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# Determinants of Well-Being Among Military Caregivers

## Abstract

Although the current body of research in the field of informal caregivers is extensive, this research focuses on the experiences of civilian caregivers. This focus contributes to limited knowledge regarding factors that influence the experiences of individuals who provide care to ill and/or wounded service members. Although limited, this research suggests that military caregivers often experience higher levels of distress when compared to the national average. The present study aimed to examine the relationship between the veteran's level of disability and dyadic stress on the military caregiver's overall sense of well-being. Additionally, this study examined the moderating effects of attachment and social support on these relationships. The sample consisted of ( $N = 70$ ) military caregivers. Results of our regression analysis indicated that the quality of the caregiving relationship significantly and negatively predicted both dissatisfaction with life and caregiver burden. Additionally, examination of the moderating effect of our internal moderator (i.e., attachment style), indicated that having a secure sense of attachment moderates the effects of low relationship satisfaction on the caregiver's overall sense of well-being. Further analysis of moderating variables yielded a statistically significant effect of our external moderator (i.e., the caregiver's perceived availability of social support) on the relationship between the veteran's level of disability and the military caregiver's overall sense of well-being. This dissertation provides insight into determinants of well-being among military caregivers and as such provides implications for future research, clinical practice and theory.

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DETERMINANTS OF WELL-BEING AMONG MILITARY CAREGIVERS

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A Dissertation

Presented to

the Faculty of the Morgridge College of Education

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In Partial Fulfillment

of the Requirements for the Degree

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by

Ludwig Marcello Martinez

August 2018

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## ABSTRACT

Although the current body of research in the field of informal caregivers is extensive, this research focuses on the experiences of civilian caregivers. This focus contributes to limited knowledge regarding factors that influence the experiences of individuals who provide care to ill and/or wounded service members. Although limited, this research suggests that military caregivers often experience higher levels of distress when compared to the national average. The present study aimed to examine the relationship between the veteran's level of disability and dyadic stress on the military caregiver's overall sense of well-being. Additionally, this study examined the moderating effects of attachment and social support on these relationships. The sample consisted of ( $N = 70$ ) military caregivers. Results of our regression analysis indicated that the quality of the caregiving relationship significantly and negatively predicted both dissatisfaction with life and caregiver burden. Additionally, examination of the moderating effect of our internal moderator (i.e., attachment style), indicated that having a secure sense of attachment moderates the effects of low relationship satisfaction on the caregiver's overall sense of well-being. Further analysis of moderating variables yielded a statistically significant effect of our external moderator

(i.e., the caregiver's perceived availability of social support) on the relationship between the veteran's level of disability and the military caregiver's overall sense of well-being. This dissertation provides insight into determinants of well-being among military caregivers and as such provides implications for future research, clinical practice and theory.

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## TABLE OF CONTENTS

Chapter One: Introduction.....	1
Present Study.....	9
Review of Literature.....	11
Background and Context.....	14
Informal Caregivers.....	15
Military Caregivers.....	16
Caregiver Primary Stressor.....	18
Veteran’s Degree of Disability.....	19
Caregiver Secondary Strains.....	23
Dyadic Stress.....	24
Caregiver Internal and External Moderators.....	28
Attachment as Internal Moderator.....	29
Attachment and Caregiving.....	34
Social Support as External Moderator.....	36
Social Support as a Moderator.....	40
Health Outcomes.....	42
Caregiver Burden.....	43
Summary.....	46
Chapter Two: Method.....	48
Participants.....	48
Sample Size.....	48
Procedure.....	50
Measures.....	50
Demographic Questionnaire.....	51
WHODAS 2.0.....	52
Couples Satisfaction Index.....	53
Experience in Close Relationships – Short Form.....	54
Multidimensional Scale of Perceived Social Support.....	54
Zarit Burden Interview.....	55
Satisfaction with Life Scale.....	56
Patient’s Health Questionnaire.....	57
Data Analysis.....	58
Preliminary Data Analysis.....	58
Primary Data Analysis.....	59
Chapter Three: Results.....	63
Data Preparation.....	63
Chapter Four: Discussion.....	78

Overview of Theoretical Framework and Significant Results.....	78
Implications.....	87
Limitations.....	88
Recommendations for Future Research.....	91
Conclusion.....	93
References.....	95
Appendices.....	117
Appendix A: Informed Consent Form.....	117
Appendix B: Measures.....	119
Appendix C: Demographic Table.....	132



## LIST OF FIGURES

### Chapter One

Figure 1: Adapted from Pearlin's Stress Process Model.....	14
Figure 2: Theoretical Models of Individual Differences in Adult Attachment.....	33

### Chapter Three

Figure 3: Predictive Effects of Relationships Satisfaction on PHQ Score When Moderated by High and Low Avoidant Attachment.....	70
Figure 4: Predictive Effects of Relationship Satisfaction on PHQ Score When Moderated by High and Low Anxious Attachment.....	70
Figure 5: Predictive Effects of Level of Disability as Measured by the WHO on SWL Score When Moderated by High and Low Perceived Social Support.....	73

## LIST OF TABLES

### Chapter Three

Table 1: Correlations Table.....	64
Table 2: Overview of Correlations.....	66
Table 3: Summary of Multiple Regression Analysis Predicting Measures of Caregiver Wellbeing from Measures of Veteran Disability and Relationship Satisfaction.....	67
Table 4: Summary of Multiple Regression Analyses Statistically Predicting Measures of Caregiver Wellbeing from Measures of Veteran Disability and Attachment, Controlling for Relationship Satisfaction.....	68
Table 5: Summary of Multiple Regression Analyses Statistically Predicting Measures of Caregiver Wellbeing from Measures of Attachment and Relationship Satisfaction, Controlling for Veteran Disability.....	71
Table 6: Summary of Multiple Regression Analyses Statistically Predicting Measures of Caregiver Wellbeing from Measures of Veteran Disability, Perceived Social Support, and Caregiver-Veteran Relationship Satisfaction.....	74
Table 7: Summary of Multiple Regression Analyses Statistically Predicting Measures of Caregiver Wellbeing from Measures of Perceived Social Support and Caregiver-Veteran Relationship Satisfaction, Controlling for Level of Veteran Disability.....	76

## DEFINITION OF KEY TERMS

**Military Caregiver.** A *military caregiver* is an individual (e.g., romantic partner) who helps provide care for a service member and/or veteran who needs assistance with everyday activities without receiving financial compensation (National Alliance for Caregiving, 2010).

**Veteran's Level of Disability.** This concept refers to the veterans degree of disability or difficulty performing tasks across a variety of life domains such as mobility; self-care (e.g., attending to one's hygiene, dressing, eating); comprehension; communication; to interacting with others; engaging in domestic responsibilities, leisure activities, work/school and to participate in community and/or social activities (World Health Organization, 2010).

**Dyadic Stress.** Dyadic stress is defined as events and/or circumstances that affect both members of a couple and elicit joint appraisals, coping activities, and use of resources (Bodenmann, 1995; Lyons, Sayer, Archbold, Hornbrook, & Stewart, 2007).

**Attachment Style.** Attachment style is defined as the emotional bonds or attachments that human beings create with their caregivers. The development of this early dyadic relationship influences the ways in which individuals perceive themselves in relation to others and their capacity for developing relationships later in life (Bowlby, 1977).

**Social Support.** The concept of social support is understood as the emotional, psychological, and/or instrumental resources that an individual

receives from other people when facing a specific stressor, which may provide fulfillment to ongoing as well as time-limited needs resulting from adverse life events or circumstances (Cohen & Syme, 1985; Cutrona, 1996; Sarason & Sarason, 2006).

**Caregiver Burden.** The concept of caregiver burden is an all-encompassing term utilized to capture the psychological, emotional, physical, social and financial strains resulting from providing care for an ill or injured loved one (George & Gwyther, 1986; National Alliance for Caregiving, 2010; Zarit, Pearlin, & Schaie, 1993).

## CHAPTER ONE: INTRODUCTION

Since September 11, 2001, over 2.4 million American troops have served in Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF), Operation New Dawn (OND), Operation Inherent Resolve (OIR) and Operation Freedom's Sentinel (OFS; Fischer, 2015; Wounded Warrior Project, 2016). As of July 1, 2016, over 52,000 American troops have suffered physical injuries, an estimated 327,000 have suffered traumatic brain injuries, and over 400,000 have been diagnosed with Posttraumatic Stress Disorder (PTSD; Fischer, 2015; Wounded Warrior Project, 2016). In many cases, these injuries result in a significant decrease in functioning across a wide range of life domains requiring various levels of in-home care (National Alliance for Caregiving, 2010).

Researchers in the field of caregiving theorized the concept of *informal caregiver* to define a person who provides care to a relative or friend without financial compensation (Zarit, Pearlin, & Schaie, 1993). Population trends indicate that currently across the U.S. there are over 65 million informal caregivers who provide in-home care to an ill and/or wounded family member. Additionally, among civilian informal caregivers, demographic trends report an average age of 79. Nearly half (49%) of civilian caregivers

are adults providing care to ageing parents with 75% of them having provided care for a duration of 5 years or less, and 50% providing care for less than 1 year (National Alliance for Caregiving, 2015). Researchers have emphasized that the burden of providing care to a family member suffering from a chronic illness and/or injury often results in declines in the caregiver's overall sense of well-being (Zarit, Pearlin, & Schaie, 1993).

Currently, negative symptoms associated with providing care are known in the literature as *caregiver burden*, a term utilized to conceptualize the psychological, emotional, physical, social, and financial strains resulting from providing care to an ill or injured relative (George & Gwyther, 1986; National Alliance for Caregiving, 2010; Zarit, Pearlin, & Schaie, 1993). Additionally, researchers have suggested a distinction between what they termed *objective burden* and *subjective burden* (Montgomery, Gonyea, & Hooyman, 1985). Objective burden refers to the level of responsibility or physical demands associated with providing assistance whereas subjective burden refers to the experience of psychological, emotional, and physical symptoms resulting from these responsibilities. According to the National Alliance for Caregiving (2015), due to the significant demands associated with objective burden, large proportions (58%) of informal caregivers report elevated rates of anxiety and depression, 68% report their situation to be highly stressful, 48% report significant physical strains and 22% report significant decreases in overall physical health. The majority of studies

supporting this research represent individuals who provide care to geriatric populations suffering from various medical conditions (National Alliance for Caregiving, 2015; Pinquart & Sorensen, 2003). Accordingly, much is yet to be learned regarding the experiences of individuals who provide care for longer periods due to the relatively young age of the care-recipient including those who provide care to ill and/or wounded service members and/or veterans.

Population estimates indicated that, currently, over one million individuals provide in-home care to a service member and/or veteran who suffers from a chronic illness and/or injury (National Alliance for Caregiving, 2010). Accordingly, research on the field of informal caregiving has perceived a need to define this population. The concept of *military caregiver* is currently understood as an individual (e.g., romantic partner) who provides assistance to a service member and/or veteran who needs support with everyday activities such as personal care, bathing, dressing, feeding, giving medicines, rehabilitation treatment, and/or transportation without receiving financial compensation (National Alliance for Caregiving, 2010). The caregiver, however, does not need to be an active duty service member and/or veteran themselves to be considered a military caregiver, as long as the care-recipient has a history of service. Additionally, the field of informal caregiving has highlighted clear differences between civilian caregivers and military caregivers.

Demographic reports indicate that a large majority (83%) of ill and/or wounded veterans are under the age of 75 and 41% are under the age of 54 (National Alliance for Caregiving, 2010). Accordingly, 30% of military caregivers report having provided care for more than 10 consecutive years and 49% have provided care for a period lasting 3 to 9 years. Consequently, compared to the national average (i.e., civilian caregivers) twice as many (68%) military caregivers report their situation to be highly stressful and 40% report a high level of physical strain, a significant increase from only 14% among civilian caregivers. Furthermore, 47% of military caregivers stopped working altogether due to caregiving responsibilities, a significant increase compared to the national average (9%). Additionally, among military caregivers, 50% reported significant financial hardship, compared to the 13% national average. Although limited, research on military caregivers has highlighted unique variables that contribute to high rates of cognitive, psychological, emotional and/or physical declines in this population (National Alliance for Caregiving, 2010). For example, military caregivers often face the burden of providing care to individuals who have suffered traumatic injuries which often require treatment long after the physical injuries have healed.

Researchers have suggested that military injuries exist within two major classifications: *visible* and *invisible* (Holmes, Rauch, & Stephen, 2013; Weinstein, 1995). Visible injuries refer to physical wounds suffered while in



service whereas invisible injuries refer to the cognitive, psychological, and/or emotional scars resulting from direct and/or vicarious trauma. In many cases, combat related injuries are multidimensional and incorporate both visible and invisible features which often exacerbate difficulties related to medical care and rehabilitation (American Psychological Association, 2007; Doncevic & Boerman, 2010). Military caregivers often experience higher levels of responsibility and for longer periods than those who provide care to persons suffering from only one of these conditions (National Alliance for Caregiving, 2015). Consequently, due to the interdependent nature of caregiving dyads, the negative effects resulting from a partner's injury is considered an interpersonal experience often leading to conflict within the caregiving dyad (Savundranayagam, Montgomery, & Kosloski, 2010).

Dyadic stress is among the variables that affect an individual's overall satisfaction with their relationship. The concept of dyadic stress is defined as a circumstance that affects both members of a romantic couple and elicits joint appraisals, coping activities, and use of resources (Bodenmann, 1995; Lyons, Sayer, Archbold, Hornbrook, & Stewart, 2007). Researchers have suggested that dyadic stress affects dyads in two major ways: *indirectly* and/or *directly*. Indirect stress initially threatens the well-being of only one member of a dyad and affects their partner through their impact on the stress victim's overall emotional state and/or behavior (Bolger, DeLongis, Kessler, & Wethington, 1989; Conger, et al., 1990). In the case of direct stress, partners are affected

by the stressor at the same time and to a similar degree (Bondenmann, 1995, 2005). For example, a partner's diagnosis and/or injury is considered a direct stress if it affects both members of the dyad in similar ways such as the development of psychological symptoms (e.g., anxiety, depression). These effects can also be observed as the dyad engages in coping strategies (e.g., shifting family roles, sharing household duties, taking on caregiving responsibilities) intended to contribute to the resolution of the stressor. Furthermore, when a dyad is unable to adapt to the threat, elevated levels of dyadic stress often lead to decreases in relationship satisfaction and a lower overall sense of well-being in both members of the dyad (Revenson & DeLongis, 2011).

Researchers have postulated the existence of *internal* and *external* variables able to moderate or buffer the effects of these stressors (Pearlin, Mullan, Semple, & Skaff, 1990). Internal moderators are considered factors that exist within the caregiver, which in turn have the capacity to buffer the effects of aversive circumstance. For example, researchers have suggested that having a secure sense of attachment has the capacity to enhance a person's ability to tolerate highly stressful situations (Bifulco, Moran, Ball, & Bernazzani, 2002; Collins & Freeney, 2000; Kidd & Sheffield, 2005; Matheson, et al., 2005; Sroufe, Carlson, Levy, & Egeland, 1999). Attachment is understood as a person's internal drive to create emotional bonds with caregivers and those who are close (Brisch, 2012). During childhood,

interactions with attachment figures (e.g., parents) provide the child a foundation through which to explore their environment and develop relationships (Brisch, 2012). When a child experiences positive interactions with the caregivers, this exchange contributes to the development of a secure sense of attachment. As the individual matures, attachment relationships become reciprocal meaning both members of a dyad play the role of care-provider and care-recipient (Brisch, 2012; Rholes & Simpson, 2004). Additionally, researchers have suggested that adult attachment is better when considered in terms of the person's views of themselves and others (Bartholomew and Horowitz, 1991).

Bartholomew and Horowitz (1991) proposed an anxiety (view of self) and avoidance (view of others) measure intended to better conceptualize adult attachment styles. The model of the self is thought to reflect the effects of a person's view of themselves on the quality of their interpersonal relationships. Thus, individuals with a positive self-model see themselves as competent, autonomous and worthy of love whereas individuals with a negative self-model lack confidence and are vulnerable to psychological distress (Gillath, Karantzas, & Fraley, 2016). From a different perspective, the avoidance dimension (the model of others) is thought to reflect the expectations and beliefs that people have concerning close relationships in general. Individuals with a positive model of the world and others view attachment figures (e.g., romantic partners) as trustworthy, reliable, and dependable. Consequently,

individuals who score lower on anxiety and avoidance dimensions of attachment demonstrate a generally secure attachment style and thus are comfortable with their loved ones, reciprocal in their relationships and better prepared to adapt to aversive life events and/or circumstances (Feeney & Hohaus, 2001; Mikulincer, Shaver & Pereg, 2003).

In contrast, external moderators are considered environmental and/or circumstantial factors able to buffer the effects of aversive experiences on the caregiver's overall sense of well-being. For example, researchers have suggested that social support has the capacity to buffer the effects of aversive experiences among caregivers of various populations (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 2004). The concept of social support is understood as the emotional, psychological, and/or instrumental resources that an individual receives from other people when facing a specific stressor (Cohen & Syme, 1985). Accordingly, social support may provide fulfillment of ongoing and/or time-limited needs resulting from adverse life events or circumstances, thus providing the person with the cognitive, emotional and/or instrumental means necessary to endure these stressors (Cutrona, 1996; Sarason & Sarason, 2006). Given the association between secure attachment and social support on a person's capacity to withstand aversive experiences, further research is needed to explore the role of these factors on individuals who provide care to ill and/or wounded veterans.

## The Present Study

Although the current body of research on informal caregiving is extensive, there are specific gaps that provide opportunity for further research. Only one study could be located that examined the burden associated with providing care to ill and/or wounded service members and/or veterans (National Alliance for Caregiving, 2010). Although limited, this research suggested that military caregivers face a unique set of variables leading to higher levels of distress when compared to the national average (National Alliance for Caregiving, 2010). This research, however, focused largely on caregivers of military personnel who served in conflicts preceding September 11, 2001 (87% of the sample). Consequently, much remains unknown regarding the experiences of individuals who provide care to ill and/or wounded service members and/or veterans who served in OEF, OIF, OND, OIR, and OFS.

