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Ambiguous Loss Feelings Amongst Caregivers of Operation Enduring Freedom Veterans

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Walden University
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Abstract

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Abstract

This quantitative study compares the possible relationship between ambiguous loss and the stress level of caregivers of Operation Enduring Freedom (OEF) veterans who served in combat. Injured servicemembers need caregivers to assist them in caring for their physical and mental health needs. This study examined whether there is a relationship between the perceived ambiguous loss among caregivers of OEF injured veterans and the stress level experienced by caregivers. The theoretical framework for this study is the ambiguous loss theory. The methodology used to test the hypothesis is a quantitative correlational design to compare ambiguous loss variables amongst caregivers of injured OEF veterans. The independent variable is the ambiguous loss of sense of physical presence but the psychological absence. The dependent variable is stress. The control variable is the perceived stress level of caregivers of OEF-injured veterans. The hypothesis was tested using the linear regression test. Stress is increased due to caregivers' perception of ambiguous loss resulting from the injured veterans' continued physical presence, but the psychological absence was substantiated. The Pearson Correlation test displayed a correlation between ambiguous loss and stress. This study contributes to understanding caregivers, military/veteran caregivers, and veterans' stress and coping. Positive social change can be affected through resiliency skill-based resources for caregivers.

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Dedication

This dissertation is dedicated to the military-veteran community that sacrifices so that we can have freedom. May this research continue to understand the dynamics the military and veteran community faces.

Acknowledgments

I would like to first acknowledge my God for giving me the strength, knowledge, and abilities to complete this dissertation. Thank you, mom, and dad, for always supporting and believing in me when I take on challenges from childhood until adulthood. Thank you to my husband, who challenged me to start my doctoral journey during our dating period and not put it off.

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Chapter 1: Introduction to the Study

Introduction

Deployment can effect mental and medical changes to both service members and their families (Clymer et al., 2008). Since September 11, 2001, over two million service members have deployed to Iraq or Afghanistan in the War on Terrorism (Clymer et al., 2008; MacDermid Wadsworth, 2010). It is estimated that over 27% of those deployed have multiple deployments, which increases the likelihood of mental and physical injuries, mental health symptoms, mental health disorders, marital problems, and occupational problems among service members (Clymer et al., 2008; Sayer et al., 2008). Due to better assessments, detection, and awareness among soldiers, the diagnosis and treatment of soldiers with mental health disorders have increased over the last 5 years (Chin & Zeber, 2020; Sayer et al., 2008). These combat injury symptoms can include personality alterations, behavioral changes, erratic emotional expression, irritability, anger, apathy, lack of empathy, and cognitive and social dysfunction (Chase & Nevin, 2015; Chin & Zeber, 2020; Woodruff et al., 2018).

Psychological changes caused by experiencing combat may cause a sense of loss among servicemembers (Boss et al., 2016). It may lead to feelings of anxiety and uncertainty, as well as a sense that relationships once cherished are not the same after trauma is experienced. Such mentality contributes to service members' sense of loss (Boss, 2010). Increased research on moral values and the relationship to ambiguous loss can illuminate factors that increase the resiliency of service members and families. Increasing resiliency can help clinicians provide the most effective evidence-based

therapy for service members and families, impacting social change (Miller et al., 2019). Increased resiliency among service members and families can affect their well-being physically and mentally (Miller et al., 2019).

Background

When service members return from deployments in war zones with physical and/or psychological injuries, they may be physically present but psychologically absent (Boss & Carnes, 2012). Boss (2007) described these experiences by a concept known as ambiguous loss. Type One ambiguous loss is defined as either physically absent or psychologically present such as when a person is missing, but the family still has a psychological connection (Boss et al., 2021). Type two ambiguous loss is when someone is physically present but psychologically disconnected, such as someone with Alzheimer's disease (Carnahan et al., 2020).

Combat exposure increases the risk of family stress among military and veteran families (Hook, 2019). However, interventions reduce veteran families' risk of stress (Hook, 2019). Resiliency skills utilized following combat exposure have protected against adverse outcomes (Hook, 2019). Current research does not address a sense of loss among members servicemembers who experience injuries from combat (Chase & Nevin, 2015; Chin & Zeber, 2020; Donoho et al., 2017; Woodruff et al., 2018). Quantitative studies are necessary to increase the understanding of ambiguous loss and the relationship between depression, burden, and stress. Many researchers have examined the effects of deployment on families and traumatic brain injury (TBI; Clymer et al., 2008; Landau,

2008). However, limited studies have examined a correlation between ambiguous loss with the caregivers of Operation Enduring Freedom (OEF) injured veterans.

Problem Statement

Moral values of mastery and fatalism may impact ambiguous loss amongst injured servicemembers. Differing moral values and cultural beliefs influence how families define stressful events (Boss et al., 2016). Not all families experiencing stressful events are in crisis, and not all family stress is viewed negatively (Boss et al., 2016). Of servicemembers who return from combat, 33% experience TBI, post-traumatic stress disorder (PTSD), or depression (Cozza et al., 2013a; Donoho et al., 2017; Kritikos et al., 2018). These combat injury symptoms can alter personalities, change, and behavior, causing erratic emotional expressions such as irritability, anger, apathy, lack of energy, and cognitive and social dysfunction (Cozza et al., 2013a). Ambiguous loss theory discusses resiliency and how mastery and fatalism can affect how one views family stress. However, until this study, this has not been tested amongst those who experience type two ambiguous loss.

Injured servicemembers need caregivers to assist them in caring for their physical and mental health needs (Kritikos et al., 2018). Although some studies look at caregiver stress among general populations and caregivers of veterans who experience suicidal thoughts, this study seeks to understand the dynamics caregivers face while caring for OEF injured veterans (Delgado et al., 2021). Therefore, further research is warranted on the effects of ambiguous loss amongst caregivers of OEF-injured veterans (Boss, 2007; Boss et al., 2016).

Purpose of the Study

This quantitative study aims to compare the possible relationship between ambiguous loss and the stress level of caregivers of injured veterans who served in combat. Boss, Greenberg, et al. (1990) suggested that caregiver stress results from the caregivers' perception, not actual physical care. Previous studies on caregivers experiencing ambiguous loss hypothesized that caregiver stress relates to ambiguous loss perception (Bentley et al., 2015; Boss, Greenberg, et al., 1990; Faber et al., 2008; Kreutzer et al., 2016). There is limited research on studies that directly measure OEF veteran caregivers that experience ambiguous loss, and this study would address this specific population.

Research Question and Hypothesis

RQ: Is there a relationship between the perceived ambiguous loss amongst caregivers of OEF injured veterans and the stress level experienced by caregivers?

H_1: There is a relationship between perceived ambiguous loss amongst caregivers of OEF injured veterans and the level of stress experienced by caregivers.

H_0: There is no relationship between perceived ambiguous loss amongst caregivers of OEF injured veterans and the stress level experienced by caregivers.

Theoretical Framework for the Study

The theoretical framework for this study is Boss's (2007) theory of ambiguous loss. Boss, the founding theorist of ambiguous loss, researched the concept of loss psychological or physical loss by family members and initially named it boundary ambiguity. Boss challenges scholars and practitioners to examine comprehensive data to

guide families' interventions and decrease stress and trauma. Boss's theories of ambiguous loss provide insight into how coping mechanisms affect family stress. Ambiguous loss concludes that identified moral values impact how a family views stressful experiences (Boss, 2010).

Expanding Boss's theory, Easterling, and Knox (2010) stated that ambiguous loss is a framework for understanding the families' challenges. Understanding ambiguous loss can help clinicians outline steps to build resilience and the risk of stress among families (Boss, 2010). Ambiguous loss theory provides a framework for my study by understanding the relationship between family stress.

The ambiguous loss theory variable is an excellent example of what many military families face when physically present but psychologically absent or vice versa during deployments (Boss, 2007). No other family stress theory clearly defines the relationship between those two encounters. Chapter 2 will expound on the ambiguous loss theoretical framework and the correlation to caregivers of OEF veterans.

Nature of the Study

The nature of this study is a quantitative correlational design to compare ambiguous loss variables amongst caregivers of injured OEF veterans. Boss, Greenberg, et al. (1990) suggested that caregiver stress results from the patient caregivers' perception and not the actual physical care. I used a correlational design because it is ideal for collecting data using real-world relationships and exploring the relationship between variables. This study's independent variable is the ambiguous loss of sense of physical presence but the psychological absence. The dependent variable is stress. The control

variable is the perceived stress level of caregivers of OEF-injured veterans. The target population for this study is caregivers of injured OEF injured veterans.

The first studies with military wives were among post-Vietnam area veterans; the following study was among gulf war veterans (Cozza & Guimond, 2011; Faber et al., 2008; Huebner et al., al. al., 2007; Palmer, 2008; Saltzman et al., 2011). No current studies measure ambiguous loss amongst the most recent veteran and caregiver population. Some studies have looked at the spouses, primarily wives of veterans; parents were studied amongst the medically ill patients, caregivers of non-military with traumatic brain injury, and caregivers of those with Alzheimer's disease (Boss, 1975, 1977; Boss, Greenberg, et al., 1990; Boss, 2010; Boss & Carnes, 2012; Delgado et al., 2021; Garwick et al., 1994; Huebner et al., 2007; Kaplan & Boss, 1999; Sherman & Boss, 2007b).

I administered anonymous surveys to caregivers to examine their perceived experiences with ambiguous loss and stress. My research used the Boundary Ambiguity Scale (BAS) #6 for caregivers to measure ambiguous loss and Antonovsky's Sense of Coherence (SOC) Scale to measure stress amongst caregivers. The Statistical Package for Social Sciences (SPSS) tool is used to analyze the statistical data.

Definitions

Caregiver: For this study, "a caregiver is an individual who provides personal care services to the veteran" (Webster, 2022).

Combat-related injury: Combat-related injuries include "personal injury or sickness incurred as a direct result of armed conflict while engaged in extra hazardous

service, or under conditions simulating war, or caused by an instrumentality of war" (U.S Army Human Resources Command, 2021).

Deployment: Deployment refers to the movement of armed military forces. Deployment is not restricted to combat; military units can deploy for humanitarian services, evacuation of U.S. citizens, peacekeeping missions, and security (Webster, 2022).

Family caregiver: This term refers to a family member who is a caregiver of the veteran (Veterans' Benefits § 1720G. Assistance and Support Services for Caregivers, 2018).

Family member: "with respect to an eligible veteran, a member of the family of the veteran, including a stepfamily member; and an extended family member; or lives with the veteran but is not a member of the family of the veteran" (Veterans' Benefits § 1720G. Assistance and Support Services for Caregivers, 2018).

Iraq War (Operation Iraqi Freedom): The Iraq War was an invasion of Iraq by the United States, which overthrew the Iraqi government under Saddam Hussein's leadership (Editors of Encyclopaedia, 2021).

Operation Enduring Freedom: In response to the attacks on the United States on September 11, 2001, a war was started in Afghanistan (O'Rourke, 2015; Torreon, 2016). On October 7, 2001, the war began initiated by President George W. Bush announced strikes targeting Al-Qaeda and the Taliban. OEF primarily refers to the War in Afghanistan but is affiliated with counterterrorism operations in other countries, such as

OEF-Philippines and OEF Trans Sahara. On December 28, 2014, President Barack Obama announced the end of OEF in Afghanistan.

Operation Freedom's Sentinel: The mission succeeding in OEF includes the war in Afghanistan and the larger Global War on Terrorism. January 1, 2015, started Operation Freedom's Sentinel through NATO. On August 31, 2021, Operation Freedom Sentinel ended with the final withdrawal of US forces from Afghanistan (AP News, 2021; Washington Post, 2018).

Personal care services: Personal care services provide the veteran assistance with one or more independent activities of daily living or any other non-institutional extended care (Office of The Federal Register, n.d.).

Post-traumatic stress disorder (PTSD): PTSD is a mental health condition that develops following a traumatic event characterized by intrusive thoughts about the incident, recurrent distress/anxiety, flashback, and avoidance of similar situations (National Center for PTSD, U.S. Department of Veterans Affairs, 2019).

Service member: A service member is a member of the uniformed services, which includes the armed forces (Army, Navy, Air Force, Marine Corps, and Coast Guard), the Commissioned Corps of the National Oceanic and Atmospheric Administration (NOAA), and the Commissioned Corps of the Public Health Services (Veteran Affairs, 2012).

