. Missed or was late paying for a student loan	○	○
c. Borrowed money from family or friends	○	○
d. Filed for bankruptcy (medical or personal)	○	○
e. Been unable to afford basic expenses like food	○	○
f. Left your bills unpaid or paid them late	○	○
g. Used up your personal short-term savings	○	○
h. Used long-term savings, like retirement or education, to pay for other things	○	○
i. Stopped saving	○	○
j. Put off when you planned to retire or decided to never retire	○	○

Section: Zarit Burden Interview:

76. The following is a list of statements which reflect how people sometimes feel when taking care of another person. After each statement, indicate how often you feel that way toward caring for your parent: never, rarely, sometimes, quite frequently, or nearly always.

Please think about the parent for whom you provided the **most** care in the past year. There are no right or wrong answers.

	Never	Rarely	Sometimes	Quite Frequently	Nearly Always
1. Do you feel that your parent asks for more help than he or she needs?	○	○	○	○	○
2. Do you feel that, because of the time you spend with your parent, you don't have enough time for yourself?	○	○	○	○	○
3. Do you feel stressed between caring for your parent and trying to meet other responsibilities for your family or work?	○	○	○	○	○
4. Do you feel embarrassed about your parent's behavior?	○	○	○	○	○
5. Do you feel angry when you are around your parent?	○	○	○	○	○
6. Do you feel that your parent currently affects your relationship with other family members?	○	○	○	○	○
7. Are you afraid about what the future holds for your parent?	○	○	○	○	○
8. Do you feel that your parent is dependent upon you?	○	○	○	○	○
9. Do you feel strained when you are around your parent?	○	○	○	○	○
10. Do you feel that your health has suffered because of your involvement with your parent?	○	○	○	○	○

11. Do you feel that you don't have as much privacy as you would like, because of your parent?	○	○	○	○	○
12. Do you feel that your social life has suffered because you are caring for your parent?	○	○	○	○	○
13. Do you feel uncomfortable having your friends over because of your parent?	○	○	○	○	○
14. Do you feel that your parent seems to expect you to take care of them, as if you were the only one that they could depend on?	○	○	○	○	○
15. Do you feel that you don't have enough money to care for your parent, in addition to the rest of your expenses?	○	○	○	○	○
16. Do you feel that you will be unable to take care of your parent much longer?	○	○	○	○	○
17. Do you feel that you have lost control of your life since your parent’s illness?	○	○	○	○	○
18. Do you wish that you could just leave the care of your parent to someone else?	○	○	○	○	○
19. Do you feel uncertain about what to do about your parent?	○	○	○	○	○
20. Do you feel that you should be doing more for your parent?	○	○	○	○	○
21. Do you feel that you could do a better job in caring for your parent?	○	○	○	○	○

77. Overall, how burdened do you feel in caring for your parent?

○ Not at all

○ A little

○ Moderately

○ Quite a bit

○ Extremely

Section: Mutuality

78. Please think about the parent for whom you provided the **most** care in the past year. Let us know how you feel about your relationship with your parent at the current time.

	Not at all	A little	Some	Quite a bit	A great deal
1. To what extent do the two of you see eye to eye (agree on things)?	○	○	○	○	○
2. To what extent do the two of you share the same values?	○	○	○	○	○

Section: Preparedness

79. We know that many people may feel well prepared for some aspects of giving care to another person, and not as well prepared for other aspects. We would like to know how well prepared you think you are to do each of the following, even if you are not doing that type of care now. Please think about the parent for whom you provided the **most** care in the past year.

	Not at all prepared	Not too well prepared	Somewhat well prepared	Pretty well prepared	Very well prepared
1. How well prepared do you think you are to take care of your parent's physical needs?	○	○	○	○	○
2. How well prepared do you think you are to take care of your parent's emotional needs?	○	○	○	○	○

3. How well prepared do you think you are to find out about and set up services for your parent?	○	○	○	○	○
4. How well prepared do you think you are for the stress of caregiving your parent?	○	○	○	○	○
5. How well prepared do you think you are to make caregiving activities pleasant for both you and your parent?	○	○	○	○	○
6. How well prepared do you think you are to respond to and handle emergencies that involve your parent?	○	○	○	○	○
7. How well prepared do you think you are to get the help and information you need from the health care system?	○	○	○	○	○
8. Overall, how well prepared do you think you are to care for your parent?	○	○	○	○	○

Section: Confidence Inventory

80. This questionnaire contains many things that a person might do when caring for a person. We are interested in how confident you are that you can do those things for the parent whom you care for the **most**. Please ensure your ratings reflect your confidence whether or not you have done so in the past.