Due to the unique characteristics surrounding recent military conflicts (e.g., higher rates of survival in the face of life-threatening injuries, high rates of co-occurring conditions), military caregivers are a growing population in the United States (National Alliance for Caregiving, 2010). Accordingly, this area of research necessitates an examination of the burden experienced by individuals who provide care to persons who served in recent military conflicts. Consequently, the present study aimed to examine the relationship between the veteran's level of disability and dyadic stress on the military

caregiver's overall sense of well-being. Additionally, this study proposed to examine the moderating effects of attachment and social support on these relationships. Specifically, this study aimed to explore the following six hypotheses:

Hypothesis 1. The veteran's level of disability is negatively associated to the military caregiver's overall sense of well-being.

Hypothesis 2. Lower relationship satisfaction is negatively associated to the military caregivers' overall sense of well-being.

Hypothesis 3. Having a secure sense of attachment moderates the negative effects of the veteran's disability on the caregiver's overall sense of well-being. Accordingly, the relationship between the veteran's disability and negative health outcomes is greater for those who also endorse more insecure attachment compared to those who endorse a secure attachment style.

Hypothesis 4. Having a secure sense of attachment moderates the effects of low relationship satisfaction on the caregiver's overall sense of well-being. Accordingly, the association between low relationship satisfaction and negative health outcomes should be greater for those who endorse more insecure attachment compared to those who endorse a secure attachment style.

Hypothesis 5. Having a strong sense of social support moderates the effects of the veteran's disability on the caregiver's overall sense of well-being. Accordingly, the relationship between the veteran's disability and the

negative health outcomes is greater for those who endorse lower levels of social support than those who report higher levels of social support.

Hypothesis 6. Having a strong sense of social support moderates the effects of low relationship satisfaction on the caregiver's overall sense of well-being. Accordingly, the relationship between low relationship satisfaction and negative health outcomes is greater for those who endorse lower levels of social support than those who report higher levels of social support.

### Review of Literature

Historically, one of the most significant contributions to the study of caregiver burden is Pearlin's Stress Process Model (SPM; Pearlin & Lieberman, 1979; Pearlin, Lieberman, Menaghan, & Mullan, 1981; Pearlin, Mullan, Semple & Skaff, 1990). The SPM was originally created to provide further insight on conditions related to stress and understanding how these aspects of the process interrelate. Pearlin's model is concerned with the interplay between five major determinants of caregiver stress: (1) background and context; (2) primary stressors; (3) secondary strains; (4) moderators; and (5) outcome.

Pearlin and colleagues (1990), considered the significance of contextual and background variables in understanding how a person is affected by stress. Specifically, they suggested that caregiving populations have unique characteristics that impact their caregiving role and their ability

to deal with a stressor. Additionally, contextual factors provide a backdrop upon which primary stressors are experienced (Pearlin, Mullan, Semple, & Skaff, 1990). For example, individuals who provide care to injured service members or veterans may have greater access to medical resources (e.g., free medical care), while at the same time may experience a lack of social support resulting from having to live in a specific geographical area.

According to Pearlin and colleagues (1990), primary stressors can be understood as problematic conditions and/or circumstances that affect the caregiver's overall sense of well-being such as the physical, cognitive and/or psychological illness and/or injury experienced by the care-recipient.

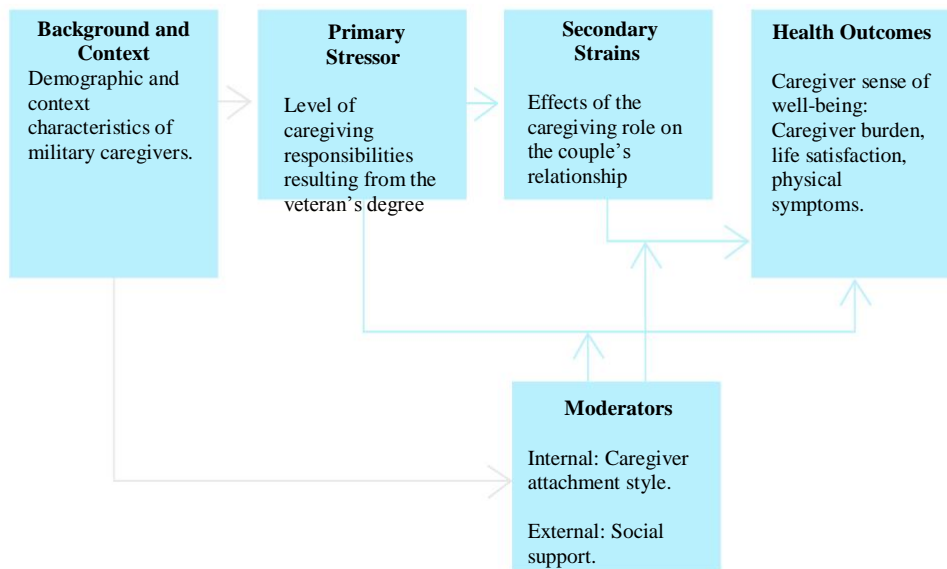
Specifically, the care-recipient's level of disability contributes to the level of burden experienced by the caregiver. For example, if a partner suffers an injury and as a result is rendered paralyzed, the non-injured partner is often confronted with the responsibility to assist the injured partner with tasks requiring mobility and/or transportation. Consequently, this significant increase in responsibility has the capacity to surpass the caregiver's ability to adapt, leading to secondary strains and decreases in the caregiver's overall sense of well-being.

Secondary strains are considered difficulties that occur as a direct result of the primary stressor. Secondary strains are not secondary in terms of significance but are considered secondary because they are a direct result of the primary stressor (Pearlin, Mullan, Semple, & Skaff, 1990). For example, a



caregiving dyad may experience a great deal of stress as a result of the demands associated with the caregiving role, which may contribute to a significant decrease in the quality of the caregiving relationship. As a result, the caregiver often experiences decreases in their overall sense of well-being.

Pearlin and colleagues posited the existence of internal and external factors thought to moderate or buffer the effects of these stressors on the caregiver's overall sense of well-being. Internal moderators are considered to be factors existing within the caregiver such as attachment style. In contrast, external moderators are thought to be environmental factors (e.g., level of social support) that enhance the caregiver's ability to adapt to their difficulties (Mullan, Semple, & Skaff, 1990; Zarit, Pearlin, & Schaie, 1993). The following illustration provides an adaptation of Pearlin's Stress Process Model for the study of military caregivers as proposed by this study (see Figure 1).



*Figure 1.* Adapted from Pearlin's Stress Process Model (SPM; Pearlin, Mullan, Semple & Skaff, 1990).

### *Background and Context*

Pearlin's model accounts for the significance of background and context characteristics thought to provide an understanding of fixed and active variables that influence the way in which caregivers experience difficulties. Some of these factors may be related to the caregiver demographic characteristics (e.g., gender, kin relationship to care-recipient, available resources). Contextual factors help form the environmental conditions in which the stressor is being experienced. For example, a military family managing medical care for an active-duty soldier who has suffered an injury may have easier access to medical care than a non-military family seeking assistance for a loved one suffering from a chronic illness. Accordingly, the

following sections provides an overview of the concepts of *informal caregiver* and *military caregiver* in order to provide a definition of the target population as well as a framework upon which to understand the interplay between primary stressors, secondary strains and moderating factors for this study.

### *Informal Caregivers*

Informal caregiver is defined as a person who provides care to a relative or friend without financial compensation (Zarit, Pearlin, & Schaie, 1993). According to the National Alliance for Caregiving (2015), over 65.7 million family members (31% of all U.S. households) currently provide care to an ill or disable relative (National Alliance for Caregiving, 2015). Of this number 60% are female caregivers of whom 49% provide care to an elderly parent, 10% provide care to an ill and/or disabled spouse, and 24% reported providing care for 5 to 10 consecutive years. Among the most common tasks performed by informal caregivers are providing assistance with activities of daily living (e.g., mobility, getting dressed, getting to and from the toilet, bathing, feeding, dealing with incontinence) and services related to medical care and/or rehabilitation (e.g., managing medication, communicating with medical care providers). According to recent reports however, the burden of providing care does not affect all family members the same (National Alliance for Caregiving, 2015; Marks, Lambert, & Choi, 2002).

Researchers have suggested that romantic partners experience higher levels of burden in the caregiver role than other family members due to their

inclination to perform closer, more personal care responsibilities (Croog S. , Burleson, Sudilovsky, & Baume, 2006; Lyons, Sayer, Archbold, Hornbrook, & Stewart, 2007; Ott, Sanders, & Kelber, 2007). According to recent population reports, 10% of civilian caregivers provide care to their spouse or partner (National Alliance for Caregiving, 2015). Researchers have suggested that these numbers are higher among military populations (National Alliance for Caregiving, 2010). According to demographic reports, due to the relatively young age of veterans who served in recent conflicts (i.e., OEF, OIF, OND, OIR, and OFS), many romantic partners have taken on the burden of providing long-term care to their ill and/or wounded veteran. Accordingly, this study will focus on romantic partners that serve as caregivers.

### *Military Caregivers*

The concept of military caregiver is understood as an individual (e.g., romantic partners) who helps provide care for a service member and/or veteran who needs assistance with everyday activities without receiving financial compensation. Population estimates indicate that over one million men and women currently provide or have previously provided care to an ill or injured service member or veteran (National Alliance for Caregiving, 2010; Tanielian, et al., 2013). Furthermore, much like their civilian counterparts, military caregiving duties are performed in great majority by romantic partners (National Alliance for Caregiving, 2010). These estimates however, highlight the fact that among military caregivers these numbers are much

more significant. For example, among military populations, over 90% of caregivers are reported to be women who provide care to their spouse (National Alliance for Caregiving, 2010).

Furthermore, researchers have highlighted differences related to the burden of care experienced by military caregivers compared to civilian caregivers. Military caregivers face complications related to navigating civilian and military care systems (Cozza & Guimond, 2011; Donelan, et al., 2002). For example, military injuries often require specialized care found outside of military medical resources. As a result, military caregivers often face challenges related to insurance coverage, reimbursement for medical expenses, the sharing of medical records and relocation. Often, frequent changes in geographical location lead to social isolation and as a result, the caregiver is the only person able to assist with responsibilities of personal care (Cozza & Guimond, 2011). Additionally, due to the often traumatic nature of military injuries, military caregivers face challenges related to providing care for a wide range of injuries and their comorbidity (National Alliance for Caregiving, 2015). Among service members who have served in the front lines, many have suffered physical injuries that are often accompanied by symptoms of PTSD. Even when physical injuries have not occurred, many soldiers experience significant psychological symptoms related to vicarious trauma such as having witnessed a friend's injury or death (Cozza & Guimond, 2011). As posited by Pearlin and colleagues (1990), the

burden of providing care is contingent on the level of disability experienced by the ill and/or injured person and consequently, there appears to be some variability in the level of burden experienced by military caregivers.

In conclusion, this section provided information regarding the contextual framework upon which care is provided to ill and/or wounded service members and/or veterans as well as challenges faced by military caregivers. Accordingly, this study will focus on the experience of romantic partners who provide care to this population. Specifically, this study will examine the effects of the caregiver's primary stressor and secondary strains on the caregiver's overall sense of wellbeing. Additionally, the study will examine the moderating effects of the caregiver's attachment style and availability of social support on these effects.

#### *Caregiver Primary Stressor*

As outlined by Pearlin and colleagues (1990), primary stressors are experiences that threaten, thwart, or encumber individuals. These stressors account for the amount and type of difficulty experienced by a caregiver resulting from the stressor related to providing assistance for a partner. For example, when a service member or veteran is ill or is injured in combat, the responsibility of providing care often becomes a significant source of stress. Consequently, the increase in stress often leads to secondary strains and negative health outcomes such as significant levels of caregiver burden, low satisfaction with life and in some cases, the development of psychosomatic

symptoms. Accordingly, this study examines the effects of providing care to an ill and/or injured service member or veteran on the primary caregiver (i.e., romantic partners).

### *Veteran's Degree of Disability*

Injuries received while conducting military service can be categorized into two major classifications: *visible* and *invisible* (Holmes, Rauch, & Stephen, 2013; Weinstein, 1995). Among the most common consequences associated with visible injuries are the loss of auditory/visual capacity, burns, loss of muscle tissue, amputation, traumatic brain injury and chronic pain (Fischer, 2015; Reiber, et al., 2010). In contrast, invisible injuries are conceptualized as the changes in cognition, overall emotional state (i.e., depression, anxiety, anger, posttraumatic stress) and/or behavior (i.e., isolation) experienced by trauma victims (Holmes, Rauch, & Stephen, 2013; Koren, 2005; Weinstein, 1995; Williams et al., 2004). Recent reports indicate that rates of injury have increased in recent military conflicts compared to engagements preceding September 11, 2001 (Parrish, 2011; Wounded Warrior Project, 2016).

Advances in medical care, armored vehicles, and personal protective equipment have given way to increased rates of survival following combat injuries (Parrish, 2011; Gawade, 2004). For example, as of July 1, 2016, over 52,000 American troops have suffered some type of visible injury leaving many of them severely incapacitated. Over 327,000 have suffered traumatic

brain injuries, of which almost 10,000 were categorized as penetrative/severe, over 27,000 were considered moderate to severe, and over 290,000 were considered mild. Moreover, more than 400,000 American troops have been diagnosed with PTSD (Wounded Warrior Project, 2016).

In terms of physical injuries, over 1,500 American troops have suffered serious physical injuries including amputation of which 75% have occurred in lower extremities. Such amputations may lead to newfound physical limitations resulting in impaired or limited mobility (Van Velzen, et al., 2006). Researchers have suggested that loss of mobility may lead to a perceived loss of freedom, space and independence, which contributes to the comorbidity between cognitive, emotional and behavioral symptoms (Norlyk, Martinsen, & Kjaer-Petersen, 2013). For example, large percentages of service members who have suffered a physical injury (e.g., TBI) have also reported symptoms of depression, anxiety and PTSD (Elliott, et al., 2015; Gaines, Soper, & Berenji, 2016; National Alliance for Caregiving, 2010; Wilk, Herrell, Wynn, Riviere, & Hoge, 2012). Accordingly, injuries received while performing military duties, exist in a continuum of severity that impact the injured service member/veteran and their families in significant ways depending on the nature of the injury and possible comorbidities (American Psychological Association, 2007; Doncevic & Boerman, 2010). Among the most significant variables contributing to differences in long-term functioning and recovery are the immediacy/quality of medical treatment, quality of



rehabilitative care and family involvement throughout the recovery process (Cozza & Guimond, 2011).

Researchers have emphasized the importance of the family's involvement through a soldier's recovery (U.S. Army, 2016). From the moment a service member is injured in the field, the soldier and their family commence the journey of recovery (Arredondo, Foote, Pruden, McFarland, & McFarland, 2010; National Alliance for Caregiving, 2010). According to Cozza and Guimond (2011) the recovery process constitutes four fundamental phases: acute care, medical stabilization, transition to outpatient care, and long-term rehabilitation and recovery. During the acute care phase the patient receives medical treatment essential to supporting his/her life which often occurs within moments of suffering an injury, at medical facilities near combat zones. Additionally, during the acute care phase the family is informed that their service member has been injured in combat, which leads to a disruption of family dynamics. Once the soldier's condition does not present an imminent threat to his or her life, the service member transitions into the medical stabilization period.

During the medical stabilization period, the injured service member receives medical treatment intended stabilize wounds. During this phase the injured service member often receives multiple surgeries intended to stabilize critical injuries (e.g., burns, loss of muscle tissue, removal of shrapnel). The duration of this period varies as a result of the severity of the injuries.

Additionally, the medical stabilization period often serves as a period of preparation prior to transitioning to outpatient care which, often occurs at military and/or civilian hospitals in the United States. For the soldier's family, this period can be strenuous as the process of stabilization often occur far from home. When a soldier's injury is severe and thus he or she cannot be transported stateside, the military spouse is often allowed to join the injured soldier at the nearest medical facility outside of a combat zone. Due to the long duration of this period, lack of information, uncertainty regarding the soldier's health and inability to communicate directly with the injured service member, this phase disrupts the family's sense of stability and well-being. Upon the soldier's stabilization, the family prepares to face the demands associated with the soldier's injuries and the emotional challenges of shifting family dynamics.

The rehabilitation and recovery period begins once the soldier has been reintegrated to the family's environment. During this time, the family learns to adapt to the soldier's newfound physical, cognitive and/or psychological limitations. During this period the family becomes involved in providing assistance vital to the soldier's recovery. The duration of this period varies as a result of the severity of the injuries and possible medical complications. Researchers have highlighted that this period is most difficult for romantic partners or spouses due to their inclination to assist with the most personal aspects of providing care. Consequently, researchers have suggested

that in cases of severe or prolonged impairment, sustained contact with an impaired partner may serve as a chronic stressor leading to secondary strains and/or declines in overall health (Pearlin, Mullan, Semple, & Skaff, 1990; Lev-Wiesel & Amir, 2001).

In conclusion, this section highlighted empirical data regarding the nature of military injuries, complications associated with the comorbidity of visible and invisible injuries and ways in which a soldier's family is affected by these stressors. Specifically, researchers have emphasized the negative effects associate with becoming involved with a soldier's recovery process including negative changes in the caregiver – care-recipient relationship (Pearlin, Mullan, Semple, & Skaff, 1990). Accordingly, the following section provides an overview of dyadic stress, dyadic coping and their effects on relationship satisfaction and the caregiver's overall sense of well-being.

#### *Caregiver Secondary Strains*

Pearlin and colleagues (1990) suggested that the stress process is driven by the primary stressor (e.g., the demands associated with the veteran's level of disability), which in turn lead to additional sources of stress in the form of secondary strains (Pearlin, Mullan, Semple, & Skaff, 1990).