Veterans: Veterans include all those who have served in the armed forces (Trausa & Castro, 2019).

Assumptions

Assumptions can be referenced from the population-based off on similar studies (Boss, 1975, 2010; Boss, Greenberg, et al., 1990; Cozza et al., 2013a; Garwick et al., 1994; Kaplan & Boss, 1999). A basic assumption of this research is that generalized stress increases among caregivers of injured people. This assumption is based on experiences taking care of family members for short amounts of time, and I experienced a brief amount of stress.

Another assumption about the population studied is that veteran families have a lot of support. An assumption is that the caregivers are truthful in sharing experiences. Theoretical assumptions I can assume is that circumstances of uncertainty can cause ambiguous loss (Boss, 2007, 2016). It is assumed that the instrument used in the study, the BAS, is reliable as is tested (Boss,Greenberg, et al., 1990). It is assumed that the tool can measure the phenomena of Ambiguous Loss amongst any variables presented (Strine, 2022).

It is assumed that the variables presented can be measured (Strine, 2022). I assume that quantitative methodology is the best method given that the BAS tool is used primarily using a quantitative methodology (Bentley et al., 2015; Boss, 2004; Boss et al., 2021; Faber et al., 2008; Huebner et al., 2007; Landau, 2008; Perez & Arnold-Berkovits, 2018).

Scope and Delimitations

Many caregivers and veteran populations have been studied (AP News, 2021; Brickell et al., 2018; Brickell, French, et al., 2019; Carnahan et al., 2020; Delgado et al.,

2021; Faber et al., 2008; Kritikos et al., 2018; Miller et al., 2019; Patel, 2015; Trauma & Castro, 2019; Veteran Affairs, 2022). Nonetheless, I have not discovered any research that examines a correlation between ambiguous loss and the caregivers of OEF-injured veterans. The ambiguous loss tools are not utilized with this population of caregivers, strengthening the study's internal validity. Most studies on caregiver stress utilize family systems theories (Arditti, 2016; Boss et al., 2016). These theories examine the relationship changes that add stress to family boundaries. Ambiguous loss looks at the sense of loss and how that impacts individuals, caregivers, and families (Boss, 2016). Suppose one war conflict era experienced ambiguous loss amongst caregivers; then all war eras experienced ambiguous loss. I will not be examining older war conflicts veterans such as those in Vietnam, World War II, or the Korean War because of the time-lapse since they experienced conflict. This time-lapse may impact the examination of ambiguous loss and family stress, and the families may have found coping strategies over time (Faber et al., 2008). I have reviewed all the literature on ambiguous loss, boundary ambiguity, caregivers of injured OEF veterans, and Pauline Boss family stress theories. I have not researched all literature on the mental health of injured OEF veterans.

Limitations

The limitations of a survey design are that the participants may not want to disclose personal information. The surveys may have a lower validity rate. Participants may answer the survey with a non-valid answer if they do not fully understand it. Another limitation of the study is access to a broader population to survey. A more

comprehensive variety of caregivers that may not be included within this group would strengthen the study's internal validity.

One internal bias is that I am a veteran; another is that I have previously cared for an injured service member. Additionally, I work with injured service members at the Veterans Health Care Administration, interacting with them and their caregivers. These past experiences could influence this study due to my positive and negative experiences. However, I have no experience with ambiguous loss. The BAS tool limited bias. Using this tested tool will increase the validity and decrease my personal bias. The SPSS was used to correlate the results, increasing the validity, and decreasing my personal bias in analyzing the study results.

A correlation study is designed to show a relationship between two variables; the other may decrease (Yegidis & Weinbach, 2002). However, a limitation of correlation design is that the results may indicate a relationship but may not show clearly that if one variable increases, the second decreases. Limitations of self-reporting are that participants may exaggerate or minimize symptoms. The limitations of using the BASs are that the sense of loss can change over time. Cronbach's alpha for each scale needs internal solid consistency, such as a test and re-test, to increase validity (Tavakol & Dennick, 2011).

Significance

Veterans who experience injuries will require caregivers to assist with physical and mental recovery (Delgado et al., 2021). Caregivers are vital to injured servicemembers by bridging medical and home needs by providing paid or unpaid support (Miller et al., 2019). The caregiver's role extends to the healthcare team by

assisting with medications, bathing, transportation, de-escalating mental health episodes and meals, and helping with cognitive deficits (Cozza et al., 2013a; Miller et al., 2019).

This study discusses the correlation of ambiguous loss among injured OEF veteran caregivers. The study's results can lead to a broader analysis of how caregivers of veteran populations experience ambiguous loss. Similar research on caregivers of psychologically injured veterans creates social change that increases resiliency and coping skills.

Summary

This chapter introduced the background of family stress and Ambiguous Loss. In addition, this chapter addressed the relationship between caregivers caring for OEF and injured veterans. In summary, combat exposure risks family stress (Palmer, 2008). Thirty-three percent of servicemembers experience TBI, PTSD, and depression after returning from deployments (Cozza & Guimond, 2011; Kritikos et al., 2018). Combat injuries include personality alterations, behavioral changes, erratic and emotional expressions, irritability, anger, apathy, lack of energy, and cognitive and social dysfunction (Chase & Nevin, 2015; Cozza et al., 2013a; Woodruff et al., 2018). Veterans who experience combat injuries may require caregiver support to address their mental, emotional, and physical health wounds (Delgado et al., 2021). These caregivers serve a vital role as paid or unpaid support to veteran servicemembers (Miller et al., 2019). Often, a caregiver is an extension of the medical team (Cozza et al., 2013a).

Chapter 2: Literature Review

Introduction

Returning home after deploying to a combat zone should be joyful. However, this reunion can be stressful for families due to renegotiating roles, adjusting to family life, physical injuries, and psychological changes (Faber et al., 2008). Thirty-three percent of Veterans who return from combat experience TBI, PTSD, or depression (Cozza et al., 2013b). Boss (2006) noted that veterans who returned home from combat with physical and psychological injuries might be physically present but psychologically absent. Therefore, caregivers of veterans exposed to combat care are at risk for increased stress levels (Palmer, 2008). When the veteran experiences psychological changes post-combat, the caregiver may have a sense of loss on how the veteran was before combat; this concept of a sense of loss when someone is present is known as ambiguous loss. It is estimated that five and a half million caregivers nationally provide care for veterans; 88% of the caregivers reported experiencing anxiety, sleep deprivation, and increased stress as significant concerns (Veteran Affairs, 2022). The problem is caregivers may experience ambiguity about the wounded OEF veterans return home, which may or may not cause additional stress when transitioning.

This quantitative study aims to identify caregivers' stressors while caring for wounded OEF veterans. Protective factors may influence how resilient caregivers can be if those factors are identified (Palmer, 2008). Additionally, this study has shed light on understanding ambiguous loss amongst caregivers of veterans.

This chapter will include a theoretical framework derived from scholarly articles and books examining ambiguous loss, previously termed boundary ambiguity, a review about uncertainty, loss, changes in psychological state, relationship conflict, caregivers of veterans, and general caregivers. I conclude this chapter with a summary of my literature review findings.

Literature Search Strategy

I performed an interdisciplinary approach when searching for literature to retrieve relevant information on this topic. I cross-referenced ambiguous loss through many domains, such as medicine, psychology, sociology, and religious studies. I utilized counseling-based library databases such as PsycINFO, PsycARTICLES, SocINDEX, SAGE, ProQuest Central, GoogleScholar, and Thoreau to gather peer-reviewed scholarly articles for this chapter. Key terms utilized in the search included *veteran injuries, veteran caregivers, caregivers, ambiguous loss, boundary ambiguity, Pauline Boss, family stress theory,* and *psychologically absent.* I used PsychArticles and PsychInfo databases in psychology using boundary ambiguity, ambiguous loss, psychology absence, and Pauline Boss. Social work and Sociology, SocIndex, and SAGE are utilized with the same terms as psychology. After searching psychology, sociology, and social work databases, I expanded to the available databases to exhaust my literature searches, such as ProQuest Central, Google Scholar, and Thoreau. I used *ambiguous loss, Boundary Ambiguity, Pauline Boss, psychologically absent, caregiver burden,* and *unclear Loss.* Additional terms used in this search were *caregivers, caregivers of servicemembers, caregivers of veterans, family members providing care to service members/veterans,*

transitioning injured service members, injured veterans, combat-injured veterans, mental/psychological injuries of service members, servicemembers' physical injuries, caregiving of traumatic brain injury persons, caregiving of those diagnosed with Post Traumatic Stress Disorder, ambiguous loss, boundary ambiguity, risk factors of service members, the resiliency of caregivers and resiliency of service members. Much of the review of the literature resulted in studies on military families, stressors of military family members, stressors of returning service members, and resiliency.

Studies surrounding the ambiguous loss theory are primarily written between the 1980s and 2010. Dissertations and secondary research studies have been written more recently in recent years. The amount of literature is sparse compared to other theories, such as family stress theory. The literature on caregivers of veterans is also sparse, with studies surrounding interventions, support, and self-care.

Theoretical Perspectives on Ambiguity

Boss began developing the ambiguous loss theory after viewing some correlations between family stress after fathers were physically missing from home (Boss, 1975, Boss, 2007). The initial study on Missing In Action (MIA) fathers resulted in a negative relationship between family functioning and psychological father presence, primarily related to the family's roles during the father's absence (Boss, 2016). Follow-up studies indicated low psychological presence was the most significant predictor of high-functioning families while the father was MIA (Boss, 2016).

Ambiguous loss theory is a derivative of systems theory, role theory, and family theory (Carroll et al., 2007). The ambiguous theory derives from the notion that

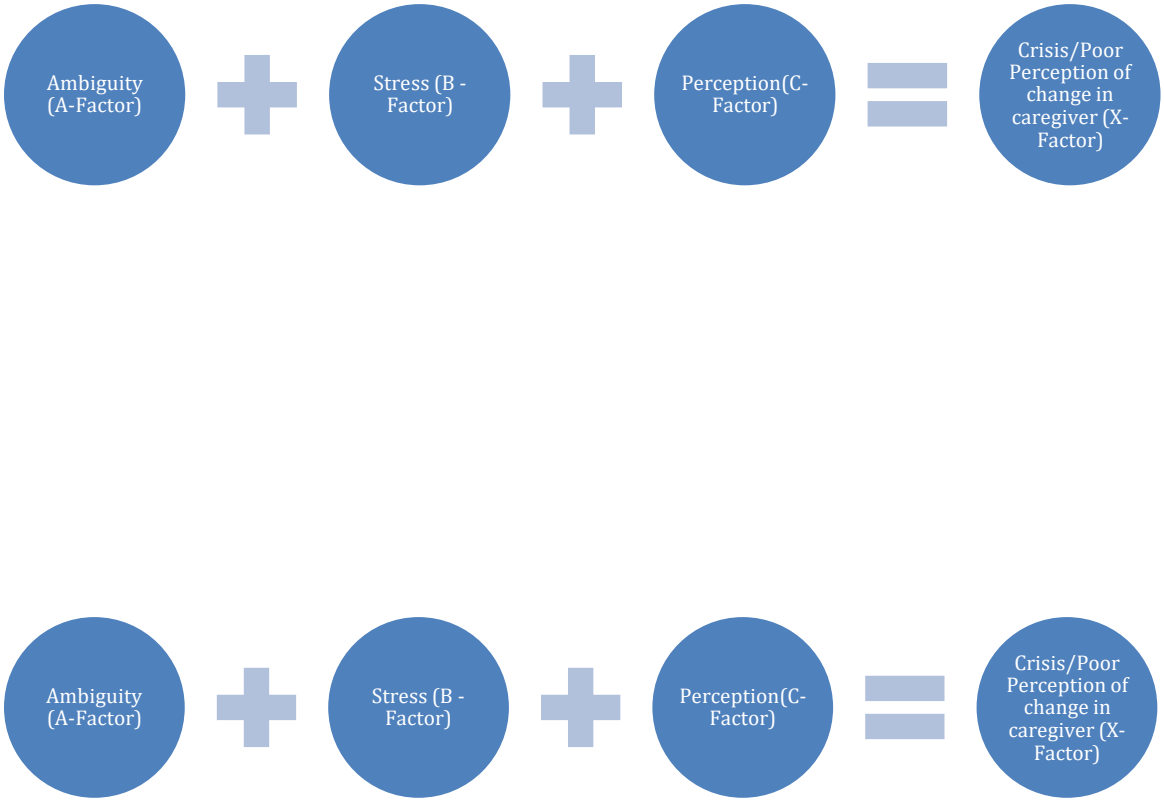
boundaries, roles, and structure define a family (Boss, Greenberg, et al., 1990). The initial theoretical and research papers on ambiguous loss bridged sociology and family therapy to introduce theory development, reformulation, operationalization, testing, and clinical application to families experiencing high stress from ambiguous loss (Buckley, 1967; Carroll et al., 2007; Goffman, 1974).