Please rate each item on how confident you are that you can accomplish that behavior. Select a number on the scale. '1' indicates you are not at all confident that you can accomplish that behavior. '9' indicates you are totally confident you can accomplish that behavior. Numbers in between indicate that you are moderately confident you can accomplish that behavior.
Please rate all items. If you are not sure about an item, please rate it as best as you can.

	Not at all confident (1)	(2)	(3)	(4)	Moderately confident (5)	(6)	(7)	(8)	Totally confident (9)
a. Letting go of things I can't control.	○	○	○	○	○	○	○	○	○

b. Expressing negative feelings about my parent's illness.	○	○	○	○	○	○	○	○	○
c. Maintaining hope.	○	○	○	○	○	○	○	○	○
d. Continuing to take care of myself (for example: exercise, diet, sleep)	○	○	○	○	○	○	○	○	○
e. Talking openly and honestly with my parent.	○	○	○	○	○	○	○	○	○
f. Continuing to engage in personal activities that I like to do.	○	○	○	○	○	○	○	○	○
g. Talking about death and dying.	○	○	○	○	○	○	○	○	○
h. Seeking support for myself.	○	○	○	○	○	○	○	○	○
i. Dealing with feelings of helplessness.	○	○	○	○	○	○	○	○	○
j. Dealing with my parent expressing negative feelings toward me when they occur.	○	○	○	○	○	○	○	○	○
k. Dealing with criticism from others.	○	○	○	○	○	○	○	○	○

Section: Social Desirability

81. Below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally.

	True	False
1. I'm always willing to admit it when I make a mistake.	○	○
2. I always try to practice what I preach.	○	○

3. I never resent being asked to return a favor.	○	○
4. I have never been irked when people expressed ideas very different from my own.	○	○
5. I have never deliberately said something that hurt someone's feelings.	○	○
6. I like to gossip at times.	○	○
7. There have been occasions when I took advantage of someone.	○	○
8. I sometimes try to get even rather than forgive and forget.	○	○
9. At times I have really insisted on having things my own way.	○	○
10. There have been occasions when I felt like smashing things.	○	○

Section: End of Survey

Thank you for your interest in furthering our knowledge of caregiving in the military and Foreign Service.

Upon completion of this dissertation, you may access this study's findings at the repository for doctorate in social work dissertations for the University of Pennsylvania School of Social Policy and Practice: https://repository.upenn.edu/edissertations_sp2/.

For further questions, you may also contact the Student Investigator, Christine Holmes, at holmesch@upenn.edu.

Do you know anyone that may be interested in completing this survey?

To forward this survey to those that may be eligible and interested in participating, you may share the survey link: **tinyurl.com/USGParentCare** *OR* input their email address(es) below. Multiple email addresses should be separated by commas.

_____

Section: Survey Incentive

Participants that complete this anonymous survey may choose to enter an optional drawing to receive one out of eight Visa gift cards each valued at $25. Randomly selected participants will

be contacted via email to receive their gift card.

Would you like to enter into this optional lottery for the chance to receive a $25 Visa gift card?

○ YES, I would like to enter the lottery for a chance to receive a $25 Visa gift card for my completion of the survey. For my privacy, I will now exit the survey and be directed to a separate link to submit my email address. If selected for a gift card, I will be contacted by email to receive the gift card electronically.

○ NO, I would not like to enter the lottery. I will now exit the survey.

Appendix D - Burden Interview

(Zarit, 1987)

The following is a list of statements which reflect how people sometimes feel when taking care of another person. After each statement, indicate how often you feel that way toward caring for your parent: never, rarely, sometimes, quite frequently, or nearly always. Please think about the parent for whom you provided the **most** assistance in the past year. There are no right or wrong answers.

---

0 = Never
1 = Rarely
2 = Sometimes
3 = Quite Frequently
4 = Nearly Always

1. Do you feel that your parent asks for more help than he or she needs?
2. Do you feel that, because of the time you spend with your parent, you don't have enough time for yourself?
3. Do you feel stressed between caring for your parent and trying to meet other responsibilities for your family or work?
4. Do you feel embarrassed about your parent's behavior?
5. Do you feel angry when you are around your parent?
6. Do you feel that your parent currently affects your relationship with other family members?
7. Are you afraid about what the future holds for your parent?
8. Do you feel that your parent is dependent upon you?
9. Do you feel strained when you are around your parent?
10. Do you feel that your health has suffered because of your involvement with your parent?
11. Do you feel that you don't have as much privacy as you would like, because of your parent?
12. Do you feel that your social life has suffered because you are caring for your parent?
13. Do you feel uncomfortable having your friends over because of your parent?
14. Do you feel that your parent seems to expect you to take care of them, as if you were the only one that they could depend on?
15. Do you feel that you don't have enough money to care for your parent, in addition to the rest of your expenses?
16. Do you feel that you will be unable to take care of your parent much longer?