Secondary strains are not thought to be secondary in terms of significance but are considered secondary because they are a direct result of the primary stressor (Pearlin, Mullan, Semple, & Skaff, 1990). For example, caregiving dyads are likely to experience stress as a result of the implications associated

with becoming a caregiver to an ill or injured family member and consequently, that stress contributes to declines in the quality of the dyadic relationship and the caregiver's overall sense of well-being. Accordingly, the following section presents an overview of the concept of dyadic relationship and ways in which dyadic stress and dyadic coping influence levels of relationship satisfaction among members of the caregiving dyad.

### *Dyadic Stress*

Caregiving dyads emerge as a result of pre-existing interpersonal relationships between the caregiver and the care-recipient (e.g., romantic partners) and consequently, the burden of care has the potential to affect the nature and/or quality of the relationship in negative ways (Savundranayagam, Montgomery, & Kosloski, 2010). Due to the interdependent nature of dyadic relationships a partner's experience influences both members of a dyad often resulting in *dyadic stress* (Bodenmann, 1995; 2005). Dyadic stress is understood as an event or circumstance that affects both members of a unit and elicits joint appraisals, coping activities, and the use of resources (Bodenmann, 1995; Lyons, Sayer, Archbold, Hornbrook, & Stewart, 2007). Furthermore, dyadic stress is thought to affect dyads in two major ways: *indirectly* and/or *directly*.

Indirect stress initially threatens the well-being of only one member of a dyad (e.g., receiving a negative evaluation at work) and affects their partner through their impact on the stress victim's overall emotional state and

behavior (Bolger, DeLongis, Kessler, & Wethington, 1989; Conger, et al., 1990). If the stress victim is able to cope without affecting the home environment, then the stress is individual and not dyadic (Bodenmann, 1995; 2005). In the case of direct stress, partners are affected by the stressor at the same time and to a similar degree (Bodenmann, 1995; 2005). Although direct stress requires individual appraisals of the stressor, both partners may subsequently share a common view of the problem (Bodenmann, 2005). For example, when a diagnosis of chronic illness or an injury occur, these stressors may require the shifting of family roles and/or household schedules. Thus, the stress associated with these changes contributes to the development of psychological symptoms (e.g., stress, depression, anxiety).

Due to the continuous and shape-shifting nature of chronic illness and/or injuries, family members often experience a significant increase in stress resulting from environmental changes as the partner transitions through different stages of the illness prognosis or stage of recovery (Revenson & DeLongis, 2011). For example, at the onset of the illness and/or injury caregiving partners face the responsibility of providing assistance with personal care (e.g., bathing, mobility) and/or medical treatment (e.g., administering medication). Accordingly, stressors associated with chronic illness and/or injury need to be understood as an interpersonal experience that elicits a multitude of coping tactics by both members of the dyad, intended to regulate the negative effects of the stressor (Bodenmann, 2005; Lambert,

Hasbun, Engh, & Holzer, 2015; Lyons, Sayer, Archbold, Hornbrook, & Stewart, 2007; Revenson & DeLongis, 2011). Consequently, a dyad's ability to adapt to a stressor can be a significant determinant of each member's overall sense of well-being.

The concept of *dyadic coping* is defined as the process of collaboration and sharing of resources in response to a problem that affects both members of a dyad directly or indirectly (Bodenmann, 1995; 2005). Dyadic coping requires the engagement of both partners in the appraisal of the specific threat and requires that each take on partial responsibility for the appropriate resolution of the threat (Bodenmann, 1995; 2005; Lyons, Sayer, Archbold, Hornbrook, & Stewart, 2007). For example, when a dyad is faced with an event that threatens the well-being of a member and/or the relationship, the couple is required to engage in strategies intended to ensure the survival of the relationship. Consequently, researchers have suggested that couples who are able to utilize coping mechanisms adequately appeared better able to deal with the effects resulting from negative life events and/or circumstances (Lyons, Sayer, Archbold, Hornbrook, & Stewart, 2007).

The positive effects of dyadic coping have been examined by a significant body of research. For example, a study by Lambert, Hasbun, Engh, & Holzer (2015), examined the effects of combat related PTSD on relationship satisfaction in a group of 56 military couples. Their results indicated that the degree to which a veteran's PTSD affected the partner's

satisfaction with the relationship was dependent on the perceived level of support within the relationship. Specifically, the degree to which a veteran's symptoms were negatively associated with his spouse's relationship quality depended on the degree to which the non-veteran partner perceived that the couple was working together to manage their difficulties and whether they perceived the veteran as supportive when experiencing stress. Furthermore, Bodenmann, Meuwly, and Kayser, (2011) examined how dyadic coping affected each partner's overall sense of well-being (i.e., psychological and physical symptoms). Their results indicated that a dyad's perception of coping efforts is related to relationship quality and psychological well-being.

Additionally, researchers have suggested that couples that reported negative dyadic coping style (e.g., hostile communication), reported lower levels of relationship satisfaction and overall sense of well-being (Bodenmann, 1995; 2000). Additionally, a meta-analysis conducted by Falconier, Jackson, Hilpert, & Bodenmann (2015), examined the association of dyadic coping and dimensions of relationship satisfaction. This analysis included a total of 72 independent samples representing 13 different European nationalities. These results indicated a strong positive correlation between dyadic coping and relationship satisfaction. Specifically, partners' overall satisfaction with their relationship was associated with their own perception of the couple's ability to manage stressors together. These results were consistent across gender, age, nationality, educational level, and duration of the relationship. Furthermore,

these results indicated that dyadic coping is a stronger predictor of relationship satisfaction than individual coping and supported the notion that positive coping is strongly associated with higher levels of relationship satisfaction. Consequently, an individual's overall sense of relationship satisfaction is associated with a couple's overall ability to adapt to specific stressors faced within the relationship. This study will examine the caregiver's overall sense of relationship satisfaction in order to assess the association between the caregiver's secondary strains and the caregiver's overall sense of well-being.

#### *Caregiver Internal and External Moderators*

According to Pearlin's model, the experience of stress is moderated by internal and external factors thought to play a protective role on the effects of primary stressors and secondary strains on the caregiver's overall sense of well-being (Pearlin, Mullan, Semple, & Skaff, 1990; Zarit, Pearlin, & Schaie, 1993). Internal moderators are variables that originate from within the caregiver. These are often enduring personal characteristics (e.g., attachment style) that reflect patterns of adaptation that help explicate the caregiver's willingness, ability and manner in which they deal with challenges (Pearlin, Mullan, Semple, & Skaff, 1990; Zarit, Pearlin, & Schaie, 1993). On the other hand, external moderators are considered coping resource that stem from a person's environment. For example, the amount of social support that a caregiver perceives from his or her social network is thought to strengthen a



person's ability to manage the effects of primary stressors, secondary strains and/or outcome (Pearlin, Mullan, Semple, & Skaff, 1990; Zarit, Pearlin, & Schaie, 1993).

Taking into consideration factors unique to military life (e.g., duration and frequency of deployment separation) much is to be learned regarding the way in which attachment style affects the military caregiver's overall experience. Additionally, given the strong relationship between attachment and caregiving behaviors this study presents an opportunity to further explore the moderating effects of attachment on the military caregiver's overall sense of well-being. Furthermore, considering the isolation often experienced by military families as a result of recurrent changes in geographical location, this study presents a unique opportunity to explore the moderating effects of social support on military caregiver's overall sense of well-being.

#### *Attachment as Internal Moderator*

Attachment is commonly understood as human beings' internal drive to create emotional bonds with our caregivers (Brisch, 2012). Researchers have suggested that these emotional attachments serve three central functions: the ability to develop proximity maintenance, provide a safe haven from danger, and provide a secure base for exploration (Bowlby, 1977). Early theorists suggested that a child's early interactions with attachment figures (e.g., parents) provides a foundation through which the child perceives their environment and themselves in relation to others (Brisch, 2012). Specifically,

they suggested that based on these experiences, children demonstrate three main patterns of emotional attachment when interacting with their caregivers: *secure, anxious-ambivalent and avoidant* (Ainsworth, Belhar, Waters, & Walls, 1978).

Children who demonstrate a secure attachment style demonstrate distress when separated from their caregiver but exhibited positive behaviors upon the caregiver return (Ainsworth, Belhar, Waters, & Walls, 1978). These infants used the caregiver as a secure base to explore the environment and demonstrated confidence that the caregiver would return if necessary. In contrast, children with an anxious-ambivalent attachment style display distress when separated from their attachment figure and remained distressed when reunited with their caregiver. Lastly, children with an avoidant attachment do not demonstrate distress when separated from the caregiver and often avoid and/or ignore the caregiver when reunited (Ainsworth et. a., 1978; Van der Horst, 2011). Furthermore, researchers have suggested that different attachment figures respond differently to the child's needs and consequently, lead to the development of the child's own hierarchical system of caregivers (Bowlby, 2004; Foray, 2004; Rholes & Simpson, 2004; Van der Horst, 2011). These experiences help the child develop an internal working model of separation and reestablishment of closeness (Bowlby, 1977; Brisch, 2012; Van der Horst, 2011).

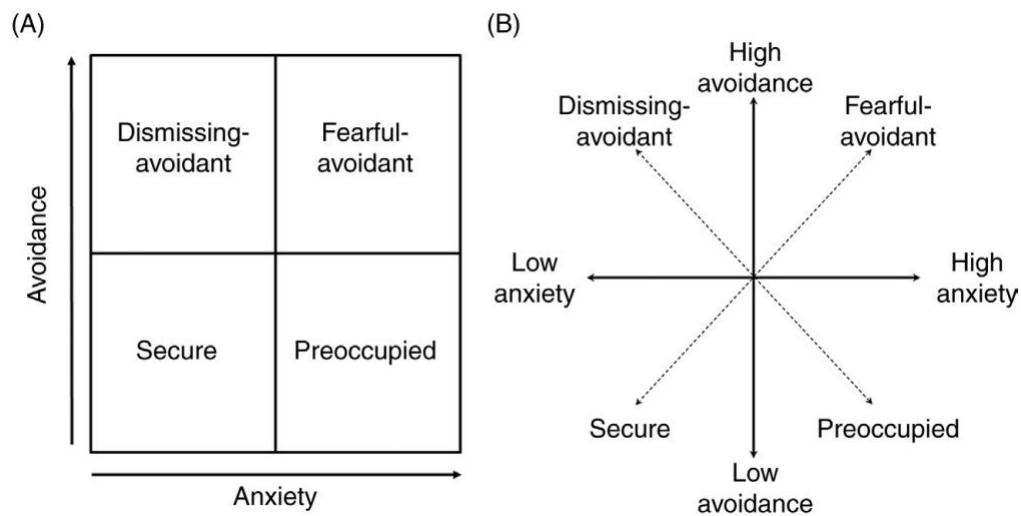
In their seminal study, Hazan and Shaver (1987) posited the notion that adult relationships and specifically romantic relationships, could be conceptualized as an attachment process. Hazan and Shaver, suggested that much like infant attachment, romantic relationships are affectional bonds that involve socioemotional processes. These processes are considered a function of the same attachment system that gives rise to the emotional bond between infants and their caregivers. Accordingly, in both kinds of relationships, individuals feel a sense of security when the attachment figure is nearby and responsive. Additionally, adults also feel insecure when the attachment figure is distant or non-responsive (Hazan & Shaver, 1987). Hazan and Shaver further noted that much like infant attachment, adult attachment relationships involve intimate bodily contact, exhibit a mutual fascination/preoccupation between partners and often lead to “baby talk” between partners. Additionally, researchers have suggested that much like infant attachment, romantic partners seek a sense of closeness, derive a sense of security from their partners and seek comfort from their partners (Feeney & Hohaus, 2001). Despite these similarities, researchers have also highlighted crucial differences between these two forms of attachment.

Among the most significant differences between infant and adult attachment is the asymmetrical nature of infant attachment relationships (Rholes & Simpson, 2004). In infant attachment, parents play the role of a caregiver and the child benefits from the care provided. In contrast, adult

attachment is reciprocal meaning both partners play the role of care-provider and care-recipient (Brisch, 2012; Rholes & Simpson, 2004). Additionally, adult attachment relationships progress from *external needs* to *internally represented beliefs*. External needs are representative of the need for observable interactions with an attachment figure. In adulthood, attachment needs are satisfied with the internalized knowledge that the attachment figure will be available when/if needed (Bowlby, 2004; Fonagy, 2004; Rholes & Simpson, 2004; Van der Horst, 2011). For example, an adult person is likely to experience comfort by simply knowing that an attachment figure (e.g., spouse) would be available when/if he or she were to be needed. Furthermore, researchers have suggested that adult attachment is best conceptualized across two major dimensions thought to better represent adult relationships in terms of a person's views of the self and others.

Bartholomew and Horowitz (1991) proposed a four-type anxiety (view of self) and avoidance (view of others) measure intended to better conceptualize adult attachment styles. The model of the self represents the consequences of a person's own self-view on their interpersonal relationships. Accordingly, individuals with a positive self-model see themselves as competent, autonomous and worthy of love. In contrast, individuals with a negative self-model lack confidence and are less prepared to deal with psychological distress (Bartholomew and Horowitz, 1991). From a different perspective, the model of others represents the expectations and beliefs that

people have concerning close relationships in general. Accordingly, individuals with a positive model of others view attachment figures (e.g., romantic partners) as trustworthy, reliable, and dependable. In contrast, individuals with a negative model of others lack confidence in people's trustworthiness and dependability (Bartholomew and Horowitz, 1991). Accordingly, researchers have suggested that the interplay between anxiety and avoidance is representative of the person's attachment style in relation to adult relationships (Gillath, Karantzas, & Fraley, 2016). The following image provides an illustration of Bartholomew and Horowitz' model (see Figure 2).



*Figure 2.* Theoretical models of individual differences in adult attachment. Here (A) exemplifies Bartholomew and Horowitz' four-category model; (B) represents the two-dimensional extension of that model in which the four attachment patterns are viewed as regions in a two-dimensional space (Gillath, Karantzas, & Fraley, 2016).

Bartholomew and Horowitz' model has influenced the field of attachment and has contributed to the development of measures that conceptualize adult attachment across anxiety and avoidance (Gillath,

Karantzas, & Fraley, 2016). Accordingly, researchers support the notion that secure attachment is characteristic of individuals who score lower on anxiety and avoidance (Mikulincer, Shaver, & Pereg, 2003). Individuals who score lower along the anxiety and avoidance dimensions also demonstrate optimistic beliefs about distress management, positive views of self and others and report positive overall mental health in times of stress (Collins & Read, 1994). Additionally, individuals who report lower anxiety and avoidance also demonstrate more willingness to seeking support in times of need, rely on positive coping strategies and demonstrate higher levels of empathy toward individuals in need (Mikulincer & Florian, 1998; Mikulincer, Shaver, Gillath, & Nitzberg, 2005).

#### *Attachment and Caregiving*

According to Bowlby (1982), people's behavior is guided by a set of innate *behavioral systems* designed to increase the likelihood of an organism's survival and reproductive success such as the caregiving system. The caregiving system is activated when another being experiences suffering or is in need of care and protection (Canterberry & Gillath, 2012). Accordingly, the caregiving system is seen as complementary to the attachment system in that it motivates individuals to offer assistance, comfort and support in response to the cues generated by another person's distress (Gillath, Karantzas, & Fraley, 2016). Although attachment and caregiving are considered to be separate behavioral systems, researchers have suggested a clear interplay that shapes

people's behavior, and can result in caregiving tendencies being overridden or suppressed by attachment insecurity (Kunce & Shaver, 1994). Thus, researchers have suggested that a person's specific attachment style, influences a person's caregiving style (Kunce & Shaver, 1994).

The link between attachment and caregiving was first examined by Kunce and Shaver (1994), who developed a self-report scale of proximity, sensitivity, cooperation and compulsive caregiving (i.e., level to which a partner cares for their partner while ignoring their own needs). This measure was aimed to examine the quality of the caregiver – care-recipient relationship in sample of 71 romantic dyads. Their results indicated that individuals with anxious and insecure attachment styles reported higher levels of compulsive, controlling and unpleasant (e.g., use of sarcasm and anger) caregiving than individuals with a secure base of attachment. Similar, results were reported by Feeney (1996), who conducted a study observing attachment style and quality of caregiving relationship in a sample of married caregiving dyads ( $n = 229$ ). These results indicated that secure attachment was positively associated with responsive care and negatively associated with compulsive care. Overall, individuals with a secure attachment style reported low compulsivity and high response of caregiving. Similarly, Collins & Feeney (2000), examined the effects of attachment on caregiving behavior in a group of dating couples ( $n = 93$ ). Their results indicated that individuals who endorsed insecure attachment demonstrated inconsistent caregiving behaviors. Accordingly, adult

attachment appears to be a significant moderator of cognitive, emotional and behavioral problems among caregivers serving various populations.

In addition to internal moderators such as attachment style, Pearlin's model postulates the existence of external factors (e.g., environmental and/or circumstantial) that influence the effects of primary stressors and secondary strains on a caregiver's overall sense of well-being. For example, social support has been found to have a positive effect on individual's undergoing difficult life circumstances. Accordingly, the following section provides an overview of the concept of social support and evidence of its influencing effects of caregiver's health outcomes.

#### *Social Support as External Moderator*

The concept of social support is understood as the emotional, psychological, and/or instrumental resources that an individual receives from other people when facing a specific stressor (Cohen & Syme, 1985; Cutrona, 1996; Sarason & Sarason, 2006). Accordingly, these resources provide fulfillment to ongoing as well as time-limited needs resulting from adverse life events or circumstances (Cohen & Syme, 1985; Cutrona, 1996; Sarason & Sarason, 2006). Researchers have suggested that these resources exist within 3 categories of provision: *emotional support*, *informational support*, and *instrumental support* (Cohen & Syme, 1985). Emotional support refers to cognitive and behavioral exchanges intended to improve a person's overall



emotional state (Wills & Shinar, 2000). For example, a person may find comfort in being able to share their struggles with a significant other or friend.