There are two defined types in the early stages of ambiguous theory development. Type one is when a person is physically absent but psychologically present such as a missing person (Carroll et al., 2007). Type two is physically present but psychologically absent such as a person with dementia (Carroll et al., 2007). Theory development included introducing ambiguity into the family stress model of ABC-X (Carroll et al., 2007). Ambiguity is viewed as the A-factor, the B-Factor is stress, and C-factor is the event's perception (Carroll et al., 2007).

The correlation to the family stress theory ABC-X model was further developed by Boss (1991, 1999, 2004, 2006), suggesting that the perception variable is the C-factor. During these further studies, the ambiguous loss theory was also defined utilizing the perception of the Loss C-factor as ambiguous loss (Carroll et al., 2007). Family stress research tests the theory of ambiguous loss theory to understand further family changes and functioning (Carroll et al., 2007).

Figure 1

ABC-X Model



Family systems are open systems with subsystems defined by boundaries that dictate who is in or out of a system (Nichols, 1995). When an interruption in the family system occurs, there is a question of whether family members are absent or present; this makes the family system unclear and causes ambiguity (Boss, 2006). Boss (2006)

suggested that the theory's premise is the unclear loss that creates a freezing of the grieving process, leading to psychological symptoms, depression, and relationship problems. When a person is psychologically absent, even seasoned therapists have difficulty understanding why the grieving process is frozen (Boss, 2006).

Ambiguous Loss Amongst Military Families

Ambiguous loss studies amongst military families began in 1977 with a study examining 47 military families where the husband/father was MIA (Boss, 1977). The theoretical framework utilized was the family systems theory (Boss, 1977). The study utilized quantitative methods, concluding that the family experienced ambiguity (Boss, 1977). The spouse of the MIA military member experienced a higher degree of dysfunction due to the psychological absence of the military member (Boss, 1977).

Boss (1980) conducted a 5-year follow-up study of the initial study on military families of MIA servicemembers. During the follow-up study, family systems theory was utilized. The follow-up study yielded the same results as the initial study, which included a high degree of dysfunction amongst the family members due to the psychological absence of the military member (Boss, 1980). The theorist Pauline Boss began the call for more research on ambiguous loss to increase knowledge related to depression, burden, and stress (Boss, Greenberg, et al., 1990). Many studies included individuals diagnosed with Alzheimer's, dementia, or traumatic brain injury and their caregivers, but other populations, such as veterans, may experience psychological changes (Faber et al., 2008; Landau & Hissett, 2008). Boss (2007) challenged scholars and practitioners to examine comprehensive data to guide family interventions.

Literature Review Related to Key Variables and/or Concepts

Complex veteran health conditions are a compounding factor for those who provide care to veterans (Olenik et al., 2015). Injured veterans' physical and emotional support is usually provided by non-professional, informal caregivers who are frequently family members (Veterans' Benefits § 1720G. Assistance and Support Services for Caregivers, 2018). Ninety-six percent of veteran caregivers are women, and seventy percent of veteran caregivers are spouses or partners of veterans (Veteran Affairs, 2022). Thirty percent of veterans have cared for veterans for 10 years or more (Veteran Affairs, 2022).

From 275,000 to 1 million people care for veterans (Patel, 2015). Despite this significant need and many caregivers providing care, this population is understudied (Patel, 2015). The most prominent common theme of caregivers of veterans is symptoms of caregiver burden (Brickell et al., 2018; Brickell, French, et al., 2019; Brickell, Lippa et al., 2019; Malec et al., n.d.; Shepherd-Banigan et al., 2020; Uphold et al., 2014). Caregivers of veterans with TBI were studied, and 48% experienced some symptoms of the caregiver burden (Brickell et al., 2018).

Caregivers of veterans with Alzheimer's disease and TBI are also studied, and some of the caregivers' symptoms are similar to non-veteran caregivers (Carnahan et al., 2020). Alzheimer's and TBI-injured veteran caregivers experience depressive symptoms and lack social support (Carnahan et al., 2020). Veteran caregivers are typically younger, and some also care for children, which adds to the complexity of this understudied population (Patel, 2015).

Ambiguous Loss Proposition

Boss's (1992) theoretical proposition on systems theory is that the family system is stressed when a person is depressed, somaticized, or immobilized. The premise lies in the more ambiguous and stressed family system (Boss, 1992). The independent variables are the family system and the interactional process (Boss, 1992). Boundaries become unclear when a person is physically present but psychologically absent, and the family structure is frozen (Boss, 1992). The loss fuels a perception that a family member is frozen and absent (Boss, 1992). Once the family system can develop a new reality, the family system can become unfrozen (Boss, 1992).

When a person dies, several steps occur culturally to allow members to grieve, such as memorials and funerals (Boss & Carnes, 2012). When a person disappears physically or psychologically, their family may struggle to grieve (Boss & Carnes, 2012). When grief is frozen, relationship problems erupt, family conflict increases, and family meaning becomes unclear (Boss & Carnes, 2012). Meaning is needed for the family system to move on (Boss, 1992). Ambiguous loss assists families in finding meaning and living without closure (Boss & Carnes, 2012). Ambiguous loss theory provides a more specific understanding of the grief process when someone is still alive (Boss & Carnes, 2012).

Ambiguous Loss in Other Studies

Boss (2007) challenged practitioners as the founding theorist to test the theory with new populations and build more evidence in examining how traumatic loss occurs in families. Buckmiller et al. (2007) developed a 30-year review of Boss's ambiguity loss

theory, research, and measurement tools used within the theory. Populations studied included widowhood, post-divorce, remarried families, mental illness, family support with Alzheimer's disease, the transition to parenthood, caregivers, codependency, children in foster care, head injury, adoptive parents, infertility, private languages of families, Alzheimer's caregiving, general illness, pediatric intensive care and maternal stress, preterm birth, work-family role strain, and occupational stress (Carroll et al., 2007). Many other studies examined TBI, dementia, and Alzheimer's in non-military families (Landau & Hissett, 2008). These studies identified the effects of ambiguous loss in the context of families who experienced loss in ways of health changes, age changes, and mental changes.

Clymer et al. (2008) researched type one ambiguous loss amongst Reserve Army military families. This study utilized qualitative methodology to examine if the ambiguous loss was experienced by the Global War on Terrorism Army Reservist family members (Clymer et al., 2008). All family members interviewed experienced ambiguous loss during the reservist deployment (Clymer et al., 2008). Spouses who experienced additional life events experienced the highest levels of ambiguous loss (Clymer et al., 2008). After time subsided, the results yielded positive results, and the reservist behavior returned to a normalized behavior (Clymer et al., 2008). The reservist caregivers' feelings of ambiguous loss decreased as the reservist returned to regular routines (Clymer et al., 2008). This study examined the sense of loss experienced by family members of service members, which I would like to measure amongst caregivers of veterans in a wide range of service eras.

Collins and Kennedy (2008) conducted a case study using ambiguous loss to provide therapeutic goals to families of Polytrauma military servicemembers in rehabilitation. Polytrauma includes "traumatic brain injury (TBI) plus injuries to several body systems (e.g., skin/soft tissue, orthopedic, eye, oral and maxillofacial, and otologic injuries), complex pain syndromes, and posttraumatic stress disorder (PTSD)" (Collins & Kennedy, 2008, p. 993). The results revealed that families of polytrauma military victims used Medical Family Therapy as an intervention to decrease ambiguous loss and success (Collins & Kennedy, 2008). This study identified symptoms such as blame, guilt, shame, and anger of ambiguous loss amongst military family members and utilized them for therapeutic intervention. Results from this study are beneficial to understanding military family members' experiences with ambiguous loss.

Grass G, Grass S, Huebner, and Mancini (2007) studied *type one* ambiguous loss amongst the youth of deployed military families. The themes found in the study included the youths' feelings of ambiguous loss, uncertainty, mental health changes, and relationship conflicts (Huebner et al., 2007). Themes from this study revealed that youth with deployed military family members experienced ambiguous loss.

Easterling & Knox (2010) researched military wives' *type one* ambiguous loss during their spouse's deployment to Iraq or Afghanistan. Military wives experienced uncertainty, loss, and a sense of understanding of new roles during their spouse's deployment (Easterling et al., 2013). This study looked at ambiguous loss amongst the military population, similarly to my study, but amongst family members during the-three stages of deployment: pre-deployment, deployment, and post-deployment. Easterling et

al. (2013) concluded that the most challenging stage is deployment. Still, ambiguous loss was experienced throughout deployment and post-deployment (Easterling et al., 2013).

Palmer (2008) discussed ambiguous loss as an essential theoretical framework for understanding loss with military families to build resiliency. Palmer indicated that military families could become resilient after experiencing Ambiguous Loss (Palmer, 2008). Despite this study focusing on resiliency after ambiguous loss is found, the results pointed to reoccurring themes of ambiguous loss amongst military families.

The collection of research on ambiguous loss utilizes many approaches to family stress. The current studies in ambiguous loss include seventy-three percent quantitative, twenty-four percent qualitative, and three percent mixed methodology (Carroll et al., 2007). Many studies use one variable to examine ambiguous loss (Carroll et al., 2007). Many studies' populations and types of methodology are different, but the framework utilizing a sense of physical or psychological absence is the same. From dementia patients to polytrauma military patients, the feeling of loss can be present for caregivers.

Studies Related to Ambiguous Loss and Illness/Disability

Seventy Alzheimer's patients and their caregivers were studied (Boss, Pearce-McCall, et al., 1990). Family Systems theory was the theoretical framework (Boss, Pearce-McCall, et al., 1990). Caregivers experienced some Ambiguous Loss, including depressive symptoms (Boss, Pearce-McCall, et al., 1990).

Thirty-eight extended family members of patients with Alzheimer's were studied (Garwick et al., 1994). Family systems theory is the theoretical framework (Garwick et al., 1994). The results were Ambiguous Loss in four categories: feeling like something is

wrong, diagnosis uncertainty, feelings like they were excluding the family member, and unclear feelings towards the family with the Alzheimer's family member.

Mu and Tomlinson (1997) analyzed ten families of children with critical conditions and associated feelings of Ambiguous Loss. Family Systems Theory and Symbolic Interaction were used as the theoretical framework (Mu & Tomlinson, 1997). The ambiguous loss was found amongst the families through stress perceptions and coping patterns, which negatively impacted the functioning of the family (Mu & Tomlinson, 1997).

A study was conducted on seventy-two caregivers of those diagnosed with Alzheimer's to measure the Ambiguous Loss effect on Alzheimer's patients (Caron et al., 1999). Family Systems Theory was the theoretical framework (Caron et al., 1999). If the individual diagnosed with Alzheimer's experienced paranoia and anxiety, a correlation of increased Ambiguous Loss was experienced (Caron et al., 1999).

Eighty-four caregivers/spouses of individuals with Alzheimer's disease were studied to see any Ambiguous Loss effects (Kaplan & Boss, 1999). Symbolic interaction is the theoretical framework utilized (Kaplan & Boss, 1999). The results indicated that the caregivers experienced Ambiguous Loss with depressive symptoms (Kaplan & Boss, 1999).

A study was conducted on one hundred Chinese mothers with a child with malignancy and the measurement of Ambiguous Loss (Mu et al., 2001). The theoretical framework was the family stress theory and family systems theory (Mu et al., 2001). The results are different than other studies. Ambiguous Loss and Ambiguous Loss had a high

correlation (Mu et al., 2001). The ambiguous loss was not found to correlate with anxiety in this study.

Another study involving the mothers of children diagnosed with epilepsy was conducted to measure Ambiguous Loss (Mu et al., 2005). Family systems theory was utilized for the theoretical framework (Mu et al., 2005). The ambiguous loss was found among the mothers of the children diagnosed with epilepsy (Mu et al., 2005).