17. Do you feel that you have lost control of your life since your parent's illness?
18. Do you wish that you could just leave the care of your parent to someone else?
19. Do you feel uncertain about what to do about your parent?
20. Do you feel that you should be doing more for your parent?
21. Do you feel that you could do a better job in caring for your parent?
22. Overall, how burdened do you feel in caring for your parent?

Role strain subscale items: 1, 4, 5, 8, 9, 14, 16, 17, 18, 19, 20 and 21.

Personal strain subscale items: 2, 3, 6, 11, 12 and 13

Sum of items interpretation:

0-21: Little to no burden

21-40: Mild to moderate burden

41-60: Moderate to severe burden

61-88: Severe burden

Zarit, S.H., Anthony, C.R., & Boutselis, M. (1987). Interventions with care givers of dementia patients: Comparison of two approaches. *Psychology and Aging, 2*(3), 225-232.

Appendix E - Preparedness for Caregiving Scale

(Archbold, Stewart, Greenlick & Harvath, 1990)

We know that many people may feel well prepared for some aspects of giving care to another person, and not as well prepared for other aspects. We would like to know how well prepared you think you are to do each of the following, even if you are not doing that type of care now. Please think about the parent for whom you provided **the most** assistance in the past year.

---

0 = Not at all prepared
1 = Not too well prepared
2 = Somewhat well prepared
3 = Pretty well prepared
4 = Very well prepared

1. How well prepared do you think you are to take care of your parent's physical needs?
2. How well prepared do you think you are to take care of your parent's emotional needs?
3. How well prepared do you think you are to find out about and set up services for your parent?
4. How well prepared do you think you are for the stress of caregiving your parent?
5. How well prepared do you think you are to make caregiving activities pleasant for both you and your parent?
6. How well prepared do you think you are to respond to and handle emergencies that involve your parent?
7. How well prepared do you think you are to get the help and information you need from the health care system?
8. Overall, how well prepared do you think you are to care for your parent?

Mean score of the items answered: _____

Interpretation: The range of possible scores is from 0-4. A higher mean score will indicate the respondent feels more prepared for caregiving.

Archbold, P.G. Stewart, B.J., Greenlick, M.R., & Harvath, T. (1990). Mutuality and preparedness as predictors of caregiver role strain. *Research in Nursing & Health, 13*, 375-384.

McIlfatrick, S., Doherty, L. C., Murphy, M., Dixon, L., Donnelly, P., McDonald, K. & Fitzsimons, D. (2018). 'The importance of planning for the future': Burden and unmet needs of caregivers' in advanced heart failure: A mixed methods study. *Palliative Medicine*, *32*(4), 881–890. https://doi.org/10.1177/0269216317743958

Appendix F - Recruitment advertisements for Facebook groups

Hello [Facebook group name] members, please find below an opportunity to contribute to our knowledge about the burden of caring for parents from a distance:

I'm a Doctorate in Clinical Social Work candidate at Penn seeking participants for my dissertation research. I'm conducting an online survey to understand the burden of U.S. military and Foreign Service personnel providing care to their parents from a distance. ("Care" could include overseeing services, advocating for better treatment or managing legal and/or financial responsibilities). Survey link: tinyurl.com/USGParentCare

This survey is both voluntary and anonymous. Further details about the purpose of this research and consent information can be found at the start of the survey. After completing the survey, participants can voluntarily enter an online raffle to receive one out of eight $25 Visa gift cards.

If you know anyone that may be interested in participating, please share the attached flyer, survey link, and/or QR code. Any assistance would be greatly appreciated! I'm happy to answer questions as well at holmesch@upenn.edu.

Thank you for your consideration. And thanks to all who have already completed the survey!

[RECRUITMENT FLYER ATTACHED]

Appendix G - Recruitment flyer for Facebook groups and emails

Penn Social Policy & Practice
University of Pennsylvania

Study to Explain the Long-Distance Parent Care Burden of U.S. Foreign Service and Military Personnel

Are you an active duty U.S. military or Foreign Service member who has provided unpaid care to a parent in the past year?

("Care" includes overseeing services, advocating for better treatment or managing legal and/or financial responsibilities)

Participation in the online survey:

This study is being conducted for a doctoral dissertation.