Informational support provides a person with advice and/or guidance that can be utilized in dealing with specific stressors (Wills & Shinar, 2000). When difficulties occur, people seek information about the problem in order to find alternative solutions. Individuals in the person's support network may become sources of information and provide a perspective regarding the magnitude of the problem and resources useful to its resolution (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 2004). For example, a person whose partner has recently been diagnosed with a TBI may seek support from friends and/or family members in order to gain a different perspective regarding the process of recovery. In contrast, instrumental support refers to tangible support provided by individuals found in the person's support network (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 2004; Wills & Shinar, 2000). This type of support is intended to alleviate the responsibility, burden or work-load faced by a member of the group. For example, a person who has recently become a caregiver to a person with limited mobility may seek to borrow a vehicle in order to accommodate a wheelchair or other medical equipment. Although most theoretical definitions of social support focus on the exchange of resources (i.e., emotional, psychological, and/or instrumental), researchers have also suggested two major distinctions regarding the way individuals measure the amount and/or quality of the

support received: *enacted support* and *perceptions of available support* (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 2004).

Enacted support is often perceived in the observable actions performed by members of the support network including financial assistance, providing transportation, or practical assistance (e.g., providing shelter, lending a hand with household duties; Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 2004). Some individuals evaluate the amount of support available to them by the amount of tangible assistance received. Researchers however have highlighted challenges associated with measures of enacted support. For example, researchers have suggested that enacted support is a multidimensional construct ranging from small acts of kindness (e.g., caring for a pet) to long-term support (e.g., providing in-home assistance to an individual undergoing a medical illness; Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 2004). Consequently, the benefits of instrumental support appear to be influenced by internal and external variables such as whether the support is provided at the most appropriate time, whether the support is offered in a genuine manner and whether the recipient is satisfied with the support received (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 2004). For example, following a soldier's injury a person may require assistance with household duties. This assistance however may be required for a period longer than it is available leading to a sense of frustration or dissatisfaction in the receiver. Researchers have also postulated that the source of the support may also influence the benefits of the

support received (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 2004; Schaefer & Lazarus, 1981). For instance, a military caregiver may feel dissatisfied with the assistance received from his or her family due in part to an internal desire/need to receive greater support from the military community or the Department of Veterans Affairs. Consequently, researchers have suggested that *perceived social support* may provide a more stable measure of this construct.

Perceived social support examines a person's general insight or beliefs regarding the availability of support (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 2004). Accordingly, perceived social support is thought to provide the person with the confidence that social support would be available when/if needed (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 2004). Furthermore, researchers have posited that perceived social support can be useful in overcoming challenges presented by measures of enacted support (e.g., timing of the support; Dunkel-Schetter, Blasband, Feinstein, & Herbert, 1992). For example, Pearlin and colleagues (1981) noted that secondary strains resulting from primary stressors are often chronic and long-term. Accordingly, sources of instrumental support may be unable to provide assistance for the duration of the stressor. In such cases, a person may benefit from having the confidence that other forms of social support will be available long after displays of instrumental support have ceased. Consequently, perceived social support is thought to be a more effective moderator of the

relationship between primary stressors and secondary strains on measures of well-being (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 2004).

### *Social Support as a Moderator*

Over the last four decades, the concept of social support has produced a significant body of research examining the effects of social relationships on various health outcomes (Sarason & Sarason, 2006). In general, this research supports the notion that being part of a supportive network can serve as a protective factor when facing challenges (Krause, 2006; Moren-Cross & Lin, 2006; Pinquart & Soerensen, 2000). However, the current literature provides few examples of the effects of social support as a moderating factor among caregiving populations and offers no examples of these effects among military caregivers. As a result of this gap in the literature, this construct necessitated a broad observation of the moderating effects of social support across various populations including civilian caregivers. The following section is a review of these findings.

Social support has been found to be a significant moderator of psychological symptoms among military personnel. A study conducted by Bryan and Hernandez (2013) examined the relationship between social support, emotional distress and suicidal ideations in a group of U.S. Air Force Security Forces ( $n = 273$ ). These results indicated that social support moderated the relationship between emotional distress and suicidal ideations. Additionally, a study by Kaspersen, Mthiesen, and Gotestam (2003)

examined the relationship between social support, trauma exposure and post-trauma symptomatology in a group of United Nations (U.N.) soldiers and relief workers. These results indicated that social support moderated the relationship between trauma exposure and post-trauma symptoms among individuals exposed to war trauma. Specifically, lower levels of post-trauma symptomatology were reported by U.N. soldiers who reported high levels of social support.

Additionally, some researchers have highlighted the positive effects of social support among various caregiving populations. A study conducted by Majerovitz (2001) examined the effects of social support on a group of caregiving spouses ( $n = 58$ ) who provide care to dementia patients. These results indicated that perceived social support by those in the caregiver's social network had the capacity to buffer the relationship between caregiving stress and depression. Additionally, perceived social support was found to serve as a protective factor among caregiving parents ( $n = 82$ ) who provide care to children with brain tumors (Choi, et al., 2016). Specifically, these results indicated that self-efficacy and perceived social support served as a protective factor against caregiver burden. A study by Ergh, Rapport, Coleman, and Hanks (2002), examined the moderating effects of social support in a group of informal caregivers ( $n = 60$ ) who provide care to person's who have sustained traumatic brain injury. These results indicated that perceived social support was a powerful moderator of caregiver

psychological distress. Furthermore, a study examining the moderating effects of social support in a group of parents of children with autism indicated that the relationship between stressors and negative outcomes was moderated by perceived social support (Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001).

Given the strong association with attachment and caregiving and the association between social support and well-being among various populations the proposed study aims to examine the moderating effects of attachment and social support among military caregivers. Specifically, this study will examine the moderating effects of attachment and social support on the relationship between the caregiver's primary stressors and the caregiver's sense of well-being as well as the relationship between the caregiver's secondary strains and the caregiver's sense of well-being.

#### *Health Outcomes*

According to Pearlin's model, health outcomes are understood as indicators of the caregiver's overall emotional, psychological and physical health. Additionally, health outcomes are thought to be a direct result of the interaction between primary stressors, secondary strains and moderators (Pearlin, Mullan, Semple, & Skaff, 1990). Pearlin and colleagues (1990) suggested that health outcomes must be considered broadly to include effects on the caregiver's health, overall emotional state, behavioral changes (e.g., isolation) and/or premature grief. Researchers on the field of informal caregiving have suggested *caregiving burden* as one of the most significant

indicators of well-being among informal caregivers (Avison & Pearlin, 2009; National Alliance for Caregiving, 2015; Zarit, Pearlin, & Schaie, 2003).

### *Caregiver Burden*

The concept of caregiver burden is an all-encompassing term utilized to capture the psychological, emotional, physical, social and financial strains resulting from providing care for an ill or injured loved one (George & Gwyther, 1986; National Alliance for Caregiving, 2010; Zarit, Pearlin, & Schaie, 1993). Montgomery and colleagues (1985) expanded on the concept of caregiver burden by suggesting a distinction between what they termed *objective* and *subjective burden*. According to their work, objective burden refers to the level of responsibility or physical demands associated with providing assistance (e.g., number of hours committed to providing care, bathing, dressing, feeding, giving medicines, assist in treatment, providing transportation). In contrast, subjective burden refers to the cognitive (e.g., lower sense of well-being), psychological (e.g., anxiety, depression) and physical symptoms (e.g., loss of vitality, body aches) resulting from objective burden (Montgomery et. al., 1985). Currently, a significant body of research supports the notion that objective burden precedes the development of subjective burden (Brannan & Heflinger, 2001; Croog, Burleson, Sudilovsky, & Baume, 2006; Jungbauer, Wittmund, Dietrich, & Angermeyer, 2004; Knussen, Tolson, Swain, Scott, & Brogan, 2005).

A meta-analysis conducted by Lambert, Engh, Hasbun and Holzer (2012), indicated that among civilian and military couples where one partner suffered from PTSD, caregiving responsibilities had a damaging effect on the caregiver's overall sense of well-being. Their results yielded a small combined effect size ( $r = -.24$ ) for the association between symptoms of PTSD and partner's perceived relationship quality. These effects were larger among female partners of veterans with combat related PTSD. The association between symptoms of PTSD and partner's psychological distress yielded a moderate effect size ( $r = .30$ ). This association was stronger among military couples compared to civilian couples. Moreover, physical strains associated with providing care to persons who suffer from limited mobility have been identified among caregivers ( $n = 173$ ) of persons who suffer from spinal cord injuries (Rodakowski, Skidmore, Rogers, & Schulz, 2013). Similar results were identified among romantic partners ( $n = 72$ ) who provide care to veterans who suffer from physical limitations (Ebrahimzadeh et al., 2014). A study by Settineri, Rizzo, Liotta and Mento (2014) examined quality of life among individuals ( $n = 294$ ) who provide care to persons suffering from physical and mental conditions. These results indicated lower quality of life among caregivers of individuals with comorbid disorders compared to those who provided care to individuals suffering from only one of these conditions. Similar results were found among military caregivers who provide care to individuals suffering comorbid disorders (National Alliance for Caregiving,



2010). In addition to the cognitive, psychological and emotional aspects of subjective burden, researchers have also suggested that the longer a person has been involved in providing care is strongly associated with declines in the caregiver's overall physical health (Holicky, 1996; Zarit, Pearlin, & Schaie, 1993).

Researchers have suggested that objective burden is also associated with health-risk behaviors (e.g., poor eating habits, lack of sleep, little to no physical exercise, not getting enough rest, forgetting to take medications, and missing medical checkups), leading to a declines in the caregiver's physical health (Beach, Schulz, & Yee, 2000). For example, Frias, Tuokko and Rosenberg (2005) examined self-reported health among caregivers ( $n = 177$ ) of older adults with cognitive and physical impairment. Their results indicated that the level of objective burden associated with providing care was associated with lower physical health among caregivers of individuals with severe and comorbid conditions. Similarly, Duggleby and colleagues (2016) examined the effects of objective burden associated providing care to individuals with multiple chronic conditions on a group of adult informal caregivers ( $n = 185$ ). Their results indicated that high rates of objective burden were associated with lower physical health and decreases in quality of life. Comparable outcomes were reported among a group of Australian caregivers ( $n = 424$ ) who provided care to individuals with physical and mental conditions. These results indicated that the effects of providing care were

moderated by the level of objective burden experienced by the caregiver (Kenny, King, & Hall, 2014). In conclusion caregiving burden presents as an adequate construct through which to evaluate the experiences of military caregivers and how the responsibility of care may contribute to decreases in overall sense of well-being.

Accordingly, taking into consideration the strong association between caregiver burden on the caregiver's overall sense of well-being this study intends to examine the level of caregiver burden, satisfaction with life and physical symptoms among military caregivers. These measures are intended to provide a broad perspective of the effects of providing care to ill and/or injured service members and/or veterans.

#### Summary

The current chapter presented an overview of theoretical and empirical research pertaining to the field of informal caregiving. The chapter provided an overview of Pearlin's Stress Process Model and components influencing the experiences of individuals who provide care to ill and/or injured family members. Specifically, this chapter examined the literature in the following areas: (1) background and context pertaining to informal caregiving and variables unique to military caregivers; (2) military injuries and their effects on military caregivers; (3) dyadic coping and its effects on the quality of the dyadic relation; and (4) caregiving burden and its effects on various health

outcomes were also examined. Following this review of the literature, specific gaps were identified.

Although the body of research on the field of informal caregiving is extensive, only one study could be located that examined the burden associated with providing care to ill and/or wounded service members and/or veterans. Although limited, this research highlighted that military caregivers face a unique set of variables leading to higher levels of distress when compared to the national average (National Alliance for Caregiving, 2010). These findings generally support the notion that much remains unknown about the experiences of individuals who provide care to ill and/or wounded service members and/or veterans who served in recent conflicts. Additionally, the study of military caregivers provides an opportunity to examine the experiences of individuals who provide care for longer periods due to the relatively young age of the care-recipient. The present study aims to examine the experiences of military caregivers specifically as it pertains to primary stressors, secondary strains and how these contribute to caregiving burden in this population. The following chapter provides a detailed description for the proposed sampling procedure, measures, and data analyses.

## CHAPTER TWO: METHOD

### Participants

The population for this study was romantic partners who help to provide care for a service member and/or veteran who needs assistance across life domains such as cognition, mobility, self-care, getting along, or life activities or participation without receiving financial compensation. When referring to romantic partners, the only inclusion criteria considered by this study are the following: (1) caregivers actively involved in a romantic relationship with the care-recipient; (2) caregivers currently married to the care recipient. These caregivers were included as part of this study regardless of age, gender, sexual orientation, living arrangement, or any other demographic variable as long as the romantic partner served as a caregiver to the ill and/or wounded service member or veteran.

### *Sample Size*

Sample size was determined utilizing G-Power 3.1 software (Faul, Erfelder, Buchner, & Lang, 2009). Cohen (1988) suggested that social science research should strive to achieve a statistical power level of at least .80 and suggested utilizing a medium effect size. Accordingly, an *a priori* power analysis was utilized to determine sample size for a linear multiple regression

analysis with four predictor variables (before interaction terms), an alpha level of .05, a beta (power) of .80 and an expected medium effect size. This analysis suggested a total sample size of 72 participants. However, due to interaction terms a larger sample size is required (Aiken & West, 1991; Cohen, 2001). Accordingly, the above procedure was replicated to include interaction terms, this latter analysis produced a required sample size of 144 participants to achieve desired power of .80.

Our total sample consisted of 70 adults, 95.7% females, 2.9% males and 1.4% non-binary, between the ages of 17 and 70 years of age. Distribution by ethnicity reflected the accessible population with 38.6% European-American, 35.7% Native or Alaska Native, 10.0% Asian or Asian American, 8.6% Biracial/Multiracial, 5.7% Black or African American, 1.4% Hispanic or Latino. Of this group, 45.7% indicated having provided care to their veteran for a period lasting 6 to 10 years, 20% have provided care for 16 to 25 years, 17.1% for at least 12 years, 13% have provided care for less than 5 years, and 4.3% have provided care for a period of 31 to 40 years. A large majority (38.6%) endorsed logistical duties (i.e., arranging outside services) as their primary duty, 25.7% reported providing assistance with physical rehabilitation as their main responsibility, 12% endorsed communication with medical providers as the main focus of their daily duties and 12.9% indicated that medication management is their primary obligation. Please refer to Appendix A for demographic details.

### *Procedure*

Approval to conduct this study was granted from the Institutional Review Board at the University of Denver. Before beginning the study, survey materials were uploaded to the [www.Qualtrics.com](http://www.Qualtrics.com) platform to facilitate online survey distribution. Social media served as the primary recruitment channel. A snowball sampling strategy was implemented by contacting military caregiver support groups, military-spouse groups, injured veterans support groups and military base communities via Facebook. The following groups were identified: Military Wife Support Group; Military girlfriend/wife Support Group; Military Wife and Family Support Group; Military and Veteran Caregiver Network; Veteran Support Center; Alaska Veteran Support Group; Operation Veteran Support; Veteran Support Initiative; U.S. Veteran Support; The Military Wife and Mom; Proud Military Wife; Military Wife. In addition, [www.Reddit.com](http://www.Reddit.com) was utilized as a way of disseminating the survey link to online a broad network of military veterans and their spouses. These mediums were contacted on a weekly basis in order to encourage participation.

If online recruitment channels do not provide the desire number of participants, a network of military and civilian mental health providers currently working at various military and civilian mental health clinics was utilized as points of contact to in order to disseminate survey link across military caregiver community not accessible through social media. Due to

these providers' involvement with active duty and veteran populations, they provided a broad network of potential participants. Furthermore, military-spouse support groups from the Colorado Springs and Denver areas were contacted in order to get permission to attend a meeting in person to present information regarding the study. The following groups were identified: Colorado Springs Military Spouses; Aurora Military and Veteran Meetup; Aurora Army Wives.

All of these mediums received the following domain:

MilitaryCaregiver.com (already purchased). The domain was setup to be redirected to a Qualtrics cover page containing information regarding the purpose of the study, potential risks/benefits of participating, participation criteria, confidentiality information and contact information for the primary researchers. This survey was designed so that participants could not continue beyond the cover page until after they acknowledged having read and understood all this information. (Appendix A).

The following measures were utilized to collect sample data.

#### Measures

##### *Demographic Questionnaire*

A demographic questionnaire included items regarding age, gender, race, ethnicity, relationship to the ill/wounded veteran, employment status, income, living arrangement, questions regarding the veteran's type of disability (e.g., visible or invisible) and branch of service. Additionally, the

questionnaire asked questions regarding the duties performed by the military caregivers such as average number of hours committed to providing care, type of services provided (e.g., personal, medical, transportation) and how long they have been in the caregiver role (Appendix B).

*World Health Organization Disability Assessment Schedule (WHODAS 2.0)*

The WHODAS 2.0 Proxy was utilized to measure the caregiver's primary stressor (i.e., the veteran's level of disability). This measure is a 12-item measure of disability designed to assess the ill or injured person's level of functioning across various life domains such as cognition, mobility, self-care, getting along, life activities or participation (World Health Organization, 2010). The proxy version is designed to be completed by the caregiver. Responses are rated on a 5-point rating scale (0 = None, 1 = Mild, 2 = Moderate, 3 = Severe, 4 = Severe, 5 = Extreme or cannot do). Sample items included in the measure are: "How much has your relative been emotionally affected by his or her health conditions?" and "Overall, in the past 30 days, how many days were these difficulties present?" Scores range from 0 to 60 with higher scores representing greater level of disability. Tests of internal consistency at the domain level yielded Cronbach's alphas of 0.70 cognition, 0.79 mobility, 0.73 self-care, 0.76 getting along, 0.94 life activities, and 0.74 participation. In terms of content validity, an expert majority agreed that the instrument content measures disability as defined by the International Classification of Functioning (World Health Organization, 2010). Concurrent



validity with other known instruments yielded meaningful correlations with specific domains measuring similar constructs. For example, the getting around domain proved to be negatively correlated with the Medical Outcomes Study's 36-Item ( $r = -0.69, p = .001$ ) and the Functional Independence Measure ( $r = -0.78, p = .001$ ). Additionally, the self-care domain was negatively correlated ( $r = -0.75, p = .001$ ) with the Functional Independence Measure (World Health Organization, 2010).