Studies Related to Ambiguous Loss and Family Studies

Ambiguous Loss studies amongst military families began in 1977 with a study examining forty-seven military families where the husband/father was missing in action (Boss, 1977). The theoretical framework utilized was family systems theory (Boss, 1977). The study utilized quantitative methods, concluding that the family experienced ambiguity (Boss, 1977). The spouse of the missing-in-action military member experiences a higher degree of dysfunction due to the psychological absence of the military member (Boss, 1977).

Boss (1980) conducted a five-year follow-up study of the initial study on military families of mission-in-action (MIA) servicemembers. During the follow-up study, family systems theory was utilized. The follow-up study yielded the same results as the initial study, which included a high degree of dysfunction amongst the family members due to the psychological absence of the military member (Boss, 1980).

A study was conducted on one hundred-seven single-parent families who experienced Ambiguous Loss (Lafrate, 1996). Family Stress Theory was utilized to conduct the quantitative study (Lafrate, 1996). The study results showed high ambiguity

is associated with increased levels of parental conflict, decreased parental bonding, and decreased positive self-identity among the children (Lafrate, 1996).

A similar study was conducted on two hundred forty-seven divorced couples with one minor child (Madden-Derdich & Arditti, 1999). Family systems theory is the theoretical framework (Madden-Derdich & Arditti, 1999). Quantitative methodology was used to determine that a sense of Ambiguous Loss was felt by a former spouse (Madden-Derdich, 1999). Results also indicated dissatisfaction with parenting, co-parental conflict, financial strain, and custody satisfaction with the sense of Loss (Madden-Derdich & Arditti, 1999).

A study was conducted on Ambiguous Loss that did not support the hypothesis. Children of divorced parents participated in a quantitative study (Buehler & Pasley, 2000). Family Composition Theory is the theoretical framework (Buehler & Pasley, 2000). The results did not support the hypothesis that they were not associated with feelings of Ambiguous Loss from the father's physical and psychological absence (Buehler & Pasley, 2000).

One-hundred and fifty-nine families were studied to see the impact of Ambiguous Loss (Peterson & Christensen, 2002). Family Stress theory was used as the theoretical framework (Peterson & Christensen, 2002). Thirty-eight percent of families experienced Ambiguous Loss at a moderate level (Peterson & Christensen, 2002). Four percent of families experienced high Ambiguous Loss (Peterson & Christensen, 2002).

This study used two hundred seventy-two remarried couples to measure Ambiguous Loss (Pasley, 1987). The theoretical framework utilized was family systems

theory (Pasley, 1987). Thirty-nine percent of the families have experienced Ambiguous Loss (Pasley, 1987). The results from the children studied are Ambiguous Loss was higher in children born during the previous marriage (Pasley, 1987).

Pasley & Ihinger-Tallman completed a second study examining two-hundred sixteen remarried spouses. Family Systems Theory was used again as a theoretical framework in this study (Pasley & Ihingter-Tallman, 1989). Stepfamilies where the mother was absent in the home, experienced the highest amount of Ambiguous Loss (Pasley & Ihingter-Tallman, 1989). With the increased complexity of the family, the perception of Ambiguous Loss increased (Pasley & Ihingter-Tallman, 1989).

Whisett and Land studied seventy-three stepparents' role expectations, role conflict, and Ambiguous Loss. Family Systems Theory is the theoretical framework (Whisett & Land, 1992). Results indicated Ambiguous Loss is associated with a lack of clarity, role conflict, and marital dissatisfaction (Whisett & Land, 1992).

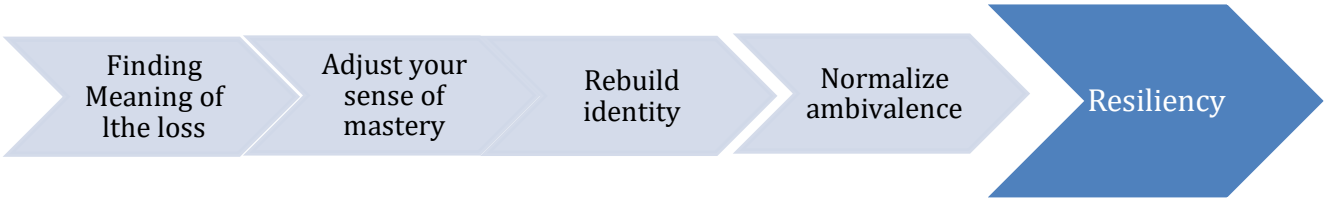
Stewart studied over three thousand fifty-seven married and cohabitating couples with step, biological, and adopted children. He utilized family systems theory as a theoretical framework to study Ambiguous Loss amongst these families (Stewart, 2005). The results from the study are consistent with previous studies that Ambiguous Loss was higher amongst stepfamilies versus two-parent families (Stewart, 2005).

Ambiguous Loss Theory in the Present Study

Many theories describe family stress (Arditti, 2016; Mortimore et al., n.d.; Patterson, n.d.; Shepherd-Banigan et al., 2020). However, limited theories speak to caregivers' sense of loss when someone is physically present but psychologically absent,

such as Boss' theory of ambiguous loss (Boss, 2006a). Using Boss' theory, Easterling, and Knox (2010) stated ambiguous loss is a framework for understanding veterans' challenges. Boss's framework also outlines steps to build resilience and decrease families' risk (Boss, 2006a).

Figure 2. Framework to build resilience



Kaplan & Boss (1999) used symbolic interactionism to explain caregivers' well-being to institutionalized spouses with Alzheimer's disease. Caron, Boss, & Mortimer (1999) used the ambiguous loss to directly correlate with the theories, *type two* premise of physical presence and psychological absence. Caron, Boss, & Mortimer (1999) acknowledged ambiguous loss is tested using cross-sectional data by Boss, Caron, Horbal, and Mortimer (1990), but the theory needs a longitudinal study approach.

Military and family studies have primarily focused on the service member, transitioning, and mental and physical changes (Cozza et al., 2013b). The caregiver's

lens within this military and veteran population are understudied (Patel, 2015). The relationship variable between perceived ambiguous loss amongst caregivers of veterans who served during OEF is not measured.

Approaching Ambiguity Strengths and Weaknesses

Ambiguous Loss is studied within other populations that experience loss, but the person is still alive such as among caregivers of those with Alzheimer's and Dementia. The researchers' approach hypothesized that ambiguity might cause symptoms of depression in caregivers of Alzheimer's or dementia patients (Boss, Pearce-McCall, et al., 1990; Caron et al., 1999; Kaplan & Boss, 1999). The researchers also utilized mastery to measure the sense of ambiguity experienced by caregivers (Boss, Pearce-McCall, et al., 1990; Caron et al., 1999; Kaplan & Boss, 1999). Qualitative studies that utilize a change in roles and behavior helped the researchers validate caregivers' symptoms of depression etiology. The studies successfully showed the correlation between ambiguity and depressive symptoms amongst caregivers for Alzheimer's and dementia patients. The strengths of these studies are similar conclusions such as uncertainty about the diagnosis, family interactions uncertainty, and changing roles due to illness (Boss, Pearce-McCall, et al., 1990; Caron et al., 1999; Kaplan & Boss, 1999)

Weaknesses in the studies' approaches are that the primary or secondary investigator is the theorist who may place some biases. The scales measure more social interaction in the BAS scale, one and two. None of the studies used measurement tools that measured primary depressive symptoms, such as the Beck Depression Inventory. This assumption presumes that loss is equivalent to depression.

Kaplan & Boss (1999) identified the relationship among spouses and their perception of their relationship. Kaplan & Boss (1999) hypothesized perceptions of a family of who they are within the relationship and their roles are essential in developing the relationship (Kaplan & Boss 1999). The perceptions of a family of who they are within the relationship and their roles are critical to developing the relationship (Kaplan & Boss, 1999). Caron, Boss, & Mortimer (1999) hypothesized about the impact of people with Alzheimer's disease on caregivers.

Kaplan & Boss (1999) used symbolic interactionism to explain caregivers' well-being to institutionalized spouses with Alzheimer's disease. Caron, Boss, & Mortimer (1999) used Ambiguous Loss to directly correlate with the theories, *type two* premise of physical presence and psychological absence. Caron, Boss, & Mortimer (1999) acknowledged Ambiguous Loss is tested using cross-sectional data by Boss, Caron, Horbal, and Mortimer (1990), but the theory needs a longitudinal study approach.

Selection of Variables/Concepts Rationale

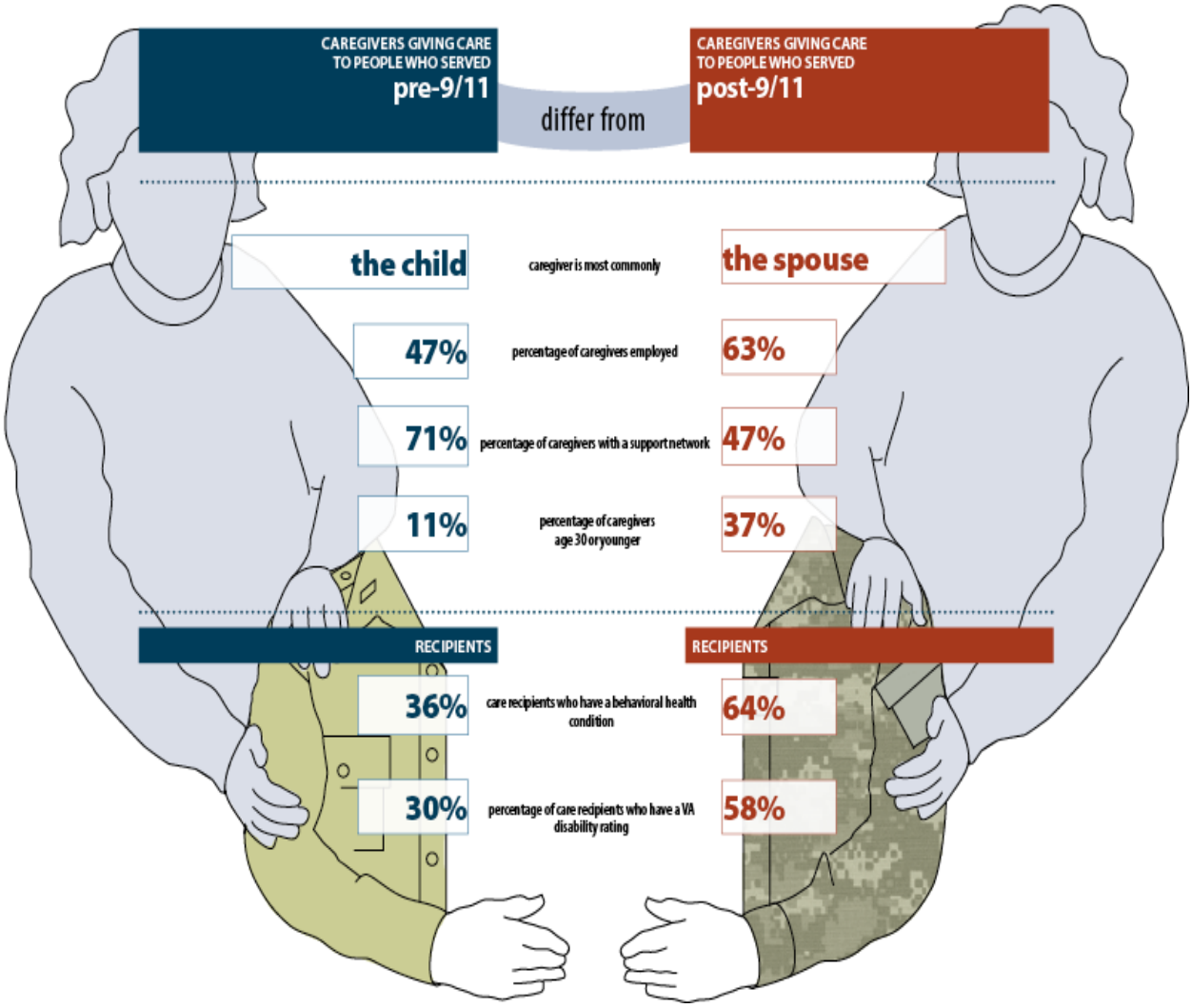
The theorist Pauline Boss began the call for more research on Ambiguous Loss to increase knowledge related to depression, burden, and stress (Boss, Pearce-McCall, et al., 1990). Many studies include those diagnosed with Alzheimer's, dementia, and traumatic brain injury and their caregivers, but other populations experience psychological changes (A. J. Faber et al., 2008; Landau & Hissett, 2008).