- **Purpose:** To develop our understanding of parent care in the military and Foreign Service and the factors that explain the types and degree of burden that personnel experience.
- **Duration**: Approximately 30-35 minutes
- **Survey questions**: You will be asked about social demographics, resources to care for your parent and burden.
- **Privacy:** This survey is anonymous. No personally identifiable information, IP address or location data will be recorded. Survey data will be stored on an encrypted platform.
- **Voluntary participation**: This survey is voluntary. You may withdraw your consent to participate at any time.

Eligibility Criteria:

1. Active duty member of the U.S. Armed Forces or direct hire of the Foreign Service;
2. Provided care in the past 12 months to a parent in the United States over 50 years old; AND
3. Lived at least 1,000 miles from the parent during the period of care.

To participate in the survey

Please click the survey link:

tinyurl.com/USGParentCare

or scan the QR code:

After completing the survey, you may enter an optional online raffle to receive one out of eight **$25 Visa gift cards.**

Raffle announcements will be emailed at the end of the study.

Student Investigator: Christine Holmes, MSW
For more information, email holmesch@upenn.edu
UPenn IRB Protocol Number: 849592

Appendix H - Recruitment flyer for the Foreign Service Journal

ATTENTION:
PARENT CARE SURVEY

Are you an active duty U.S. military or Foreign Service member who has provided unpaid help to a parent in the past year?

This help might have included managing finances, coordinating services or providing emotional support to meet your parent's needs.

You may be eligible to participate in an online survey for a doctoral dissertation on U.S. Government personnel caring for parents from a distance. Participation is voluntary and anonymous.

To learn more, visit this link:

tinyurl.com/USGParentCare

Eight people will be randomly selected to receive a $25 Visa gift card.

Student Investigator:
Christine Holmes, MSW, LCSW, LICSW
Doctorate in Clinical Social Work Student
University of Pennsylvania
holmesch@upenn.edu

Appendix I - Recruitment email to military and Foreign Service institutions to introduce the study

Subject Line: Long-distance Parent Caregiving in the Foreign Service and military

Dear [NAME],

I hope this message finds you well! Please find below an opportunity for your community to contribute to a study about caring for parents from long distance.

I am a Jakarta-based EFM [Eligible Family Member] and Doctorate in Clinical Social Work candidate seeking participants for my dissertation research at the University of Pennsylvania. I'm conducting an online survey to understand the burden of U.S. Foreign Service and military personnel providing care to their parents from a distance. ("Care" includes overseeing services, advocating for better treatment or managing legal and/or financial responsibilities). Survey link: tinyurl.com/USGParentCare

As this is one of the first formal studies on long-distance parent caregiving in the Foreign Service, the survey is limited to U.S. direct hires of the Foreign Service and active-duty military service members only. However, the contributions of caregivers' support systems, such as family members, may be captured through the survey questions.

This survey is both voluntary and anonymous. Further details about the purpose of this research and consent information can be found at the start of the survey. After completing the survey, participants can voluntarily enter an online raffle to receive one out of eight $25 Visa gift cards.

If possible, please share this information and attached flyer in your newsletter or CLO social media groups. Any assistance would be greatly appreciated! I am happy to answer questions as well at holmesch@upenn.edu.

Best regards,

Christine Holmes

[RECRUITMENT FLYER ATTACHED]

Appendix J - Recruitment email to acquaintances to introduce the study

Subject Line: Long-distance Parent Caregiving in the Foreign Service and military

Dear [NAME],

I hope this message finds you well! Please find below an opportunity to contribute to a study about caring for parents from long distance.

I am a Doctorate in Clinical Social Work candidate seeking participants for my dissertation research at the University of Pennsylvania. I'm conducting an online survey to understand the burden of U.S. Foreign Service and military personnel providing care to their parents from a distance. ("Care" includes overseeing services, advocating for better treatment or managing legal and/or financial responsibilities). Survey link: tinyurl.com/USGParentCare

As this is one of the first formal studies on long-distance parent caregiving in the Foreign Service, the survey is limited to U.S. direct hires of the Foreign Service and active-duty military service members only. However, the contributions of caregivers' support systems, such as family members, may be captured through the survey questions.

This survey is both voluntary and anonymous. Further details about the purpose of this research and consent information can be found at the start of the survey. After completing the survey, participants can voluntarily enter an online raffle to receive one out of eight $25 Visa gift cards.

If possible, please share this information and attached flyer in your newsletter or CLO social media groups. Any assistance would be greatly appreciated! I am happy to answer questions as well at holmesch@upenn.edu.

Best regards,

Christine Holmes

[RECRUITMENT FLYER ATTACHED]

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