#### *Couples Satisfaction Index (CSI-16)*

The CSI-16 was utilized to measure the quality of the dyadic relationship. Responses are rated using a 5-point rating scale (5 = always agree, 4 = almost always agree, 3 = occasionally disagree, 2 = frequently disagree, 1 = almost always disagree, 0 = always disagree). Examples of the items in this measure are "I still feel a strong connection with my partner," and "Our relationship is strong." Scores range from 0 to 80 with high scores indicating higher levels of satisfaction in the relationship. According to Funk and Rogge (2007), the CSI scales have excellent internal consistency and strong convergent validity with Cronbach's alphas of 0.98. This measure has demonstrated concurrent validity with the Dyadic Assessment Scale yielding a Pearson's  $r$  correlation coefficient of  $r = 0.89$  and a correlation of  $r = 0.95$  when correlated with the Relationship Assessment Scale (Mattson, Rogge, Johnson, Davidson, & Fincham, 2013).

*Experience in Close Relationships – Short Form (ECR-SF)*

The ECR-SF was utilized to assess the caregiver's internal moderator (i.e., the caregiver's attachment style). This measure is a short 12-item version of the original, 36-item measure, Experiences in Close Relationship Scale developed by Brennan and colleagues (Brennan, Clark, & Shaver, 1998). The ECR-SF assesses the two insecure attachment styles: anxiety and avoidance. Responses are rated on a 7-point rating scale (1= disagree strongly, 2 = disagree, 3 = slightly disagree, 4 = neutral, 5 = slightly agree, 6 = agree, 7 = agree strongly). Examples of the questions contained in this measure are "I want to get close to my partner, but I keep pulling back," and "I find that my partner(s) don't want to get as close as I would like." Total scores range from 7 to 84 with higher scores indicating insecure attachment styles and lower scores indicating secure attachment. On several studies utilizing college age students, tests of internal consistency yielded Cronbach's alpha scores ranging from 0.78 to 0.86 for the anxiety scores and 0.78 to 0.88 for the avoidance scores (Wei, Russell, Mallinckrodt, & Vogel, 2007). The test-retest reliability was assessed over a 1-month period with coefficient scores ranging from 0.80 to 0.82 for anxiety and 0.83 to 0.89 for avoidance (Wei, 2007).

*Multidimensional Scale of Perceived Social Support (MSPSS)*

This measure was utilized to assess the caregiver's external moderator (i.e., caregiver's level of perceived social support). This MSPSS is a 12-item measure of an individual's perceived availability and adequacy of emotional

and instrumental social support across three major sources of support such as family, friends, and/or significant others (Zimet, Dahlem, Zimet, & Farley, 1988). Responses are rated on a 7-point rating scale (1= very strongly disagree, 2 = strongly disagree, 3 = mildly disagree, 4 = neutral, 5 = mildly agree, 6 = strongly agree, 7 = very strongly agree). Examples of the questions contained in this measure are “My friends really try to help me,” “There is a special person who is around when I am in need,” and “I get the emotional help and support I need from my family.” This measure can be divided into the following subscales: Family subscale (items 3, 4, 8, 11), Friends subscale (items 6, 7, 9, 12) and Significant Other subscale (items 1, 2, 5, 10). This factor structure provides 2 ways of scoring this measure. First, the measure total scores (ranging from 12 to 84) can be calculated with higher scores indicating higher perception of social support. Second, subscale averages can be obtained in order to acquire a factorial score. The MSPSS has been shown to have good internal consistency with a Cronbach’s alpha score of 0.88 (Zimet, Dahlem, Zimet, & Farley, 1988). A test-retest score of 0.85 was obtained for the MSPSS when administered to the participants after 2 to 3 months from the initial assessment, which showed strong internal reliability and stability within that time limit (Zimet et al., 1988).

#### *Zarit Burden Interview (ZBI)*

In terms of health outcomes, the ZBI was utilized in order to assess the caregiver’s overall sense of burden. The ZBI is a widely utilized 22-item

measure of personal strain among informal caregivers (Zarit, Orr, & Zarit, 1985). The shorter 12-item version was developed by Bedard et al., (2001). Responses on the shorter version are rated on a 5-point rating scale (0 = never, 1 = rarely, 2 = sometimes, 3 = quite frequently, 4 = nearly always). Examples of the questions contained in the measure are “Do you feel that because of the time you spend with your relative that you don’t have enough time for yourself?” and “Do you feel your health has suffered because of your involvement with your relative?” Scores range from 0 to 48 with higher scores indicating higher levels of burden. In a study observing levels of burden among individuals who provide care to ill family members suffering from dementia, the 12-item version demonstrated a strong correlation ( $r = .97, p = .001$ ) when compared to the original 22-item tool (Bedard et al., 2001). Test of internal consistency yielded a Cronbach’s alpha of 0.78 and strong correlation with additional indices known to relate to burden such as the Basic Activity of Daily Living, Instrumental Activity of Daily Living and the Dysfunctional Behavior Instrument ( $r = 0.80, p < .001$ ; Bedard et al., 2001; O’Rourke & Wenaus, 1998).

#### *Satisfaction with Life Scale (SWLS)*

The second outcome variable was assessed utilizing the SWLS. This measure is a widely utilized 5-item measure designed to assess judgments of life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985). Responses are rated on a 7-point rating scale (1= strongly agree, 2 = disagree, 3 = slightly

disagree, 4 = neither agree nor disagree, 5 = slightly agree, 6 = agree, 7 = strongly agree). Scores range from 5 to 35 with higher scores suggesting higher levels of life satisfaction. Examples of questions contained in this measure are “The conditions of my life are excellent” and “I am satisfied with my life.” This scale has been evaluated across populations at various developmental stages (e.g., college students, geriatric populations) and educational levels. The SWLS has also been utilized with various populations (i.e., college students, American adults) and has been translated into nine different languages. Cronbach’s alpha test of internal consistency yielded a score of 0.87 (Diener et al., 1985). Test of discriminant validity yielded a strong negative correlation ( $r = -.72, p = .001$ ) when compared to the Beck Depression Inventory (Pavot & Diener, 1993). Two-month internal reliability test yielded a score of 0.82 (Diener et al., 1985).

#### *Patient’s Health Questionnaire (PHQ-15)*

The final outcome variable was examined utilizing the PHQ-15. This measure is a brief self-report questionnaire designed to assess somatic symptom severity and somatization in a variety of settings (Kroenke, Spitzer, & Williams, 2002). Responses are rated on a 3-point rating scale (0 = not bothered at all, 1 = bothered a little, 2 = bothered a lot). Scores range from 0 to 30 with higher scores reflecting higher levels of symptom severity. Examples of items included in the measure are: “Feeling your heart pound or race” and “Feeling tired or having low energy.” Chronbach’s alpha test of

reliability yielded a score of 0.80 in primary care setting (Kroenke et al., 2002). Construct validity assessment demonstrated the association between the PHQ-15 and several subscales of the Short Form Health Survey (i.e., disability days, symptoms related difficulty and healthcare utilization) in a primary care setting (Kroenke, 2002).

## Data Analysis

### *Preliminary Data Analysis*

Data analysis was conducted utilizing IBM's Statistical Package for the Social Sciences (SPSS) version 22.0 for Macintosh (IBM Corp., 2013). Initial data preparation began by identifying cases with missing values and whether missing values were random or consistent across cases. The missing data was coded utilizing the Missing Values function on SPSS.

Preliminary analysis was conducted in order to ensure that the data met assumptions of normality, linearity, homoscedasticity, and multicollinearity (Cohen B. H., 2001). Test of normality were conducted by analyzing the data distribution utilizing SPSS histogram. Following, Pearson's  $r$  coefficients were calculated to examine the relationship between predictors (i.e., veteran's level of disability, couple's stress, social support, and attachment style) and each outcome variable (i.e., satisfaction with life, caregiver burden scale, and physical symptoms questionnaire). A test of multicollinearity was accomplished by conducting a linear multiple regression utilizing all independent variables and each independent variable, separately.

For each of these tests, only collinearity coefficients were calculated. Tolerance and variance inflation factors were analyzed in order to determine possible multicollinearity issues (Cohen, 2001). Finally, descriptive statistics (i.e., mean, median, mode, variance, standard deviation, range, skewness and kurtosis) were evaluated in order to examine data frequency distribution.

### *Primary Data Analysis*

Prior to conducting the primary data analysis, centered variables were developed for each predictor (i.e., veteran's level of disability, couple's stress, social support, and attachment style) in order to avoid issues of multicollinearity when interaction terms were entered into the model. Next, a series of simple linear regressions were conducted to examine Hypotheses 1 and 2. The following formula was utilized to construct these regression models:

$$Y = B_0 + B_1X_1 + e \quad (1)$$

This model examined the relationship between the Y (dependent variable) and the X<sub>1</sub> (independent variable). Accordingly, the first hypothesis that the veteran's level of disability contributes negatively to the military caregiver's overall sense of well-being and the second hypothesis that lower relationship satisfaction contributes negatively to the military caregiver's overall sense of well-being were examined simultaneously. In this initial model, the disability scale and the relationship satisfaction scale were used to measure the independent variables. Accordingly, the satisfaction with life

scale, the caregiver burden scale, and the physical symptoms questionnaire were utilized to measure the dependent variable in three separate analyses. Following, as recommended by Cohen and Cohen (1983), Equation 2 was utilized to conduct a separate series of linear multiple regressions to analyze the moderating effects of interaction terms.

$$Y = B_0 + B_1X_1 + B_2X_2 + B_3X_1X_2 + e \quad (2)$$

Specifically, this model predicts Y (dependent variable) from X<sub>1</sub> independent variable, X<sub>2</sub> independent variable and the multiplicative product of X<sub>1</sub>X<sub>2</sub> as the interaction term. Accordingly, the third hypothesis that attachment buffers the negative effects of the veteran's disability on the caregiver's overall sense of well-being was evaluated by inputting the attachment scale to measure the first independent variable (B<sub>1</sub>X<sub>1</sub>), the disability scale to measure the second independent variable (B<sub>2</sub>X<sub>2</sub>), and the interaction term between the attachment scale and the disability scale were used to measure the third independent variable (B<sub>3</sub>X<sub>1</sub>X<sub>2</sub>), simultaneously. Additionally, this model controlled for the relationship satisfaction variable by including it as part of the independent variables. Next, the satisfaction with life scale, the caregiver burden scale, and the physical symptoms questionnaire were used to measure the dependent variable (Y) in three separate analyses.

The fourth hypothesis that attachment buffers the negative effects of lower relationship satisfaction on the caregiver's overall sense of well-being



was evaluated by inputting the attachment scale to measure the first independent variable ( $B_1X_1$ ), the relationship satisfaction scale was used to measure the second independent variable ( $B_2X_2$ ), and the interaction term between attachment and relationship satisfaction was used to measure the third independent variable ( $B_3X_1X_2$ ), simultaneously. Additionally, this model controlled for the veteran's level of disability by including the disability measure as part of the independent variables. Next, the satisfaction with life scale, the caregiver burden scale, and the physical symptoms questionnaire were used to measure the dependent variable (Y) in three separate analyses.

Following, the fifth hypothesis that social support buffers the effects of the veteran's disability on the caregiver's overall sense of well-being was then examined. Accordingly, the social support scale was used to measure the first independent variable ( $B_1X_1$ ), the disability scale was used to measure the second independent variable ( $B_2X_2$ ), and the interaction term between the social support scale and the disability scale was used to measure the third independent variable ( $B_3X_1X_2$ ), simultaneously. Additionally, this model controls for relationship satisfaction by including it as part of the independent variables. Next, the satisfaction with life scale, the caregiver burden scale, and the physical symptoms questionnaire were used to measure the dependent variable (Y) in three separate analyses.

Finally, the sixth hypothesis that social support buffers the effects of dyadic stress on the caregiver's overall well-being was tested. Accordingly,

the social support scale was used to measure the first independent variable ( $B_1X_1$ ), the relationship satisfaction scale was used to measure the second independent variable ( $B_2X_2$ ), and the interaction term between the social support scale and the relationship satisfaction scale were used to measure the third independent variable ( $B_3X_1X_2$ ), simultaneously. Additionally, this model controlled for the veteran's level of disability by including the disability measure as part of the independent variables. Next, the satisfaction with life scale, the caregiver burden scale, and the physical symptoms questionnaire were used to measure the dependent variable (Y) in three separate analyses.

## CHAPTER THREE: RESULTS

### Data Preparation

Data preparation consisted of exploratory analysis to ensure completion of survey. Upon termination of data collection period, a total sample size of 119 was collected of which 49 cases were removed due to noncompletion. Deleted cases included those that did not endorse a desire to participate in the informed consent page and those that endorsed a desire to participate but did not provide data beyond the informed consent. The remainder 70 cases were 100% completed and were utilized as the sample for this study.

Data were checked for adherence to assumptions of normality, linearity, homoscedasticity, and multicollinearity, and data met assumptions sufficiently for the purposes of my analyses. Centered variables were developed for each predictor in order to properly test interaction effects (i.e., veteran's level of disability, couple's stress, social support, and attachment style). Analysis was conducted utilizing only the centered variables. Pearson  $r$  intercorrelations among measures of veteran disability, measures of caregiver-veteran relationship quality, and measures of caregiver wellbeing are presented in Table 1.

Table 1.

Correlations Table

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
WHO											
ECX	.22										
ECV	.05	.22									
ZBU	.11	.43***	.50***								
CSI	.16	-.13	-.66***	-.39**							
MPSS	-.15	-.38**	-.29*	-.57***	.23						
MFA	-.08	-.30	-.10	-.40**	.19	.85***					
MFR	-.20	-.31**	-.28*	-.49***	.13	.91***	.62***				
MSO	-.11	-.41***	-.40**	-.51***	.30*	.92***	.65***	.80***			
PHQ	.01	.26*	.26*	-.57***	-.17	-.28*	-.24*	-.30*	-.21		
SWL	-.06	.28*	.43***	.60***	-.60***	-.50***	-.38**	-.45***	-.51***	.29*	

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ; Note.  $N = 70$ . WHO = World Health Organization Disability Assessment Schedule; ECX = Experience in Close Relationships – Short Form (Anxiety); ECV = Experience in Close Relationships – Short Form (Avoidance); ZBU = Zarit Burden Interview; CSI = Couples Satisfaction Index; MPSS = Multidimensional Scale of Perceived Social Support (Total); MFA = Multidimensional Scale of Perceived Social Support (Family); MFR = Multidimensional Scale of Perceived Social Support (Friends); MSO = Multidimensional Scale of Perceived Social Support (Significant Other); PHQ = Patient’s Health Questionnaire; SWL = Satisfaction with Life Scale.

Hypothesis One: The veteran’s level of disability is negatively associated to the military caregiver’s overall sense of well-being.

Hypothesis Two: Lower relationship satisfaction is negatively associated to the military caregivers’ overall sense of well-being.

To address the first two hypotheses a regression analyses was conducted predicting measures of caregiver wellbeing from measures of veteran disability and relationship satisfaction. First, SWL score was predicted from WHO and CSI-16 score which yielded a significant effect,  $F(2,67) = 18.94, p < .001$ , with an  $R^2$  of .361. Participants’ scores on the CSI-16 were significantly associated with their SWL scores,  $b = -.741, se = .121, p =$

<.001. Second, we predicted PHQ score from the same independent variables which yielded a nonsignificant result,  $F(2, 67) = 1.011, p = .369$ , with an  $R^2$  of .029. Lastly, we predicted ZBU score from the same independent variables which yielded a significant regression effect,  $F(2, 67) = 7.369, p = .001$ , with an  $R^2$  .180. Participants scores on the CSI-16 were significantly associated with their ZBU scores,  $b = -.803, se = .216, p = <.001$ . Contrary to our expectations, our data did not support the notion that the veterans' level of the disability would be significantly correlated with the caregiver's overall sense of wellbeing. However, our data indicate that relationship satisfaction as measured by the CSI-16 significantly and negatively predicted both dissatisfaction with life and caregiver burden. See Table 2 for an overview of the results.

**Table 2.**

*Summary of Multiple Regression Analyses Predicting Measures of Caregiver Wellbeing from Measures of Veteran Disability and Relationship Satisfaction.*

Variable	<i>b</i>	se	<i>p</i>	R <sup>2</sup>
Outcome: SWL				.361
CONST	21.986	.525	<.001	
WHO	.033	.074	.658	
CSI	-.741	.121	<.001	
Outcome: PHQ				.029
CONST	54.297	.619	<.001	
WHO	.026	.088	.766	
CSI	-.203	.143	.160	
Outcome: ZBU				.180
CONST	35.957	.937	<.001	
WHO	.205	.133	.127	
CSI	-.803	.216	<.001	

Note. *N* = 70. WHO = World Health Organization Disability Assessment Schedule; CSI = Couples Satisfaction Index; ZBU = Zarit Burden Interview; PHQ = Patient's Health Questionnaire; SWL = Satisfaction with Life Scale.

Hypothesis Three: Having a secure sense of attachment moderates the negative effects of the veteran's disability on the caregiver's overall sense of well-being.

To address our third hypothesis, three regression analyses were conducted predicting measures of caregiver wellbeing from measures of veteran disability, attachment, and relationship satisfaction, including interactions between measures of attachment and veteran disability. By

including CSI-16 score, we controlled for caregiver-veteran relationship satisfaction. In the first step we predicted participants' scores of dissatisfaction with life as measured by the SWL. This analysis yielded a significant regression effect ( $F(4,65) = 7.767$   $p = .262$ ) with an  $R^2$  of .425. Participants' scores on the CSI-16 were significantly associated with their SWL scores,  $b = .672$ ,  $se = .161$ ,  $p < .001$ . In our second analysis we predicted the caregivers' physical symptoms as measured by the PHQ. None of our predictive measures significantly predicted PHQ score. In our third analysis, we predicted the caregivers' overall level of burden as measured by the ZBU. This analysis yielded a significant regression effect ( $F(6,63) = 5.924$ ,  $p < .001$ ) with an  $R^2$  of .361. Participants' scores on our measure of anxious attachment (i.e., ECX) were significantly associated with their ZBU scores,  $b = .391$ ,  $se = .131$ ,  $p = .004$ . Respectively, participants' scores on our measure of avoidant attachment (i.e., ECV) were significantly associated with their ZBU scores,  $b = .430$ ,  $se = .179$ ,  $p = .019$ . (see Table 4).