Similar Studies Related to Key Independent and Dependent Variables

Over 5.5 million caregivers provide day-to-day needs to veterans, and 1.1 million provide care for OEF veterans (Ramchand et al., 2014). Military OEF caregivers differ

from other populations, such as they are typically younger, provide childcare in tandem with caregiving, and may also be employed (Ramchand et al., 2014). Please see the diagram below, which compares pre-9/11 and post-9/11 military caregivers.

Figure 3. Pre-911 vs. Post 9/11 Caregivers



Ramchand noted that post-9/11 military caregivers extensively supported veterans with emotional and behavioral management (Ramchand et al., 2014). Post 9/11, caregivers also performed increased duties such as childcare (Ramchand et al., 2014).

Many care for children but lack support compared to pre-9/11 caregivers (Ramchand et al., 2014). At least 3 billion dollars' worth of unpaid time is spent by post-9/11 caregivers providing care and services to veterans (Ramchand et al., 2014). Along with the amount of time veteran caregivers provide to veterans for free, they are also taking off from work, costing the US economy $5.9 billion annually in lost productivity (Ramchand et al., 2014) Veteran caregivers typically experience increased strain on a family, strained relationships, workplace problems such as loss of employment, and an elevated risk for health outcomes (Ramchand et al., 2014). Additionally, many post-9/11 caregivers experienced increased symptoms of depression (Ramchand et al., 2014). Ramchand (et al., n.d.) noted that Respite, health care coverage, and financial support are needed for caregivers of post-9/11 veterans. Due to increased divorce rates, aging parents, and financial strain, caregiver needs will change over time for post-9/11 veteran caregivers (Ramchand et al., 2014).

Family members of military members missing in action family members were the initial participants in the ambiguous loss theory study (Boss, 1977). However, those family members were not measured when the missing-in-action military members returned home. The variables of boundary ambiguity in military reserve families were measured (A. J. Faber et al., 2008). The variables were chosen for similar reasons but measured amongst the military population (A. J. Faber et al., 2008). However, this reservist military population measured the psychological presence and physical loss (A. J. Faber et al., 2008). Several studies measured ambiguous loss amongst caregivers of dementia or Alzheimer's patients (Caron et al., 1999; Garwick et al., 1994; Kaplan &

Boss, 1999; Kreutzer et al., 2016; Landau & Hissett, 2008; Sherman & Boss, 2007b; P. Thomas et al., 2001).

Landau (2008) utilized type two ambiguous loss to compare the variables of the impact of ambiguous loss on family members of those injured with mild traumatic brain injury. Using type two ambiguous loss, this study used quantitative methodology to measure if the ambiguous loss was experienced (Landau & Hissett, 2008). The study results demonstrated some improvement and emotional recovery amongst those that experienced ambiguous loss (Kreutzer et al., 2016).

Summary

After reading the literature, I noted several significant themes, including the effects of deployments on military families, dynamics of post-9/11 caregivers, and caregiver burden (Kritikos et al., 2018; Shepherd-Banigan et al., 2020). Theoretical framework themes included ambiguous loss. Ambiguous Loss is when someone is physically absent but psychologically present (Boss, 2007). Veterans' caregivers are typically spouses, employed, and providing childcare compared to other caregivers (Boss, 1992). Veteran caregivers experience higher rates of health conditions, depression, and stress (Boss, 1992). Ambiguous loss studies have yielded results of caregivers experiencing varied loss levels (Boss, 2007; Boss et al., 2021; Caron et al., 1999; Sherman & Boss, 2007a). Some instances of loss decreased over time (Boss, 1975, 2006a; Sherman & Boss, 2007b). Additional loss compounded the level of Ambiguous loss (Boss, 2010). Military studies about service members missing in action and deployed reservists highlight type one ambiguous loss (Clymer et al., 2008; Palmer,

2008). Caregivers of military members with traumatic brain injury and posttraumatic disorder are not widely researched (Brickell, French, et al., 2019). However, no follow-up studies have been conducted about the service members' return home from deployments. The study looks at type two ambiguous loss when military members have returned home but differ due to injuries.

Chapter 3: Research Method

Introduction

This quantitative study compares the possible relationship between ambiguous loss and the stress level of caregivers of injured veterans who served in combat. Boss, Greenberg, et al. (1990) suggested that caregiver stress results from the caregiver's perception of stress and not from the caregiver providing physical care to patients. Previous studies on caregivers in other populations experiencing ambiguous loss hypothesized that caregiver stress relates to the perception of ambiguous loss (Boss, 2006; Boss, Greenberg, et al., 1990; Kreutzer et al., 2016; Perez & Arnold-Berkovits, 2018). This chapter includes a description of the research design and the rationale for the study, the proposed instrumentation, data collection, and analysis. Additionally, this chapter will discuss ethical standards.

Research Design and Rationale

I utilized a descriptive quantitative study using a cross-sectional survey design to compare the relationship between ambiguous loss and the stress level of caregivers of injured veterans who served during OEF. A descriptive quantitative study allows me the opportunity to utilize the published scale to measure the stress level of caregivers of injured OEF veterans. A cross-sectional survey captures a point in time and allows me to compare many variables simultaneously.

The study's independent variable is ambiguous loss of sense of physical but psychological absence. The dependent variable is stress. The control variable is the

caregivers of veterans. The study addresses the following research question and hypotheses:

Does ambiguous loss explain the relationship between stress amongst caregivers of injured veterans?

H_1: Stress increases due to a caregiver's perception of ambiguous loss resulting from the injured veterans, continued physical presence but a psychological absence.

H_0: Stress decrease or stays the same due to the caregiver's perception of ambiguous loss resulting from the injured OEF veterans, continued physical presence but a psychological absence.

I used a cross-sectional survey design to show a pattern between stress variables and ambiguous loss. Kesmodel (2018) noted that a cross-sectional study takes place at a single point in time and has been proven reliable for data collection in social science research. Cross-sectional studies are singular as they allow me to examine one variable and its effect on a dependent variable (Kesmodel, 2018). Utilizing a descriptive quantitative study with a cross-sectional design allows me to assess ambiguous loss among caregivers of OEF veterans (Bloomfield & Fisher, 2019). A descriptive quantitative study defines the caregiver's characteristics, measures data trends, and conducts comparisons (Bloomfield & Fisher, 2019). The cross-sectional design allows less time than pre-& post-test longitudinal research or studies that require manipulation of variables (Kesmodel, 2018) and can effectively measure the prevalence of ambiguous loss amongst caregivers. Additionally, Baker (2017) explained that a cross-sectional

design helps answer any threats to the design validity by reducing the manipulation of variables and conducting the study in one sitting.

The independent variable used in this study is caregivers' perception of ambiguous loss amongst veterans. The dependent variable is the level of stress of the caregiver. The population is caregivers of OEF-injured veterans. The time needed for a cross-sectional study is allotted for one-time data collection (Baker, 2017). The cost is limited because it does not include an interventional component or multi-time data collection (Baker, 2017). A cross-sectional design allows for an opportunity to generate a hypothesis and test it effectively without increased risk and a need for follow-up (Baker, 2017).

Methodology

The methodology for this quantitative study is a cross-sectional survey design. Cross-sectional studies are common in human service studies due to taking a snapshot of a specific variable and utilizing results for human service program planning (Baker, 2017; Bloomfield & Fisher, 2019). For this initial dissertation, a point-in-time study is practical versus a longitudinal one that may be completed post-doctorate. A cross-sectional study effectively captures a point in time and measures a broad demographic, which this study evaluates any causation, similarities, and other conclusions (Spector, 2019). Cross-sectional study also allows for a lower-error rate due to the measurement over a large sample group versus utilizing many sub-groups to measure (Spector, 2019).

Population

The participants for this study are caregivers of OEF injured veterans from any branch of service, including the Army, Navy, Marines, Airforce, and Coast Guard. The OEF veterans have served either active duty, reserve duty, or in the national guard. The caregivers are at least 18 years old, of any gender or sexual orientation, and have a relationship with the OEF veteran. Previous studies on ambiguous loss have measured widows of military members and reservists deployed during the gulf war (Blackburn et al., 1987; Clymer et al., 2008). This study utilizes the same theories and methodology but looks at a population that has not been studied.

Sampling and Sampling Procedures

For this study, I used a non-probability convenience sample, which allowed me to survey a large, broad population. The estimated population can reach over one million participants. A non-probability convenience study was appropriate because it allowed me to test the hypothesis amongst a specific population sample. The results enable some inferences on the results and hypothesis testing. Participants who are at-risk and may not consider the study due to their vulnerability, have a mental health condition, are demented, are substance abusers, or are medically ill are excluded.

The population is vast, and an inclusion method is the most appropriate sampling frame to answer the hypothesis (Yegidis & Weinbach, 2002). An inclusion method allows me to specify the characteristics needed to recruit the correct sample successfully (Berndt, 2020). Based on a G*Power analysis, the sample size is a minimum of 37 participants. The alpha means to study the hypothesis is 0.05. This alpha means it allows

enough probability not to reject the null hypothesis. The study utilizes a 1-sample t-test to answer the hypothesis. To run the hypothesis, the power level would need to be .03.

Procedures for Recruitment, Participation, and Data Collection

The measured population provides care to a vulnerable population with a medical or mental illness. During the COVID-19 pandemic, I used the safest, most accessible methods to participate in the study. I recruited participants utilizing social networking sites like Facebook, Instagram, Snapchat, and LinkedIn. Additionally, I posted and distributed flyers to veteran service organizations, Wounded Warriors programs, the American Legion Auxiliary, Military Order of Purple Heart, Paralyzed Veterans of America, Iraq, and Afghanistan Veterans of America, and established OEF caregiver and spouse support groups.

All recruitment material includes a link to the survey and a brief statement that addresses the purpose of the study, why the study is being done, the risks and potential benefits of participating, and that participation is voluntary. Participants received no payment. Also, the statement addressed who to contact with questions or problems, such as assistance with completing the survey, how the information collected is used, disseminated, and published, and how participants can withdraw from the survey after starting. Each participant was asked to provide informed consent before beginning the survey. Informed consent includes fully disclosing the study's plan and intent. At the end of the survey's introduction page, potential participants consented to participate in the study, or they could close and exit the page. Once the participants agree to participate, participants answered a demographic questionnaire regarding their gender, ethnicity,

marital status, relationship to the veteran, age, education, employment, and the number of children in the household.

The BAS #6 and SOC Survey were administered to caregivers via Google Forms. Upon completing the survey, participants exited the study and received a thank you message for participating in the survey. Since the survey was anonymous, there was no follow-up with participants.

Instrumentation and Operationalization of Constructs

The BAS, formerly the Psychological Presence scale, was first published in 1990 (Boss, Greenburg, et al. , 1990). The instrument's theoretical base derives from the premise that circumstances occur within the family system, which causes family members to become lost and deny the facts (Boss, Greenburg, et al., 1990). The family then tries to understand the facts that cause ambiguity (Boss, Greenburg, et al., 1990). The BAS is appropriate for this study because the boundary ambiguity instrument tests the degree of ambiguity versus family system stress (Boss, Greenburg, et al., 1990). The SOC scale measures any stress levels among caregivers.

Reliability and Validity

The validity of the Boundary Ambiguity instrument is based upon substantiating a positive relationship between unclearness and the level of personal family stress across many samples (Boss, Greenburg, et al., 1990). Reliability and validity are covered in previous studies, such as families who had individuals MIA during the Vietnam War, widows, parents of adolescents who left home, divorcees, and caregivers of Alzheimer patients (Boss, Greenburg, et al., 1990).