**Table 4.**

*Summary of Multiple Regression Analyses Statistically Predicting Measures of Caregiver Wellbeing from Measures of Veteran Disability and Attachment, Controlling for Relationship Satisfaction.*

Variable	<i>b</i>	se	<i>p</i>	R <sup>2</sup>
Outcome: SWL				.425
CONST	21.831	.524	<.001	
WHO	.024	.082	.767	
ECX	.151	.079	.060	
ECV	.032	.108	.764	
CSI	-.672	.161	<.001	
ECX*WHO	.015	.009	.108	
ECV*WHO	-.004	.013	.755	
Outcome: PHQ				.143
CONST	24.365	.612	<.001	
WHO	.012	.096	.897	
ECX	.141	.092	.131	
ECV	.183	.126	.150	
CSI	.032	.188	.865	
ECX*WHO	.011	.120	.321	
ECV*WHO	-.018	-.142	.266	
Outcome: ZBU				.361
CONST	35.979	.871	<.001	
WHO	.043	.136	.751	
ECX	.391	.131	.004	
ECV	.430	.179	.019	
CSI	-.252	.268	.351	
ECX*WHO	-.002	.015	.898	
ECV*WHO	.000	.022	.996	

Note. *N* = 70. WHO = World Health Organization Disability Assessment Schedule; CSI = Couples Satisfaction Index; ZBU = Zarit Burden Interview; PHQ = Patient's Health Questionnaire; SWL = Satisfaction with Life Scale; ECX = Experience in Close Relationships – Short Form (Anxiety); ECV = Experience in Close Relationships – Short Form (Avoidance); ECX\*WHO = ECX-WHO Interaction; ECV\*WHO = ECV-WHO Interaction.



Hypothesis Four: Having a secure sense of attachment moderates the effects of low relationship satisfaction on the caregiver's overall sense of well-being.

To address this hypothesis three regression analyses were conducted predicting scores on measures of caregiver wellbeing from relationship satisfaction, veteran disability, attachment style as predictors, and included interactions between our measure of relationship satisfaction and our measures of attachment. By including the WHO score, we controlled for level of veteran disability. The first analysis predicted the caregiver's overall dissatisfaction with life as measured by the SWL. This analysis yielded a significant effect ( $F(6,63) = 7.096, p < .001$ ) with an  $R^2$  of .403. Participants' scores on the CSI were significantly associated with their SWL scores,  $b = -.682, se = .162, p < .001$ . Our analysis indicated that neither form of attachment (i.e., anxious or avoidant) provided a significant interaction effect (see Table 5). In our second analysis, we predicted the caregiver's overall level of physical symptoms as measured by the PHQ. This analysis yielded a significant effect ( $F(6,63) = 4.567, p = .001$ ) with an  $R^2$  of .303. Analysis of the interaction effect (Figure 4) indicated that CSI score positively predicted PHQ score among caregivers with an anxious attachment style ( $b = .045, se = .018, p = .015$ ). Conversely, in our third analysis, CSI score negatively predicted PHQ score (Figure 2) when levels of avoidant attachment were higher ( $b = -.072, se = .019, p = <.001$ ).

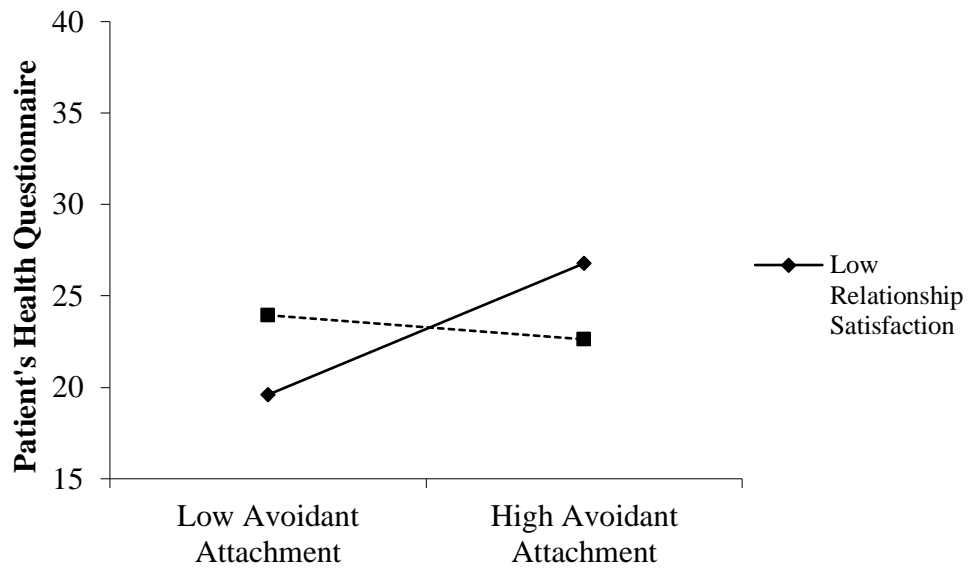


Figure 3. Predictive effects of relationships satisfaction on PHQ score when moderated by high and low avoidant attachment.

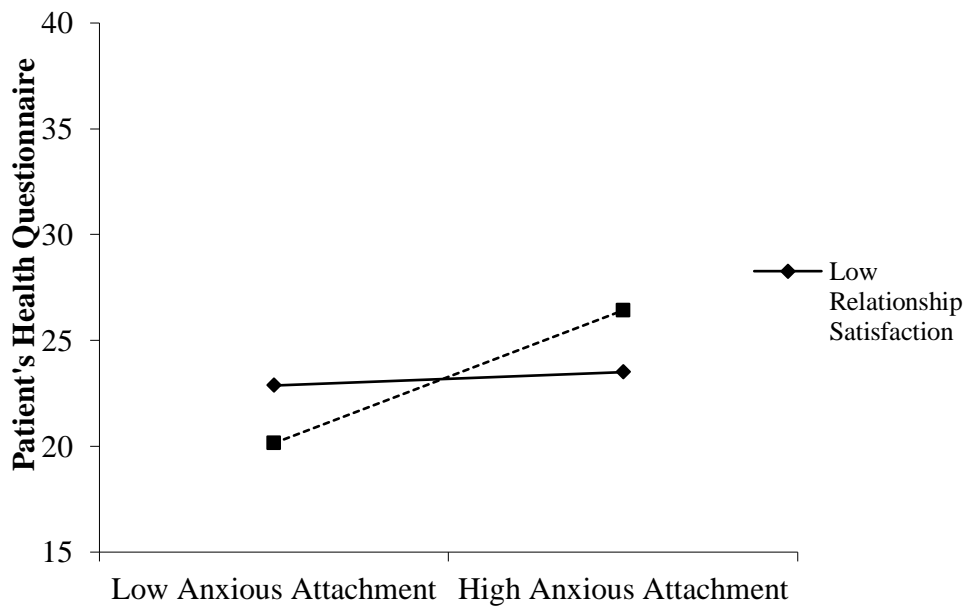


Figure 4. Predictive effects of relationship satisfaction on PHQ score when moderated by high and low anxious attachment.

**Table 5. Summary of Multiple Regression Analyses Statistically Predicting Measures of Caregiver Wellbeing from Measures of Attachment and Relationship Satisfaction, Controlling for Veteran Disability.**

Variable	<i>b</i>	SE	<i>p</i>	R <sup>2</sup>
Outcome: SWL				.403
CONST	21.976	.631	<.001	
ECX	.145	.081	.078	
ECV	.025	.112	.824	
CSI	-.686	.164	<.001	
WHO	-.005	.078	.948	
ECX*CSI	-.010	.017	.571	
ECV*CSI	.002	.019	.935	
Outcome: PHQ				.303
CONST	23.236	.653	<.001	
ECX	.244	.084	.005	
ECV	.220	.116	.062	
CSI	.011	.170	.948	
WHO	-.026	.081	.744	
ECX*CSI	.045	.018	.015	
ECV*CSI	-.072	.019	<.001	
Outcome: ZBU				.365
CONST	35.582	1.027	<.001	
ECX	.402	.132	.003	
ECV	.456	.182	.015	
CSI	-.259	.267	.336	
WHO	.052	.127	.680	
ECX*CSI	6.040	.028	.998	
ECV*CSI	-.020	.030	.525	

Note. *N* = 70. WHO = World Health Organization Disability Assessment Schedule; CSI = Couples Satisfaction Index; ZBU = Zarit Burden Interview; PHQ = Patient's Health Questionnaire; SWL = Satisfaction with Life Scale; ECX = Experience in Close Relationships – Short Form (Anxiety); ECV = Experience in Close Relationships – Short Form (Avoidance); ECX\*CSI = ECX-CSI Interaction; ECV\*CSI = ECV-CSI Interaction.

Hypothesis Five: Having a strong sense of social support moderates the effects of the veteran's disability on the caregiver's overall sense of well-being.

To address our fifth hypothesis we conducted three regression analyses predicting scores on measures of caregiver wellbeing from measures of veteran disability, perceived social support, and relationship satisfaction, including the interaction between our measure of perceived social support and our measure of veteran disability (i.e., WHO). By including the CSI score, we controlled for relationship satisfaction. In the first step of our regression analysis we predicted the caregiver's overall satisfaction with life as measured by the SWL. Overall, this analysis yielded a significant effect ( $F(4,65) = 18.146, p < .001$ ) with an  $R^2$  of .498. Participants' scores on the MSP were significantly associated with their SWL scores,  $b = -.144, se = .030, p = <.001$ . Additionally, participants' scores on the CSI were significantly associated with their SWL scores,  $b = .575, se = .111, p < .001$ . Predictive effects of level of disability on SWL score were moderated by high and low perceived social support (Figure 5). Interaction effects between our measures of disability and social support yielded a significant effect with respect to the caregivers' overall level of SWL ( $b = -.006, se = .003, p = .049$ ).

Following we predicted the caregiver's overall physical symptoms as measured by the PHQ. Overall, this analysis yielded a nonsignificant effect ( $F(4,65) = 1.760, p = .148$ .) with an  $R^2$  of .098. Participants' scores were not

significantly associated with the PHQ (See Table 6). Following we predicted the caregiver's overall burden as measured by the ZBU. Overall this analysis yielded a significant effect ( $F(4,65) = 9.271, p < .001$ ) with an  $R^2$  of .363. Participants' scores on the MSP were significantly associated with their ZBU scores,  $b = -.212, se = .055, p < .001$ . Participants' scores on the CSI also emerged as significantly associated with their ZBU scores,  $b = -.605, se = .204, p = .004$ . Interaction effects did not predict PHQ scores or ZBU scores.

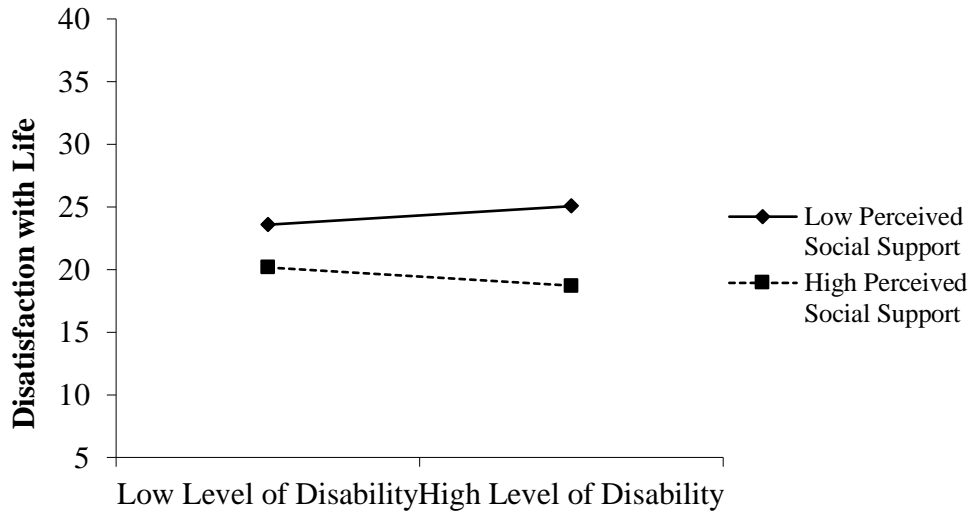


Figure 5. Predictive effects of level of disability as measured by the WHO on SWL score when moderated by high and low perceived social support.

**Table 6. Summary of Multiple Regression Analyses Statistically Predicting Measures of Caregiver Wellbeing from Measures of Veteran Disability, Perceived Social Support, and Caregiver-Veteran Relationship Satisfaction.**

Variable	b	se	p	R <sup>2</sup>
Outcome: SWL				.498
CONST	21.875	4.61	<.001	
MSP	-.144	.030	<.001	
WHO	.001	.067	.983	
CSI	.575	.111	<.001	
MPS*WHO	-.006	.003	.049	
Outcome: PHQ				.098
CONST	24.500	.611	<.001	
MSP	-.068	.040	.093	
WHO	-.020	.089	.821	
CSI	-.147	.147	.324	
MPS*WHO	.003	.004	.439	
Outcome: ZBU				.363
CONST	36.019	.844	<.001	
MSP	-.212	.055	<.001	
WHO	.093	.123	.449	
CSI	-.605	.204	.004	
MPS*WHO	.004	.006	.540	

Note. *N* = 70. WHO = World Health Organization Disability Assessment Schedule; CSI = Couples Satisfaction Index; ZBU = Zarit Burden Interview; PHQ = Patient's Health Questionnaire; SWL = Satisfaction with Life Scale; MPSS = Multidimensional Scale of Perceived Social Support (Total); MPS\*WHO = MPS-WHO Interaction.

Hypothesis Six: Having a strong sense of social support moderates the effects of low relationship satisfaction on the caregiver's overall sense of well-being.

To address my sixth hypothesis I conducted three multiple regression analyses predicting scores on measures of caregiver wellbeing from measures of veteran disability, perceived social support, and relationship satisfaction, including an interaction between our measure of perceived social support and our measure of veteran disability (i.e. WHO). By including WHO score, we controlled for level of veteran disability. In the first step of our regression analysis the caregiver's overall dissatisfaction with life as measured by the SWL was predicted. Overall, this analysis yielded a significant effect ( $F(4,65) = 16.476, p < .001$ ) with an  $R^2$  of .503. Participants' scores on the MSP were significantly associated with their SWL scores,  $b = -.112, se = .033, p = .001$ . Additionally, participants' scores on the CSI were significantly associated with their SWL scores,  $b = -.659, se = .123, p < .001$ . Interaction between perceived social support and caregiver-veteran relationship satisfaction did not predict SWL score. Participants' scores on the PHQ yielded a nonsignificant regression effect (see Table 7). With respect to ZBU score, predictors yielded a statistically significant regression effect. Overall, this analysis yielded a significant effect ( $F(4,65) = 10.280, p < .001$ ) with an  $R^2$  of .387. Participants scores on the MSP were significantly associated with their SWL scores,  $b = -.180, se = .057, p = .002$ . Additionally, participants scores on the CSI were significantly associated with their SWL scores,  $b = -.732, se = .215, p = .001$ . Interaction between perceived social support and caregiver-veteran relationship satisfaction did not predict SWL score.

**Table 7. Summary of Multiple Regression Analyses Statistically Predicting Measures of Caregiver Wellbeing from Measures of Perceived Social Support and Caregiver-Veteran Relationship Satisfaction, Controlling for Level of Veteran Disability.**

Variable	b	se	p	R <sup>2</sup>
Outcome: SWL				.503
CONST	21.880	.487	<.001	
MSP	-.112	.033	.001	
CSI	-.659	.123	<.001	
WHO	-.025	.068	.714	
MPS*CSI	.006	.008	.416	
Outcome: PHQ				.120
CONST	24.196	.611	<.001	
MSP	-.051	.042	.226	
CSI	-.221	.157	.163	
WHO	-.016	.086	.849	
MPS*CSI	.015	.010	.138	
Outcome: ZBU				.387
CONST	35.568	.853	<.001	
MSP	-.180	.057	.002	
CSI	-.732	.215	.001	
WHO	.094	.119	.434	
MSP*CSI	.023	.013	.090	

Note. *N* = 70. WHO = World Health Organization Disability Assessment Schedule; CSI = Couples Satisfaction Index; ZBU = Zarit Burden Interview; PHQ = Patient's Health Questionnaire; SWL = Satisfaction with Life Scale; MPSS = Multidimensional Scale of Perceived Social Support (Total); MPS\*CSI = MPS and CSI Interaction.

A simple slope analysis was conducted to better understand the nature of our interaction effects. This was accomplished utilizing one standard deviation above and below the mean for each predictor. To better understand



the moderating effect of relationship satisfaction on avoidant attachment when predicting PHQ score, we conducted a simple slope analysis. Per our analysis, the predictive effect of avoidant attachment depended on low relationship satisfaction ( $t = 2.76, p = .007$ ) but did not depend on high relationship satisfaction ( $t = 1.62, p = .110$ ). We conducted a similar simple slopes analysis to better understand the moderating effect of relationship satisfaction on anxious attachment when predicting PHQ score. Our results indicated that the predictive effect of anxious attachment did not depend on low relationship satisfaction ( $t = 1.950, p = .055$ ), but did depend on high relationship satisfaction ( $t = 2.61, p = .011$ ). Finally, we conducted a simple slopes analysis to determine the moderating effect perceived social support on level of veteran disability with predicting dissatisfaction with life. Our results showed that the predictive effect of perceived social support did not depend on either low perceived social support ( $t = -.584, p = .561$ ) or high perceived social support ( $t = -.840, p = .404$ ). This final simple slopes analysis is consistent with a nonsignificant interaction between the two variables.