In the study of Vietnam MIA. veterans, the psychological presence of the missing father correlated with family functioning ($r=-.35$, $p<.05$; Boss, 1977). The second phase of the study was conducted by Boss (1980), which revealed the scores from BAS correlated with the spouse functioning ($R^2=.14$, $p<.025$). Blackburn (1987) and Friday (1985) conducted studies on Widowhood using BAS #2. The scale was the same except for deleting military terms and parents' references (Boss, Greenberg, et al., 1990). After 6 months, Blackburn hypothesized an internal relationship between a husband's psychological presence and self-esteem was present ($r=.39$, $p<.01$). At 12 months, most widows showed no significant relationship between a husband's psychological presence, self-esteem, and psychosomatic complaints (Blackburn, 1987). Friday measured ambiguity amongst rural and urban widows between 6 to 12 months. Using BAS #2 scale, scores ranged from 20 to 41 with a mean of 34.76 and a standard deviation of 3.94 (Friday, 1985). The results indicate reliability was .58 and no significant difference in rural vs. urban widows (Friday, 1985).

A study on the psychological presence of adolescents who left home was conducted on a normative population of Minnesota mid-life couples (Boss, Greenberg, et al., 1990). Cronbach's alpha reliability was calculated in the sample at .74 (Boss, Greenberg, et al., 1990). Twenty psychiatrists reviewed the content validity of BAS for sensibility and relativity to the study. Construct validity compared the scores to the stressfulness of adolescents moving out (husbands $r=.29$, $p=.014$/wives: $r=.37$, $p=.003$) (Boss, Greenberg, et al., 1990). The husbands' scores ranged from 16 to 38, x-=26.57,

standard deviation= 5.94, and wives' scores ranged from 16 to 42, x-= 27.84, standard deviation=5.94 (Boss, Greenberg, et al., 1990).

Greenburg (1988) conducted a more extensive scale study using eight states of mid-life families to examine stress, coping, and adaption during mid-life years. The results indicated a reliability of .71, and 10 of the 14 hypotheses were supported (Greenburg, 1988). Recommendations were made following the study for revisions to the scale to balance positive and negative emotions (Boss, Greenberg, et al., 1990).

Ambiguity was also studied amongst non-normative families experiencing divorce (Ahrons & Rogers, 1987, Pasley, 1987, Pasley & Ihinger-Tallman, 1989). The hypothesis was the degree of ambiguity is negatively related to family adaption level after divorce (Boss, Greenberg, et al., 1990). The scores ranged from 32 to 78, mean=53.63, standard deviation= 10.45, and Cronbach Alpha reliability is .75 (Boss, Greenberg, et al., 1990).

BAS #6 was developed from the original scale except for military references and tested in a 5-year longitudinal study on caregivers of Alzheimer's patients (Boss, Greenberg, et al., 1990). The scale was successful in measuring ambiguity amongst caregivers. The scale was also successful amongst the complex military population (Faber et al., 2008; Huebner et al., 2007; Palmer, 2008).

Sense of Coherence Scale

The SOC scale, developed by Aaron Antonovsky in 1987 (Eriksson & Lindstrom, 2005), was designed to examine why people get sick under stress and others do not (Collingwood, 2016). SOC has three components: comprehensibility,

manageability, and meaningfulness (Collingwood, 2016). SOC is defined as "the extent to which one has a pervasive, enduring though the dynamic, feeling of confidence that one's environment is predictable and that things will work out as well as can reasonably expect" (Collingwood, 2016, p. 2). In this study, the relevance of a SOC exists in measuring caregivers' natural coping styles. Using the SOC scale, results can be used to examine caregivers' coping determinants such as possible upbringing, financial assets, and social support (Collingwood, 2016).

The SOC scale is used in 33 languages and 32 countries (Eriksson & Lindström, 2005). The face validity of the SOC is strong; other cultures, such as Japanese, Swedish, and Chinese, had difficulties completing the scale (Collingwood, 2016). The SOC scale has been proven to measure those indications across cultures, which can readily apply to caregivers (Collingwood, 2016). Additionally, the SOC scale is valid and reliable in measuring how people of different cultures manage stress (Eriksson & Lindström, 2005).

The SOC-13 and SOC-29 scales were used in over 127 studies, including scientific publications, public health, psychology, psychiatry, pedagogy, health, sociology, social work, and doctoral dissertations/thesis, with a value ranging from 0.70 to 0.92, and a modified scale amongst 60 studies, ranging from 0.35 to 0.91 (Eriksson & Lindström, 2005). The means of SOC-29 range from 100.50 (SD 28.50) to 164.50 (SD 17.10) points and SOC-13 from 35.39 (SD 0.10) to 77.60 (SD 13.80) points SOC-29 mean ranges from 100.50 to 164.50, and SOC-13 mean ranges from 35.39 to 77.6 (Collingwood, 2016). Currently, there are 15 modified versions of the scale, some specified for children and family coherence but are coherent with the original version

(Eriksson & Lindström, 2005; Hoehn-Anderson, 1998; Margalit & Efrati, 1996; Sagy, 1998, 2001; Sagy & Antonovsky, 1992). The studies using SOC scale used primarily cross-sectional studies, with few longitudinal studies (Eriksson & Lindström, 2005). Quantitative was the primary methodology for most studies with some qualitative and intervention (Eriksson & Lindström, 2005). Data were collected from interviews, questionnaires, focus groups, or experience sampling methods (Eriksson & Lindström, 2005). In 124 studies, the original SOC-29 means range from 100.50 (SD 28.50) to 164.50 (SD 17.10) points (Eriksson & Lindström, 2005). In 127 studies, SOC-13 ranges from 35.39 (0.10) to 77.60 (SD 13.80) points (Eriksson & Lindström, 2005).

Operationalization

For this study, I refer to type two, ambiguous loss. Type two ambiguous loss is when someone is physically present but psychologically absent (Boss, 2006). The variable of stress is defined as "a state of mental tension and worry caused by problems in your life, and something that causes strong feelings of fear or anxiety" (Merriam-Webster, 2014). The ambiguous loss variable is measured by a positive relationship between the degree of ambiguous loss and the level of stress that the caregiver experiences. The Boundary Ambiguity (B.A.S.) Caregiver Scale #6 shows if there is a positive relationship between the Degree of Ambiguous loss and the level of stress that the caregiver experiences. The B.A.S. scale predicts if there is an impact of a perceived loss of the injured veteran on the caregiver (Boss, Greenberg, & Perce-McCall, 1990).

Boundary Ambiguity Scale #6 has fourteen questions used to total a simple score (Boss, Greenberg, & Perce-McCall, 1990). The higher the score, the more the caregiver

perceives the injured veteran as ambiguous and psychologically absent (Boss, Greenberg, & Perce-McCall, 1990). Once the results are determined from the B.A.S. score, a correlation is determined by the level of ambiguous loss and stress defined by the Sense of Coherence Scale (Boss, Pearce-McCall, et al., 1990).

The variable stress is determined using the S.O.C. scale to assess the caregiver's perceived physical and mental health, quality of life, and well-being. The variable stress is measured in three dimensions: comprehensibility, manageability, and meaningfulness (Eriksson & B Lindström, 2005). Within the dimensions in the S.O.C. scale, several general resiliency resources are identified, such as ego identity, knowledge, intelligence, coping, social support, commitment, cultural stability, spirituality/religion, and a preventive health orientation (Eriksson & B Lindström, 2005). A caregiver with a strong S.O.C. often utilizes the general resiliency resources and is likely less stressed (Eriksson & B Lindström, 2005). The S.O.C. measures a caregiver's capacity to respond to stress, not personality traits or coping strategies (Eriksson & B Lindström, 2005). For example, suppose a caregiver has a strong B.A.S. score and a low S.O.C. score. In that case, they will have an immense sense of psychological absence from the injured veteran, indicating increased stress and little use of general resiliency resources.

Data Analysis Plan

To analyze the data, I first validate them (Salkind & Frey, 2021). I use a four-step process to validate the data (1) making sure each participant was interviewed, (2) making sure the participants are genuinely a part of the search criteria, (3) ensuring the collection procedures are followed, and (4) check to make sure the participant answered

all of the questions (Baker, 2017). I used the most recent version of SPSS software to analyze the data collected from caregivers of injured veterans' caregivers.

After collecting my data, I created an Excel spreadsheet and a codebook for the demographic information, BAS-6, and S.O.C. results. I assigned each participant a unique I.D. number and entered the survey results from each participant into the Excel spreadsheet. I developed a codebook to reference each code developed.

The demographic data collected are nominal; the BAS-6 and S.O.C. results are interval data. After entering my data, I clean the raw data. I use the techniques of spot-checking, eyeballing, and logic-checking to clean the raw data (Pell Institute, 2014). For spot check, I randomly checked selected participants' paper surveys and compared them to the data for accuracy (Pell Institute, 2014). Next, I reviewed the spreadsheet for coding errors against my coding book and checked the participants' answers to the questions to see if they made sense (Pell Institute, 2014).

After collecting and coding the data, I will start looking for themes (Berndt, 2020). I will also look for common responses to analyze (Berndt, 2020).

Research Question

Do increases in ambiguous loss explain increases in stress amongst injured veterans' caregivers?

H_1: As ambiguous loss increases, stress amongst caregivers of injured veterans increases.

H_0: As ambiguous loss increases, stress amongst caregivers of injured veterans stays the same or decreases.

My data analysis plan includes the statistical test used, procedures, covariates' rationale, and interpretation of results. The first test I will perform on SPSS is a data tabulation to determine the effects of the collected variables. Next, I ran a descriptive test to determine the mean, max, min, mode, and median. I disaggregate the data across different variables or use crosstabs to view data across multiple categories. These tests will allow me to access the necessary results collected from the data. Next, I use tests through SPSS to analyze if the data supports my hypothesis. I run a correlation test to determine the relationship between the variable's ambiguous loss and stress. Then I run an Analysis of Variance (ANOVA) to determine if a difference in means amongst ambiguous loss is significantly significant compared to reported stress. Lastly, a regression test helps me determine if the ambiguous loss predicts stress (Berndt, 2020). Combining these tests helps me analyze the data collected and determine if the results support my hypothesis (Berndt, 2020).

Threats to Validity

External Validity

The participants are caregivers of injured veterans located throughout the United States. The participants may be generalizable to the United States in race, spirituality, gender, age, and marital status. The participants may have lower generalizability located internationally. External validity and reactivity are minimized due to no pre-and post-test administered. The participants are currently caregivers, and there will not be an additional selection process that would increase interaction effects and selection biases. Participants

are randomly selected and not included in a secondary selection process to strengthen the external validity (E. Thomas & Rothman, 2013).

Internal Validity

To ensure the independent variable tests vigorously, internal validity would include using the instrumentation B.A.S. scale #6 (Boss, Greenberg, & Perce-McCall, 1990). Participation is voluntary; caregivers will have no secondary selection process based on previously reported stress, distress, or psychological stressors that can affect the rate of statistical regression (E. Thomas & Rothman, 2013). There are no questions about whether the independent variable of increased stress amongst caregivers is caused by increased ambiguous loss, which may slightly affect internal validity. The variables are clearly defined, and valid measures are developed that operationalize the variables to strengthen internal validity (E. Thomas & Rothman, 2013). Therefore, I do not foresee any construct or statistical conclusion validity threats.

Ethical Procedures

This study follows the ethical standards set forth by Walden University guidelines and the American Psychological Association (A.P.A.) Code of Ethics for conducting research. The procedural ethics of both Walden and A.P.A. require that participants who participate in this study are not harmed or deceived. An application of the study's plan is submitted to the Walden Institutional Review Board (IRB) for permission and approval. The plan addresses how participants are recruited, the study is conducted, and how the data is analyzed and kept confidential. Additionally, I received informed consent from participants before collecting data. After receiving authorization

from the IRB to collect data, I included the approval number with the informed consent form for participants.

Proper encoding lessens any chance of any personally identifiable information participating in the study (E. Thomas & Rothman, 2013). All participants have the authority to refuse to participate in the study. The researcher provides electronic dependability, security anti-virus protection, the firewall used, and regular backup files are updated. Data that is collected are entered electronically on a password-protected laptop. Once the data is scrubbed and entered in SPSS, it is saved via password-protected software. Passwords are changed quarterly or appropriately to ensure the data stays secure. Only the researcher will have access to the data, which is destroyed five years after the completion of the study.

Summary

In chapter three, I outlined the methodology, including presenting the hypothesis, the population, the scales used to measure and test the hypothesis, how I recruited participants for the study, conducted the study, secured the results of the study, and then how I analyzed the results. Does the hypothesis ask whether increases in ambiguous loss explain increases in stress amongst injured veterans' caregivers? I utilized a quantitative study using the published Boundary Ambiguity Scale #6, and the SOC scale was used to test this hypothesis. To analyze the data, I used a cross-sectional design.

I solicited venues such as internet caregiver groups, veteran service organizations, churches, and community centers to recruit participants. The survey is anonymous, with the results available post-completion. SPSS is used to enter the data prior to analysis.

Some demographic information is used to correlate any patterns or trends. All confidentiality is held, and the anonymity of participants and data is secured.

Upon completion of the survey, chapter four outlines the survey results. Chapter four outlines the time frame for data collection, recruitment, and response rates. I also describe the demographic characteristics, how representative the participants are compared to the larger population, and any statistical assumptions. I conclude with a statistical analysis of the study.

Chapter 4: Results

Introduction

When service members return from deployments in war zones with physical and/or psychological injuries, they may be physically present but psychologically absent (Boss & Carnes, 2012). Ambiguous loss is the concept that describes these experiences; this study's purpose is to assess caregivers' experiences of injured OEF veterans. This study takes a quantitative look using the two data collection tools to measure ambiguous loss, the boundary ambiguity scale, and the sense of coherence scale.

Chapter 4 includes the data collection, including how long, any discrepancies, and how representative the population is of the larger veteran population. The results include statistical assumptions, analysis, confidence intervals, post hoc analysis, and tables and figures representing the results. The chapter concludes with a comprehensive summary of the data results collected.

Data Collection and Management

The recruitment of participants began with posting the recruitment flyer to social media, LinkedIn, sending it to veterans to post, and military/veteran caregiver groups. The recruitment began on December 20, 2022, and continued until February 25, 2023. The response rate began slowly, but after the new year, the responses increased, resulting in 52 total responses to the boundary ambiguity and sense of coherence scales.

Data collection did not present any discrepancies. The study resulted in 52 participants. Forty-eight women and four men participated. Thirty-six participants are White, six are Black, three are Hispanic, three are Asian, and four are other ethnicities.

Twenty-seven of the participants stated they were married, and 25 participants were not married. Twenty-seven participants are spouses of the OEF veterans, 14 stated that they are in a committed relationship with the OEF veteran, 10 are parents, and one is a friend or other family member.

The baseline descriptive demographics of gender are represented in Table 1. The baseline descriptive demographics of ethnicity are represented in Table 2. The baseline descriptive demographic of age is represented in Table 3.

Table 1 Descriptive Demographics Gender

Gender	Percent completed
Female	92%
Male	8%

Table 2 Descriptive Demographics Ethnicity

Ethnicity	Number of participants
White	73%
Black	12%
Hispanic	6%
Asian	6%
Other	3%

The participants were represented in the following age groups: 16 were born in 1980 or later, 17 participants were born between 1970 and 1979, 15 participants were born between 1960 and 1969, and two participants were born before 1960. Twenty-two of the participants' highest level of education is high school, 17 completed some college, and 13 completed college. Fourteen participants are unemployed, and 38 are employed at least part-time.

Table 3 Descriptive Demographics Age

Descriptive Demographics Age

Age by decade	Number of participants
1959-Older	2
1960-1969	15
1970-1979	19
1980-Younger	16

Three participants have five or more children; two have four children; two participants have three children; nine participants have two children; two participants have one child; and 35 participants do not have any children.

Table 4

Descriptive Demographic Participants Number of Children Under 18

Number of children per family	Percentage
No children	70%
One child	4%
Two children	18%
Three children	4%
Four children	4%
Five children	6%

Research Question

Does ambiguous loss explain the relationship between stress amongst caregivers of injured veterans?

H_1: Stress increases due to a caregiver's perception of ambiguous loss resulting from the injured veterans' continued physical presence but a psychological absence.

H_0: Stress decreases or stays the same due to the caregiver's perception of ambiguous loss resulting from the injured OEF veterans' continued physical presence but a psychological absence.

Testing Ambiguous Loss

The sample of participants that are caregivers of OEF veterans is primarily women; half are spouses and partners. The ages of participants are primarily between 44 and 53, and only a few are 63 and older. Within this sample, many participants work at least part-time or more, with less than half completing a high school diploma and the other half with some college or higher. Thirty-two percent of the participants are also parents, with many parenting two or more children.

The statistical assumptions are that the sample size will reflect the more significant veteran caregiver demographics in gender, ethnicity, marital status, relationship to veterans, education, age, education, and children. The results were congruent with the national veteran caregiver population with this study's sample except for employment and the number of children. Seventy-three percent of the participants are employed at least part-time or more. The national caregiver average for all veteran eras is much lower (Ramchand et al., 2014). Specific data on OEF veteran caregivers' employment could not be found in other studies for a comparative analysis (Brickell, Lippa, et al., 2019; Patel, 2015; Shepherd-Banigan et al., 2020; Uphold et al., 2014; Veteran Affairs, 2022). Nationally, veteran caregivers have more children, but 65% of the study participants do not have children (Ramchand et al., 2014).

The results of the statistical analysis include a total of 52 responses, and the response is missing. For the boundary ambiguity scale, the results that yielded the most similar responses are Questions 1, 2, 5, 11, and 12. This set of questions includes "I have guilty feelings getting out the house, difficulty carving out my own life, I feel like I have

no time to myself, when not with the veteran, I find myself wondering how they are getting along, and family members tend to ignore my veteran" (Carroll et al., 2007). The questions that yielded the least number of correlated responses are "sometimes I'm not sure where my veteran fits in as part of the family, I'm not sure what I should expect to do around the house, I often feel mixed up about how much I should be doing for my veteran, and family members tend to ignore my veteran" (Carroll et al., 2007).

On the BAS, the participants that score higher correlate with a perception that the experienced loss of the person they are caring for is more ambiguous. The lower score correlates with the perception that the experienced loss of the person they are caring for is less ambiguous. Of the 14 questions, the highest score was 45, and the lowest was 32. The median score was 36.

The following tables demonstrate the boundary ambiguity scale statistical analysis of the mean, mode, standard deviation, minimum, maximum, and standard error of the mean. One value was missing, and 52 participants completed the survey. The following table demonstrates 67% of the caregivers scored higher than the median. These results indicate that 67% of caregivers perceive ambiguous loss amongst the veterans for whom they provide care.

Table 5 Boundary Ambiguity Statistical Analysis

N	Valid	52
	Missing	1
Mean		36.9808
Std. Error of Mean		.39653
Median		36.0000
Mode		36.00

Std. Deviation	2.85939
Minimum	32.00
Maximum	45.00

Table 6 Boundary Ambiguity Scale Results by Research Questions

Boundary Ambiguity Scores	Percentage
Participants' scores greater than 36	67%
Participants' scores of less than 36	33%

Testing Stress

Fifty-two participants with no missing questions completed the SOC questionnaire. The median score is 53, the minimum score is 27, and the maximum score is 60. The higher the SOC score, the greater the ability to manage resources, are more stressful, and are less likely to overcome resistance.

Table 7 Sense of Coherence Scale

N	Valid	52
	Missing	0
Mean		49.6346
Std. Error of Mean		1.02238
Median		53.0000
Mode		54.00
Std. Deviation		7.37252
Variance		54.354
Range		33.00
Minimum		27.00
Maximum		60.00

The SOC questionnaire resulted in 65% of caregivers that scored more than 53. Thirty-five percent of caregivers scored less than 53. The results indicate that more than half of the caregivers are experiencing stressors and difficulty managing emotions and are least likely to have resiliency skills in providing care for the OEF veterans. The figure below displays the results of the sense of coherence scale results from the 52 participants.

Table 8 Sense of Coherence Scale Results by Research Question

Sense of Coherence Scale results	
Scores more than 53	65%
Scores less than 53	53%

A one-sample t-test was performed to see if injured OEF veterans' caregivers can maintain well-being despite feeling stressed. There was no significant difference in injured OEF caregivers' well-being despite feeling stressed (M=49.63, SD=7.38); t (51) =.005, p=99.

A one-sample t-test was performed to see if caregivers of injured OEF veterans' experience ambiguous loss. There was not a significant difference in injured OEF caregivers experiencing ambiguous loss. (M=36.98, SD=2.86; t (52) =.001, p=99.

A paired sample t-test was performed to see if stress is increased due to a caregiver's perception of ambiguous loss. There were 12.6 veterans whose stress of injured OEF injured caregivers correlated with ambiguous loss. (M=12.61, SD=1.04, .40); t (51) =.44, p=.00.

Table 9 Two-Sample Paired T-Test Boundary Ambiguity Scale (BAS) and Sense of Coherence Scale (SOC)

	Mean	Std Deviation	Std.Error Mean	95% Confidence Interval Lower	Upper	t	df	Sig (2-tailed)
SOC_Raw -BAS-Raw	12.60784	7.81045	1.09368	10.41112	14.80457	11.528	50.	.000

Based upon the Person correlation test, the sense of coherence scale was positively correlated, r (50) = .94, p=.00. A one-way ANOVA test was conducted to compare the effect of ambiguous loss. This was caused by stress in caregivers of injured

OEF Veterans p>.05 level. [F (13.37=.85 p=.612]. There was significant variability in the means of ambiguous loss experienced due to the stress of caregivers of OEF injured veterans.

Table 10 Simple Regression Test

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	632.520	13	48.655	.846	.612
Within Groups	2127.989	37	57.513		
Total	2760.510	50			

A post hoc analysis could not be performed due to at least one group having fewer than two cases. A simple linear regression was calculated to predict if stress is increased based on ambiguous loss. A significant regression equation was found [F (1,49) = .171, p <.002], with an R^2 of .003. Caregivers of injured OEF Veterans are equal to 43.958 + .152 in the perception of ambiguous loss when stress is increased. Stress increased by .152 for each level of ambiguous loss experienced.

Table 11 Simple Regression Test

		SOC RAW	**BAS RAW**
Pearson Correlation	SOC_Raw	1.000	.059
	BAS_Raw	.059	1.000
Sig. (1-tailed)	SOC_Raw	.	.341
	BAS_Raw	.341	.
N	SOC_Raw	51	51
	BAS_Raw	51	51

The result of the study is stress is H_1: Stress is increased due to caregivers' perception of ambiguous loss resulting from the injured veterans' continued physical presence but psychological absence.

Summary

The quantitative data was collected and analyzed. The first test used SPSS data tabulation to determine the effects of the collected variables. Next, I ran a descriptive test to determine the mean, max, min, mode, and median. Then I used crosstabs to view data across multiple categories, allowing me to access the results in the tables collected from the data. I ran a correlation test to determine the relationship between the variable's ambiguous loss and stress. Then I ran an Analysis of Variance (ANOVA) to determine if a difference in means amongst ambiguous loss is significantly significant compared to reported stress.

I conducted a linear regression test to determine if the ambiguous loss predicted stress amongst caregivers. After reviewing the indicated test, a Pearson correlation test was also needed to review the correlation between the independent and dependent variables relationships.

The hypothesis was tested using the linear regression test. H_1 Stress is increased due to caregivers' perception of ambiguous loss resulting from the injured veterans continued physical presence, but the psychological absence was substantiated. The Pearson Correlation test displayed a correlation between ambiguous loss and stress. The boundary ambiguity scale and the sense of coherence scale individual results were insignificant; however, the combined two-tail t-test was significant. The ANOVA test

results showed a non-significant variability in the means of ambiguous loss experienced due to the stress of caregivers of injured OEF veterans. In conclusion, the sample size rendered a conclusive report.

In chapter five, I will extend the knowledge gained from research conducted in this population with ambiguous loss studies and on the validity and reliability of the study. I will discuss how the results confirm, disconfirm, or extend knowledge in human services by comparing the results with what has been found in the literature. Then I will analyze and interpret the results.

Next, in chapter five, I will discuss any limitations, generalizations to the broader population, trustworthiness, validity, and reliability. Based on the findings, I will discuss any recommendations for further human service studies. I will indicate the potential impact of social change and theoretical implications within the ambiguous loss theoretical framework.

Chapter 5: Results

Introduction

This quantitative study's purpose is to compare the relationship between ambiguous loss and the stress level of caregivers of OEF injured veterans. Caregiver stress results from the caregivers' perception in some cases versus the physical care (Boss, Greenberg, et al., 1990). Caregiver stress relationship to ambiguous loss perception is hypothesized in many other studies (Bentley et al., 2015; Boss, Greenberg, et al., 1990; Faber et al., 2008; Kreutzer et al., 2016).