Finally, an exploratory analysis was conducted in order to examine further the relationship between demographic variables (i.e., hours providing care, invisible injuries, visible injuries and outcome measures (i.e., PHQ, ZBU, SWL)). None of our demographic variables significantly predicted scores in our outcome measures.

## CHAPTER FOUR: DISCUSSION

### Overview of Theoretical Framework and Significant Results

Pearlin's Stress Process Model (1990) was utilized as the conceptual framework in our effort to explore variables that contribute to health outcomes among military caregivers. Pearlin's model theorizes that an informal caregiver's overall experience is driven by a primary stressor which in turn leads to additional sources of stress in the form of secondary strains (Pearlin, Mullan, Semple, & Skaff, 1990). Additionally, Pearlin suggested that internal and external variables have the capacity to moderate the nature of these relationships. Grounded on Pearlin's model, we conducted a series of linear regressions to explore the predictive effect of a primary stressor (i.e., veteran's level of disability), and a secondary strain (i.e., quality of the caregiving relationship) on the caregiver's overall sense of well-being. Additionally, this study examined the buffering effects of the caregiver's attachment style (i.e., internal moderator) and the caregiver's perceived level of social support (i.e., external moderator) on these relationships.

Following an examination of correlation coefficients, the most remarkable results that emerged from our data are a series of statistically significant correlations between the quality of the caregiving relationship and

various outcome measures. These results not only support Pearlin's suggested directional effect of secondary strains on outcome variables but also support our second hypothesis which theorized that lower relationship satisfaction between the military caregiver and the veteran would be negatively associated with the military caregivers' overall sense of well-being. As expected, the quality of the caregiving relationship appears to be a significant factor in determining the caregiver's overall dissatisfaction with life ( $r = -.60, p = .001$ ) as well as the caregiver's overall level of burden ( $r = -.39, p = .01$ ).

These findings help support the notion that a military caregivers' overall sense of well-being is closely related to the quality of their relationship to the care-recipient (Bondenmann, 1995; 2005). As previously suggested in the literature, caregiving dyads are highly interdependent and therefore, the negative effects of a partner's injury is considered an interpersonal experience that affects both members of the caregiving dyad (Savundranayagam, Montgomery, & Kosloski, 2010). Our findings support this notion by suggesting that the degree to which a military caregiver reports satisfaction with their life circumstance appears to be commensurate to the quality of their relationship with the care-recipient. Although the quality of the caregiving relationship alone was not a significant predictor of physical symptoms in our sample, this relationship changed when introducing attachment style.

As suggested by Pearlin and colleagues (1990), an examination of the moderating effect of our internal moderator (i.e., attachment style), indicates that having a secure sense of attachment moderates the effects of low relationship satisfaction on the caregiver's overall sense of well-being. These findings are consistent with our fourth hypothesis. As predicted, when introducing anxious and avoidant attachment styles, we saw that the predictive effect of relationship satisfaction on the caregiver's physical symptoms depends on the nature of the caregiver's attachment style. According to our findings, when caregiving dyads experienced a decline in the quality of their relationship, caregivers with an anxious attachment style were more likely to experience physical symptoms than those with a non-anxious attachment style. These findings are consistent with previous research, which suggested an association between adult attachment and higher incidents of physiological stress (Maunder & Hunter, 2008). As highlighted by Maunder (2001), individuals with higher levels of anxious and avoidant attachment appear to be more susceptible to experiencing physiological stress than did individuals with lower ratings of anxious and avoidant attachment. Similarly, higher levels of the stress hormone cortisol, were reported among romantic partners who endorsed higher ratings of anxious attachment (Jaremka et al., 2013). Additionally, based on these findings it is likely that individuals with avoidant attachment have developed this attachment style as a protective factor. This tendency would likely

contribute to mitigating experiencing emotional distress within the context of close relationships.

Also consistent with Pearlin's model (1990), further analysis of moderating variables yielded a statistically significant effect of our external moderator (i.e., the caregiver's perceived availability of social support) on the relationship between the veteran's level of disability and the military caregiver's overall sense of well-being. These findings supported our fifth hypothesis. Although the veteran's level of disability did not demonstrate a significant predictive value by itself, this relationship changed when introducing perceived social support. Social support appears to further suppress the effects of the veteran's disability on the caregiver's overall dissatisfaction with life. These results are consistent with previous research in the field of caregiving which posited that perceived social support appears to be a significant moderator of emotional distress, depression, anxiety, and can serve as a protective factor when facing challenges (Bryan and Hernandez 2013; Majerovitz, 2001; Krause, 2006).

Contrary to our expectations and our theoretical framework, our primary stressor (i.e., the veteran's overall level of disability) failed to significantly predict any of our outcome measures. These findings suggest that, for our population, the veterans' level of disability had no predictive value on the caregivers' overall sense of well-being. This finding is of particular interest when considering that research in the field of informal

caregivers has emphasized a strong association between the care-recipient's level of disability and the caregiver's sense of well-being as it was highlighted in our opening chapter. Despite a strong body of research supporting this correlation, researchers in the field of informal caregivers have also suggested that a caregiver's overall sense of well-being is not associated with the care-recipient's level of emotional distress over time (Godwin, Swank, Vaeth, & Ostwald, (2013). In other words, over time, this relationship is likely to change.

Researchers on the field of dyadic stress have suggested that in the case of a direct stressor such as a partner's injury, both members of the dyad are directly affected by the consequences associated with the stressor, often leading the development of psychological symptoms such as anxiety, depression, dissatisfaction with life (Bondenmann, 1995; 2005). Despite a strong body of research highlighting these negative consequences, marital improvements have also been observed among couples affected by psychosocial stressors (Cohan & Cole, 2002; Gritz, Willisch, Siau, & Wang, 1990; Lehman, Lang, Wortman, & Sorenson, 1989). Therefore, theories have begun to shift from emphasizing the negative effects of stress on dyadic adjustment and coping to considering the conditions that may contribute to positive effects or relationship improvements resulting from adverse experiences (Story & Bradbury, 2004; Updegraff & Taylor, 2000).

Taking this research into consideration, we theorize that military caregivers place a lower degree of significance on the primary stressor (i.e., the veteran's disability) as a result of being better prepared to deal with marital stressors. Among the most common challenges faced by military families are the constant worry for the safety of deployed spouse, loneliness, increase in parental and home responsibilities, geographic isolation, financial difficulties, having to and share marital/parental responsibilities over email or phone due to being separated over long periods of time, post-deployment reintegration issues, and visible/invisible injuries, many of which are present early in the relationship. Over time, these challenges are likely to contribute to a culture of self-determination, independence (in both partners) and ultimately a unique sense of resilience among military spouses. In turn, this developed sense of resilience is likely to enhance their ability to cope with challenges and therefore lead to lower appraisal of the primary stressor.

Other findings have suggested that caregiving spouses have a tendency to underestimate the care recipient's overall level of functioning, this phenomenon has been observed among caregiver who experience symptoms of depression and who feel burdened by the caregiving responsibilities (La Rue, 1992; Loewenstein and Rubert, 1992 Skurla, Rogers, and Sunderland 1988). This bias is also likely to be driven, at least in part, by the invisible nature of symptoms, such as anxiety, depression, chronic morbid ideation, and PTSD which often contributes to discrepancies between objective and

subjective measures of disability (DiNapoli, et al., 2017; Buckley, Laming, Chen, Crole, & Hester, 2016). Based on these findings, it is likely that among military caregivers, the notion of disability is likely to be a difficult to concept to define due to the often invisible nature of psychological symptoms and their impact across life domains such as occupational and/or personal. These contextual factors highlight clear difference between civilian caregivers and military caregivers.

From a civilian perspective, a person's level of disability is often understood as equivalent to the person's level of difficulty engaging in activities of daily living (ADLs) and instrumental activities of daily living (IADLs). This however, is not always the case when speaking of disabled veterans. Within the military system, the rating or level of disability granted to a person post-military discharge is not necessarily equivalent to their overall level of functioning but takes into account the person's overall suitability or fitness for military duty (U.S. Department of Veterans Affairs, 2018). Accordingly, a veteran is likely to be considered disabled, to some degree, due to having a condition that is considered to be unsuitable for military service despite their ability to function relatively well in their daily life. For example, a veteran with a chronic mental health condition (e.g., autism spectrum disorder, severe trauma related disorders, PTSD, depression, anxiety or personality disorders) who demonstrates little or no improvement over the course of treatment, is likely to be considered "unsuited for military



service” despite his or her ability to perform well in ADLs and IADLs. This unsuitability often leads to being administratively and/or medically separated from the military. Following this discharge, the veteran would be considered to be disabled and will receive financial support according to the specific percentage of disability associated with their condition.

As highlighted in our opening chapters, a veteran’s psychological, cognitive and/or physical disabilities often present significant challenges that often affect the entire family in various ways. These challenges however, are often alleviated by support services provided by the specific branch of service (i.e., Army, Marines, Navy, Air Force, Coast Guard, Reserves) in addition to the Department of Veterans Affairs. These support benefits would likely contribute to difficulty assessing the effects of the veteran’s disability on the caregiver’s overall sense of wellbeing due in part to the perceived benefits of their condition.

In some cases, the benefits associated with a military related disability are substantial and often capable of providing military families with resources that match or surpass their personal support network or financial gains accrued prior to being injured. For example, according to the updated benefit schedule for the Department of Veterans Affairs, a veteran with dependents, who receives disability benefits for being considered 100% disabled regardless of the nature of his/her condition, will receive \$3,261 per month, tax free, regardless of his/her rank or occupation prior to becoming

disabled (U.S. Department of Veterans Affairs, 2017). In many cases, this financial compensation surpasses the service member's salary while in active duty service. For instance, a junior enlisted service member, receives a salary of approximately \$2,000 (max) per month before taxes. If this same service member were to become disabled due to a diagnosis of Chronic Adjustment Disorder, PTSD, Substance Use Disorder with a comorbid condition such as substance abuse would receive a substantial financial increase. This financial benefit would likely contribute to varied perspectives when evaluating the negative consequences associated with the disability.

Taking into consideration confounding variables associated with the construct of military related disabilities, it is likely that veteran's condition is a difficult aspect of daily life that provides both challenges as well as benefits and therefore likely to confound the caregiver's overall appraisal of the disability. Additionally, it could be posited that military caregivers are better able to adapt to environmental stressors when compared to civilian caregivers as a result of being exposed to environmental stressors throughout their relationship.

Conversely, the nature of military culture should be taken into consideration when interpreting these results. Given that active duty military populations tend to under-report physical and psychological symptoms, it is possible that these habits influence military spouses thus leading to under-reporting or underestimating the veteran's disability. Accordingly, it is

posited that my population's response pattern could have influenced the results of my first hypothesis.

### Implications

The results of our study have several implications pertaining to research in the field of informal caregivers, clinical practice and theory. Although the body of literature on the field of informal caregivers is extensive, little was found regarding military caregivers. This study helps address this deficit by exploring factors affecting military caregivers who provide care to service members and veterans who served in conflicts post September 11, 2001. This population is of particular importance when taking into consideration the long-lasting duration of care-responsibilities, and unique contextual factors likely to confound the subjective appraisal of the primary stressor. By evaluating these factors, our study yielded several statistically significant analyses that provide further evidence of the significance placed in the quality of the caregiving relationship, and variables that help buffer the negative effects of these factors on the caregivers' overall sense of well-being.

In regards to clinical practice, our findings provide insight that would be instrumental in the biopsychosocial conceptualization of variables that contribute to an overall sense of well-being in this population. For example, our findings help emphasize the importance that should be placed in improving the quality of the caregiving relationship in efforts to improve the

overall quality of life and alleviation of psychological symptoms in this population.

Lastly our study provides several statistically significant results which help support Pearlin's theoretical model. Pearlin and colleagues (1990), suggested that the stress process is driven by the primary stressor, which leads to additional sources of stress in the form of secondary strains. These secondary strains are not thought to be secondary in terms of significance but are considered secondary because they are a direct result of the primary stressor. This concept is supported by our findings which highlighted the significance of the quality of the caregiving relationship in predicting the caregiver's overall sense of well-being in our sample.

#### Limitations

Among the most notable limitations in our study is the correlational nature of Pearlin's Stress Processing Model (1990), which provides a theoretical framework to examine the associations that exist between factors contributing to caregiving stress. This model however, provides a limited view into the nature of these relationships. Accordingly, our results provide a snapshot of the caregivers' condition at a single point in time which limits our ability to examine changes that may occur as the contextual factors (e.g., severity of the disability; quality of the caregiving relationship) fluctuate over time.

Another noteworthy limitation is the subjective nature of the caregiver's appraisal of the veteran's disability and their overall level of functioning across life domains. Although a large majority of participants (95%) were women who reported being in a romantic relationship with the disabled veterans and therefore are likely to be in close proximity to the veteran, their appraisal of the degree of disability or its impact on the veteran's overall level of functioning, is based only on the caregiver's subjective determination. For this study, we chose to measure the veteran's degree of disability by utilizing the WHODAS 2.0 Proxy, a measure designed to be completed by the caregiver as a subjective measure of the care-recipient's overall level of disability by evaluating the care-recipient's level of functioning across various life domains (World Health Organization, 2010). This determination is likely to be most accurate among cases associated with visible injuries (i.e., loss of auditory/visual capacity, burns, loss of muscle tissue, amputation, and chronic pain) as these often present clear challenges in ADL and IADLs. This group however, represents a clear minority in our sample. On the contrary, this evaluation is likely to be highly underestimated in cases of invisible injury which were reported by 100% of our sample as a comorbid symptom or as a stand-alone issue. Accordingly, evaluating the impact of invisible injuries on the veteran's overall ability to function across life domains requires a joint appraisal of both members of the

caregiving dyad in order to gather a comprehensive picture of the degree of disability, and its impact on the veteran's quality of life.

Another limiting factor is the difficulty associated with accessing this population which contributed to significant difficulty recruiting potential participants. The nature of the military population as a whole is one of pride, which places a strong value in taking care of "their own." This cultural characteristic translates to military spouses and dependents who often refer to each other as "family" regardless of rank, time in service, branch or occupation (Military OneSource, 2018). In light of the protective nature of this community, we encountered resistance when requesting access to online groups, support groups, online forums, and so on, despite the fact that the primary investigator for this study is an active duty service member. Due to the limited number of participants, it is improbable that this sample would be an accurate representation of the population. This inaccuracy should be taken into consideration when interpreting the results. Additionally, although by design, our population characteristics exclude other caregiving populations such as the children of disabled veterans who provide care to a wounded parent or parents who provide care to veterans with combat related injuries.

Other aspects of our study appear to have been affected by our small sample. We note that our preliminary power analysis suggested 140 participants in order to achieve a statistically significant effects from our

internal and external moderators. This number was not achieved which likely contributes to various non-significant analyses.

### Recommendations for Future Research

Per the limitations identified, we recommended that future research incorporate a longitudinal design in order to capture a comprehensive view of the military caregiver's condition over time. This change in design would likely provide data useful in further explicating the nature of correlations found in the data. A continuous model would also provide a view into trends likely to occur in primary stressors and secondary strains over time.

In light of the limitations associated with the subjective nature of our design. We recommend to continue this path of research by measuring the caregiver and care-recipient as a dyad. By including the veteran's own appraisal of all independent and dependent variables we foresee acquiring a more comprehensive view of the veteran's symptomatology and its impact on secondary strains and outcome measures. This technique would also highlight possible discrepancies between the veteran's appraisal of his/her condition and the caregiver's perspective, a phenomenon previously highlighted in the research.

It is also recommended that demographic factors be considered in future research. These findings are likely to be influenced by issues associated with rank, income, branch of service, years of service, and gender to name a few. These variables would likely highlight issues associated with

occupational risk, exposure to combat, and access to care and benefits (e.g., financial, social, medical) post-injury. Additionally, future research should be conducted on other populations who provide care to ill and/or wounded service members such as the children and/or parents of this population. Previous research has highlighted that 42% of military caregivers are parents of wounded veterans and 5% are children to provide this care (National Alliance for Caregiving, 2010). Including these populations would provide information regarding additional challenges faced by veterans of various conflicts and possible discrepancies in support services provided to various caregiving groups. Additionally, this inclusion would likely contribute to the generalizability of research conducted with this population.

Finally, although the literature supported our utilization of perceived social support as our external moderating variable, it is recommended that future research incorporate measures of enacted support. The concept of social support is defined in the literature as the emotional, psychological, and/or instrumental resources that an individual receives from their support network when facing a specific stressor (Cohen & Syme, 1985; Cutrona, 1996; Sarason & Sarason, 2006). Enacted support is focused on the observable actions performed by members of the person's support network including financial assistance, providing transportation, or practical assistance (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 2004). Based on this research we recognize that some individuals evaluate the amount of



support available to them by the amount of tangible assistance received, thus a measure of enacted support is likely to provide a more representative measure of support.

### Conclusion

The present study attempted to examine the impact of psychosocial stressors on military caregiver's overall sense of well-being and the buffering effects of internal and external moderators on these relationships. To our surprise, a linear regressions analysis yielded non-significant results of the effect for the veterans' level of disability on the caregivers' overall sense of well-being. This is somewhat inconsistent with the literature which has suggested that direct stressors such as a partner's injury is likely to lead to a decrease in a person's overall sense of well-being. Congruent with the literature however, a linear regression analysis yielded a statistically significant effect of the quality of the caregiving relationships on multiple measures of well-being. Furthermore, a moderation analysis suggested an increase in the likelihood of developing physical symptoms among caregivers who endorsed an anxious attachment style. Additionally, although the veterans' disability did not demonstrate a statistically significant effect of the caregivers' well-being, perceived social support appeared to further buffer these effects over the caregivers' dissatisfaction with life and sense of burden. Various limitations were identified in regards to the subjective nature of our methodology, and issues associated with our small sample size which

likely contributed to non-significant results in various analyses and limits the generalizability of our findings. Finally, this study contributes to the field of informal caregivers by providing a view into variables that affect military caregivers and provides a clear path moving forward.

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## APPENDIX A

### Informed Consent Form

My name is Marcello Martinez and I am a doctoral student of Counseling Psychology at the University of Denver and a reservist in the U.S. Air Force. Currently, I am working on my dissertation and I could use your help in conducting a study on the stressors faced by military caregivers.

#### *About This Study*

When an ill or injured soldier returns home from the front lines, romantic partners are often faced with the responsibility of providing assistance through the long journey of recovery. Unfortunately, due to the traumatic nature of these injuries, some veterans are left to deal with the lifelong effects of combat and require long-term care. Consequently, these responsibilities hold the potential to affect the well-being of those who provide care.

Currently, the majority of the research on caregivers has focused on individuals who provide care to geriatric populations and others suffering from chronic medical conditions. As a result of this emphasis, much is still to be learned regarding romantic partners who provide care to ill or injured veterans.

#### *Participants*

I am looking for romantic partners/spouses who help provide care to a service member and/or veteran who needs assistance (e.g., bathing, dressing, feeding, giving medicines, assist in treatment, transportation) without receiving financial compensation for their assistance to the service member and/or veteran. Specifically, the assistance provided to the caregiver is separate from any benefits (e.g., disability assistance or otherwise) that the military service member and/or veteran receives.

#### *Procedure*

Participation in this study should take about 20 to 25 minutes of your time. Your contribution to the study will involve responding to 99 questions regarding your loved one's disability, the quality of your relationship, the way you provide care, sense of social support, level of burden experienced as a result of providing care, satisfaction with life, and physical symptoms you may be experiencing.

It is important that you know that participation in this project is strictly voluntary. The risks associated with this project are minimal. If, however, you experience discomfort you may discontinue the survey at any time. Additionally, I respect your right to choose not to answer any questions that may make you feel uncomfortable. Refusal to participate or withdrawal from participation is entirely up to you, at any time.

You should also know that your participation in this study is strictly anonymous. In order to ensure your privacy, your responses will be identified by code number only and will be kept separate from information that could identify you. Only I will have access to your individual data and any reports generated as a result of this study will use only group information, not individual data. However, should any information contained in this study be the subject of a court order or lawful subpoena, the University of Denver might not be able to avoid compliance with the order or subpoena.

If you have any concerns or complaints about how you were treated during this process, please feel free to contact the University of Denver's Office of Research and Sponsored Programs at 303-871-4050 or write to the University of Denver, Office of Research and Sponsored Programs at 2199 S. University Blvd., Denver, CO 80208-2121. If you understand and agree to the above statements and thus choose to participate in the study, please indicate your desire to participate by selecting the option below.

I have read and understood the foregoing descriptions of the study called "Determinants of Well-Being Among Military Caregivers." I agree to participate in this study, and I understand that I may withdraw my consent at any time. Please indicate your consent or non-consent to participate by selecting an option below. If you do not consent to participate, you will be taken to the end of the survey.

Yes, I agree to participate in the study.

No, I do not agree to participate in this study.

Thank you so much for your consideration.

Marcello Martinez

APPENDIX B

Demographic Questionnaire

---

Age: \_\_\_\_\_

Gender: \_\_\_ Male \_\_\_ Female \_\_\_ Other: \_\_\_\_\_

Sexual orientation:

- Heterosexual
- Gay/lesbian
- Bisexual
- Other: \_\_\_\_\_
- Prefer not say

Annual Household Income:

- \_\_\_ Less than 10,000
- \_\_\_ 10,001 to 20,000
- \_\_\_ 20,001 to 30,000
- \_\_\_ 30,001 to 40,000
- \_\_\_ 40,001 to 50,000
- \_\_\_ 50,001 to 60,000
- \_\_\_ 60,001 to 70,000
- \_\_\_ 70,001 to 80,000
- \_\_\_ 80,001 to 90,000
- \_\_\_ 90,001 to 100,000
- \_\_\_ More than 100,000

Please choose the option that best describes your race/ethnicity:

- American Indian or Alaska Native
- Asian or Asian American
- Biracial/Multiracial
- Black or African American
- Hispanic or Latino/Latina
- Native Hawaiian or other Pacific Islander
- White
- Other: \_\_\_\_\_

Please indicate your religious/spiritual preference:

- Buddhist
- Christian
- Hindu
- Islamic
- Jewish

- No religious belief/agnostic/atheist
- Other: \_\_\_\_\_

Please indicate your relationship to the ill and/or wounded service member and/or veteran:

- Spouse
- Romantic partner
- Other: \_\_\_\_\_

Do you currently live with the ill and/or injured service member or veteran?  
\_\_\_ Yes \_\_\_ No

Please describe the type of illness and/or injury which caused and/or contributes to the service member's disability:

Medical illness:

- Parkinson's disease
- Cancer
- Dementia
- Diabetes
- Multiple sclerosis
- Other: \_\_\_\_\_

Visible injury:

- Traumatic brain injury
- Paralysis
- Spinal injury
- Chronic pain
- Blindness
- Major limb amputation
- Burns
- Loss of muscle tissue
- Shrapnel
- Other: \_\_\_\_\_

Invisible injury:

- Depression
- Anxiety
- Posttraumatic Stress Disorder
- Suicidal ideation
- Sleep issues
- Substance abuse
- Social isolation

Please indicate in what branch of service did your ill and/or injured service member or veteran served:

- Army
- Marines
- Navy
- Air Force
- Coast Guard
- Reserves

Please provide information regarding your caregiving duties by selecting items from the list below:

- Mobility/Transportation
- Getting dressed
- Bathing
- Feeding
- Dealing with incontinence
- Managing medication
- Managing finances
- Communicating with medical care providers
- Rehabilitation
- Arranging outside services (e.g., medical checkups)
- Other: \_\_\_\_\_

Average number of hours committed to caregiving duties:

- 0-5
- 6-10
- 11-15
- 16-20
- 21-25
- 26-30
- 31-35
- 36-40
- More than 40 hours a week

Number of years as a caregiver:

- 0-1
- 1-5
- 6-10
- More than 10 years

WHODAS 2.0, Proxy-Administered

---

This questionnaire asks about difficulties due to health conditions experienced by the person about whom you are responding. Health

conditions include diseases or illnesses, other health problems that may be short or long lasting, injuries, mental or emotional problems, and problems with alcohol or drugs.

Think back over the past 30 days and, to the best of your knowledge, answer these questions thinking about how much difficulty your relative had while doing the following activities.

Standing for long periods such as 30 minutes?

None Mild Moderate Severe Extreme or  
cannot do

Taking care of his or her household responsibilities?

None Mild Moderate Severe Extreme or  
cannot do

Learning a new task, for example, learning how to get to a new place?

None Mild Moderate Severe Extreme or  
cannot do

How much of a problem did your relative have joining in community activities (for example, festivities, religious or other activities) in the same way as anyone else can?

None Mild Moderate Severe Extreme or  
cannot do

How much has your relative been emotionally affected by his or her health condition?

None Mild Moderate Severe Extreme or  
cannot do

Concentrating on doing something for ten minutes?

None Mild Moderate Severe Extreme or  
cannot do

Walking a long distance such as a mile [or equivalent]?

None Mild Moderate Severe Extreme or

cannot do

Washing his or her whole body?

None	Mild	Moderate	Severe	Extreme or
cannot do				

Getting dressed?

None	Mild	Moderate	Severe	Extreme or
cannot do				

Dealing with people he or she does not know?

None	Mild	Moderate	Severe	Extreme or
cannot do				

Maintaining a friendship?

None	Mild	Moderate	Severe	Extreme or
cannot do				

His or her day-to-day work?

None	Mild	Moderate	Severe	Extreme or
cannot do				

---

### Couples Satisfaction Index

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Please indicate the degree of happiness, all things considered, of your relationship.

Most people have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list.

In general, how often do you think that things between you and your partner are going well?

All the time	Most of the time	More often than not
Occasionally	Rarely	Never

Our relationship is strong

All the time	Most of the time	More often than not
--------------	------------------	---------------------

Occasionally Rarely Never

My relationship with my partner makes me happy

All the time Most of the time More often than not  
Occasionally Rarely Never

I have a warm and comfortable relationship with my partner

All the time Most of the time More often than not  
Occasionally Rarely Never

I really feel like part of a team with my partner

How rewarding is your relationship with your partner?

All the time Most of the time More often than not  
Occasionally Rarely Never

How well does your partner meet your needs?

All the time Most of the time More often than not  
Occasionally Rarely Never

To what extent has your relationship met your original expectations?

All the time Most of the time More often than not  
Occasionally Rarely Never

In general, how satisfied are you with your relationship?

All the time Most of the time More often than not  
Occasionally Rarely Never

For each of the following items, select the answer that best describes *how you feel about your relationship*. Base your responses on your first impressions and immediate feelings about the item.

INTERESTING	5	4	3	2	1	0	BORING
BAD	5	4	3	2	1	0	GOOD
FULL	5	4	3	2	1	0	EMPTY
STURDY	5	4	3	2	1	0	FRAGILE
DISCOURAGING	5	4	3	2	1	0	HOPEFUL
ENJOYABLE	5	4	3	2	1	0	MISSER

---

Experiences in Close Relationship Scale-Short Form



Instruction: The following statements concern how you feel in your current relationship. Respond to each statement by indicating how much you agree or disagree with it. Mark your answer using the following rating scale:

It helps to turn to my romantic partner in times of need.

Strongly Disagree; Disagree; Slightly Disagree; Neutral; Slightly Agree; Agree; Strongly agree

I need a lot of reassurance that I am loved by my partner.

Strongly Disagree; Disagree; Slightly Disagree; Neutral; Slightly Agree; Agree; Strongly agree

I want to get close to my partner, but I keep pulling back.

Strongly Disagree; Disagree; Slightly Disagree; Neutral; Slightly Agree; Agree; Strongly agree

I find that my partner(s) don't want to get as close as I would like.

Strongly Disagree; Disagree; Slightly Disagree; Neutral; Slightly Agree; Agree; Strongly agree

I turn to my partner for many things, including comfort and reassurance.

Strongly Disagree; Disagree; Slightly Disagree; Neutral; Slightly Agree; Agree; Strongly agree

My desire to be very close sometimes scares people away.

Strongly Disagree; Disagree; Slightly Disagree; Neutral; Slightly Agree; Agree; Strongly agree

I try to avoid getting too close to my partner.

Strongly Disagree; Disagree; Slightly Disagree; Neutral; Slightly Agree; Agree; Strongly agree

I do not often worry about being abandoned.

Strongly Disagree; Disagree; Slightly Disagree; Neutral; Slightly Agree; Agree; Strongly agree

I usually discuss my problems and concerns with my partner.

Strongly Disagree; Disagree; Slightly Disagree; Neutral; Slightly Agree; Agree; Strongly agree

I get frustrated if romantic partners are not available when I need them.

Strongly Disagree; Disagree; Slightly Disagree; Neutral; Slightly Agree; Agree; Strongly agree

I am nervous when partners get too close to me.

Strongly Disagree; Disagree; Slightly Disagree; Neutral; Slightly Agree; Agree; Strongly agree

I worry that romantic partners won't care about me as much as I care about them.

Strongly Disagree; Disagree; Slightly Disagree; Neutral; Slightly Agree; Agree; Strongly agree

---

#### Multidimensional Scale of Perceived Social Support

---

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

There is a special person who is around when I am in need.

Very Strongly Disagree; Strongly Disagree; Mildly disagree; Neutral; Mildly Agree; Strongly Agree; Very Strongly Agree

There is a special person with whom I can share joys and sorrows.

Very Strongly Disagree; Strongly Disagree; Mildly disagree; Neutral; Mildly Agree; Strongly Agree; Very Strongly Agree

My family really tries to help me.

Very Strongly Disagree; Strongly Disagree; Mildly disagree; Neutral; Mildly Agree; Strongly Agree; Very Strongly Agree

I get the emotional help & support I need from my family.

Very Strongly Disagree; Strongly Disagree; Mildly disagree; Neutral;  
Mildly Agree; Strongly Agree; Very Strongly Agree

I have a special person who is a real source of comfort to me.

Very Strongly Disagree; Strongly Disagree; Mildly disagree; Neutral;  
Mildly Agree; Strongly Agree; Very Strongly Agree

My friends really try to help me.

Very Strongly Disagree; Strongly Disagree; Mildly disagree; Neutral;  
Mildly Agree; Strongly Agree; Very Strongly Agree

I can count on my friends when things go wrong.

Very Strongly Disagree; Strongly Disagree; Mildly disagree; Neutral;  
Mildly Agree; Strongly Agree; Very Strongly Agree

I can talk about my problems with my family.

Very Strongly Disagree; Strongly Disagree; Mildly disagree; Neutral;  
Mildly Agree; Strongly Agree; Very Strongly Agree

I have friends with whom I can share my joys and sorrows.

Very Strongly Disagree; Strongly Disagree; Mildly disagree; Neutral;  
Mildly Agree; Strongly Agree; Very Strongly Agree

There is a special person in my life who cares about my feelings.

Very Strongly Disagree; Strongly Disagree; Mildly disagree; Neutral;  
Mildly Agree; Strongly Agree; Very Strongly Agree

My family is willing to help me make decisions.

Very Strongly Disagree; Strongly Disagree; Mildly disagree; Neutral;  
Mildly Agree; Strongly Agree; Very Strongly Agree

I can talk about my problems with my friends.

Very Strongly Disagree; Strongly Disagree; Mildly disagree; Neutral;  
Mildly Agree; Strongly Agree; Very Strongly Agree

Please circle the response the best describes how you feel.

Do you feel that because of the time you spend with your relative that you don't have enough time for yourself?

Never Rarely Sometimes Quite Frequently Nearly  
Always

Do you feel stressed between caring for your relative and trying to meet other responsibilities for your family or work?

Never Rarely Sometimes Quite Frequently Nearly  
Always

Do you feel angry when you are around your relative?

Never Rarely Sometimes Quite Frequently Nearly  
Always

Do you feel that your relative currently affects our relationships with other family members or friends in a negative way?

Never Rarely Sometimes Quite Frequently Nearly  
Always

Do you feel strained when you are around your relative?

Never Rarely Sometimes Quite Frequently Nearly  
Always

Do you feel your health has suffered because of your involvement with your relative?

Never Rarely Sometimes Quite Frequently Nearly  
Always

Do you feel that you don't have as much privacy as you would like because of your relative?

Never Rarely Sometimes Quite Frequently Nearly  
Always

Do you feel that your social life has suffered because you are caring for your relative?

Never Rarely Sometimes Quite Frequently Nearly Always

Do you feel you have lost control of your life since your relative's illness?

Never Rarely Sometimes Quite Frequently Nearly Always

Do you feel uncertain about what to do about your relative?

Never Rarely Sometimes Quite Frequently Nearly Always

Do you feel you should be doing more for your relative?

Never Rarely Sometimes Quite Frequently Nearly Always

Do you feel you could do a better job in caring for your relative?

Never Rarely Sometimes Quite Frequently Nearly Always

---

Satisfaction with Life Scale

---

Below are five statements that you may agree or disagree with. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- 7. Strongly agree
- 6. Agree
- 5. Slightly agree
- 4. Neither agree nor disagree
- 3. Slightly disagree
- 2. Disagree
- 1. Strongly disagree

\_\_\_ In most ways my life is close to my ideal.

\_\_\_ The conditions of my life are excellent.

\_\_\_ I am satisfied with my life.

\_\_\_ So far I have gotten the important things I want in life.  
\_\_\_ If I could live my life over, I would change almost nothing.

### Physical Symptoms Questionnaire

---

Please indicate how much have you been bothered by any of the following problems in the past 4 weeks.

Stomach pain

Not bothered at all; Bothered a little; Bothered a lot

Back pain

Not bothered at all; Bothered a little; Bothered a lot

Pain in your arms, legs, or joints (knees, hips, etc.)

Not bothered at all; Bothered a little; Bothered a lot

Menstrual cramps or other problems with your periods (Women Only)

Not bothered at all; Bothered a little; Bothered a lot

Headaches

Not bothered at all; Bothered a little; Bothered a lot

Chest pain

Not bothered at all; Bothered a little; Bothered a lot

Dizziness

Not bothered at all; Bothered a little; Bothered a lot

Fainting spells

Not bothered at all; Bothered a little; Bothered a lot

Feeling your heart pound or race

Not bothered at all; Bothered a little; Bothered a lot

Shortness of breath

Not bothered at all; Bothered a little; Bothered a lot

Pain or problems during sexual intercourse

Not bothered at all; Bothered a little; Bothered a lot

Constipation, loose bowels, or diarrhea

Not bothered at all; Bothered a little; Bothered a lot

Nausea, gas, or indigestion

Not bothered at all; Bothered a little; Bothered a lot

Feeling tired or having low energy

Not bothered at all; Bothered a little; Bothered a lot

Trouble sleeping

Not bothered at all; Bothered a little; Bothered a lot

## APPENDIX C

Table 1. Study Sample Size and Percentage of Sample by Demographic Variables

Variable	n	%
Living Arrangement		
Living with veteran	61	87.1
Living separate	9	12.9
Employment		
Works outside home	47	67.1
Does not work	23	32.9
Receives Help From Others		
Yes	13	18.4
No	81.4	81.6
Veterans with Physical Injuries		
Traumatic Brain Injury	25	35.7
Chronic Pain	21	30.0
Loss of Muscle Tissue	1	1.4
Major Limb Amputation	3	4.3
Paralysis	3	4.3
Shrapnel	3	4.3
Spinal Injury	1	1.4
Other	13	18.6
Veterans with Invisible Injuries		
Posttraumatic Stress Disorder	40	57.1
Depression	23	32.9
Substance Abuse	7	10.0
Branch of Service		
Army	49	70.0
Navy	9	12.9
Marines	7	10.0
Reserves	3	4.3



Air Force	2	2.9
Number of Hours Providing Care		
6 – 10	23	32.9
16 – 25	14	20
Less than 5	13	18.6
11 – 15	12	17.1
21 – 30	12	17.1
31 – 40	3	4.3