My research question poses the question: Is there a relationship between the perceived ambiguous loss amongst caregivers of OEF injured veterans and the stress level experienced by caregivers?

H_1: There is a relationship between perceived ambiguous loss amongst caregivers of OEF injured veterans and the level of stress experienced by caregivers.

H_0: There is no relationship between perceived ambiguous loss amongst caregivers of OEF injured veterans and the stress level experienced by caregivers.

In this chapter, I will interpret the findings collected and survey results from the BAS and the SOC scale. I will discuss limitations identified during the study, data collection, and interpretation of results. Next, I will outline any recommendations for the human service field from my research observations.

Interpretation of the Findings

The survey participants in this study are comprised of OEF veterans' caregivers that are primarily women; half are spouses and partners. The ages of participants in this

study are primarily between 44 and 53, and only a few are 63 and older. Many participants work part-time or more, with less than half completing a high school diploma and the other half with some college or higher. Two or more children are in most households.

Table 12 Descriptive Demographics Age

Age by decade	Number of participants
1959-Older	2
1960-1969	15
1970-1979	19
1980-Younger	16

Table 13 Descriptive Demographics Education

Education level	Number of participants
High school	22
Some college	17
Four-year college or higher	13

Ambiguous Loss and Sense of Coherence Findings

The findings indicate stress is increased due to OEF veteran caregivers' perception of ambiguous loss. Some of the findings of the study identified some slight guilt which showed some similarities to studies such as the study on polytrauma experienced by servicemembers and the experienced ambiguous loss, guilt, and shame by those who are providing care for them (Collins & Kennedy, 2008; Griffin et al., 2017). The findings also indicate some small sense of loss; similar studies showed a greater sense of ambiguous loss during and after deployment with a sense of change (Easterling et al., 2013).

Table 14 Two-Sample Paired T-Test Boundary Ambiguity Scale (BAS) and Sense of Coherence Scale (SOC)

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval		t	df	Sig. (2-tailed)
				Lower	Upper			
SOC_Raw-BAS_Raw	12.60784	7.81045	1.09368	10.41112	14.80457	11.528	50	.000

Findings as They Relate to Ambiguous Loss

The findings in this study were seemingly congruent with the other ambiguous loss studies, but the correlation to the variables in other studies is more significant (Brickell et al., 2018; Malec et al., n.d.; Patel, 2015). Previous studies indicated that caregivers experience depression, anxiety, insomnia, and mood changes (Malec et al., n.d.; Shepherd-Banigan et al., 2020; Uphold et al., 2014). The findings in this study demonstrated minor symptoms of mood changes or depression due to ambiguous loss but more significant symptoms of stress or burden. On the SOC scale, the respondents scored higher on questions 6,7, and 8.

An ambiguous loss study that tested caregivers of people with anxiety disorders shared similar results to this study (Brickell, Lippa, et al., 2019). This study shared a similar demographic in caregivers and stress in the caregivers, along with a correlation of ambiguous loss experienced (Poli et al., 2019). Interestingly, one variable is this study demonstrated no significant difference in ambiguous loss correlation to stress in spouses versus non-spouse caregivers, and a previous study by Warchol-Biedmann (2014) shared the same results, which expands knowledge in the field. Warchol-Biedmann studied 151

caregivers using a quantitative scale and found no difference between the two demographics.

In the study by Bentley (2015), an ANOVA test a difference in means amongst ambiguous loss is significantly significant compared to stress. A one-way ANOVA was conducted to compare the effect of ambiguous loss due to stress in caregivers of OEF veterans. Unfortunately, there was no significant variability in the means of ambiguous loss experienced due to the stress of caregivers of OEF-injured veterans [F (13.37=.85 p=.612].

In the study, Kreutzer's (2016) regression testing was used to help determine if ambiguous loss predicts stress. A simple linear regression was calculated to predict if stress is increased based on ambiguous loss. A significant regression equation was found [(1,49) =.171, <.002) with an R^2 of .003. Caregivers of injured OEF veterans are equal to 43.958 +.152 for the perception of ambiguous loss when stress is increased. Stress increased by .152 for each level of ambiguous loss experienced.

Table 15 ANOVA Test Results

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	632.520	13	48.655	.846	.612
Within Groups	2127.989	37	57.513		
Total	2760.510	50			

Boss developed the boundary ambiguity scale to predict if there is an impact of a perceived ambiguous loss (Boss, Greenberg, et al., 1990; Carroll et al., 2007). The higher the score, the more ambiguous the loss or the perception of loss (Boss, Greenberg, et al., 1990). In this study, the boundary ambiguity scale will predict if there is an impact of a

perceived loss of the injured veteran of the caregiver. The higher the score, the more caregiver perceives the injured veteran as ambiguous and psychologically absent. A one-sample t-test was used to see if caregivers of injured OEF veterans experience ambiguous loss. There was not a significant difference. Bowd's (1997) ambiguous loss study also demonstrated similar findings. Many caregivers report caregiver burden with daily care, but not much ambiguous loss when the patient was institutionalized (Bowd, 1997).

Sense of Coherence Scale Findings

The SOC scale measures stresses in three dimensions (Eriksson & B Lindström, 2005) to determine stress in a reverse scoring methodology. The higher the score, the more resilient the person is (Dahl & Boss, 2020). The sense of coherence scale measures OEF veterans' caregiver capacity to respond to stress. A one-sample t-test was performed to see if caregivers of injured OEF veterans can maintain well-being despite feeling stressed. There was no significant difference in injured OEF caregivers' well-being despite feeling stressed (M=49.63, SD=7.38); t (51) =.005, p=.99.

A paired sample t-test was performed to see if stress is increased due to a caregiver's perception of ambiguous loss. There were 12.61 veterans for which stress of injured OEF veteran caregivers correlated with ambiguous loss (M=12.61, SD=1.04, .40); +(51) =.44, p =.00). The Pearson correlation test is used in studies outside of the ambiguous loss to show correlations between two testing tools (Baker, 2017). This study used the Pearson correlation test to show the correlation between the boundary ambiguity scale and the sense of coherence scale. The correlation was positively correlated r (50) =

.94, p.00. This correlation test demonstrates the relationship between ambiguous loss and caregiver stress variables.

Limitations of the Study

The limitations of the survey design are that the participants may not want to disclose personal information as listed previously. The survey's validity rate was not as low as anticipated; only two to three participants did not complete the survey entirely. The two to three participants who did not complete the survey skipped questions. Due to the anonymity of the survey, I am unsure of the rationale for the participants not completing the questionnaire. I did not remove the surveys that the participants did not complete every question.

A limitation of the study is access to a broader population to survey. A more comprehensive variety of caregivers that may not be included within this group would strengthen the study's internal validity. Agency support that provides care to patients or caregivers would provide broader access than reaching out to volunteers. A correlation study is designed to show a relationship between two variables; the other may decrease (Baker, 2017). However, a limitation of correlation design is that the results may indicate a relationship but may not show clearly that if one variable increases, the second decreases.

Limitations of self-reporting are that participants may exaggerate or minimize symptoms. The limitations of using the BASs are that the sense of loss can change over time. Cronbach's alpha for each scale needs solid internal consistency, such as a test and

re-test, to increase validity (Tavakol & Dennick, 2011). Post the survey; this remains a limitation of the scale that the sense of loss can change over time.

Internal Bias

One internal bias is that I am a veteran; another is that I have previously cared for an injured service member. The internal bias did not affect the data recruitment, collection, or analysis of data. Utilizing a quantitative study, an established survey tool and an anonymous data pool reduced internal bias compared to other research techniques.

I work with injured service members at the Veterans Health Care Administration, interacting with them and their caregivers. These past experiences could influence this study due to my positive and negative experiences. My work and past experiences have not influenced data collection and analysis as I have not interacted with the participants. The BAS tool and SOC scale and how they are collected have limited biases.

Using this tested tool has increased the validity and decreased my personal bias. SPSS was used to correlate the results, increasing the validity, and decreasing my personal bias in analyzing the study results. Using SPSS also increased standardizing a comparison of results with other studies of the same theory with other populations.

Recommendations for Future Research

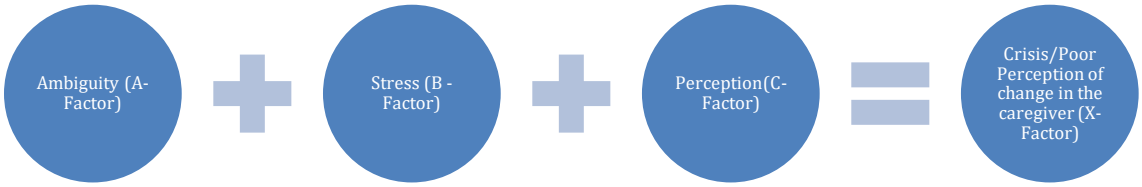
Ambiguous loss theory development included introducing ambiguity into the family stress model of ABC-X (Carroll et al., 2007). Ambiguity is viewed as the A-factor, the B-Factor is stress, and C-factor is the event's perception (Carroll et al., 2007). The correlation to the family stress theory ABC-X model was further developed by suggesting that the perception variable is the C-factor (Boss, 1992, 2004, 2006, 2007).

As previously discussed in Chapter 5, it is recommended that further studies are needed to define ambiguous loss theory perception as the C-factor (Carroll et al., 2007). Family stress research tests the theory of ambiguous loss theory to understand further family changes and functioning (Carroll et al., 2007). This study has contributed to the body of knowledge, tested the theory successfully, and shown some correlations of the ABC-X model in the results of the OEF caregivers.

The study findings indicate stress is increased due to OEF veteran caregivers' perception of ambiguous loss. Some of the findings of the study identified some slight guilt which showed some similarities to studies such as the study on polytrauma experienced by servicemembers and the experienced ambiguous loss, guilt, and shame by those who are providing care for them (Collins & Kennedy, 2008; Griffin et al., 2017). The findings also indicate some small sense of loss; similar studies showed a greater sense of ambiguous loss during and after deployment with a sense of change (Easterling et al., 2013). These findings can be added to the larger body of work within ambiguous loss.

Figure 4

ABC-X Model Post Survey



Additional studies with the population collecting qualitative data may allow for more observation of themes, trends, and explanations of behavior from the caregivers. Many ambiguous loss studies use quantitative methodology due to the established scales. However, the qualitative studies share some richness in behaviors and additional context gathered from the studies (Faber et al., 2008). One of the limitations is that ambiguous loss may change over time. For the military caregiver population, a longitudinal test close to deployment and five to ten years later would measure any ambiguous loss and changes over time. A longitudinal test would also increase the validity of the scale. The findings would be interesting if dynamics changed over time, such as depressive symptoms, anxiety, and caregiver burden.

Another recommendation is to research other military eras and non-military caregiver populations relating to ambiguous loss and caregivers. These studies have been studied amongst military and ambiguous loss (Clymer et al., 2008; Faber et al., 2008; Huebner et al., 2007; Palmer, 2006). Researching other populations may provide additional insight into the current literature on ambiguous loss among caregivers.

Implications

The individual impact of injured veterans who experience injuries may require a caregiver to assist with physical and mental recovery (Delgado et al., 2021). Caregivers are usually unpaid but are essential in bridging medical and home care needs by supporting those that need care (Miller et al., 2019). The caregiver's role extends to the healthcare team by assisting with medications, bathing, transportation, de-escalating mental health episodes and meals, and helping with cognitive deficits (Cozza et al., 2013a; Miller et al., 2019).

Several participants of this study had children under eighteen years old. Understanding the needs of the caregivers may provide solutions that can impact the veterans and the parents. Ambiguous loss is also a derivative of family stress theory. The social implication is that understanding the stressor will improve resiliency efforts that can be offered to the family to reduce stressors. The Department of Defense and the Department of Veteran Affairs have developed efforts to build resiliency amongst servicemembers and veterans (Cozza et al., 2013a; Cozza & Guimond, 2011; Saltzman et al., 2011). The social implications are that increased research can help other agencies to develop programs that can help with resiliency and coping skills.

Theoretical implications are that the ambiguous loss tools are tested and are valid. The theory is over thirty years old, and this study has contributed to the long-term validity of the tool and the theory (Carroll et al., 2007). Implications in human services begin with understanding the correlation of the cause of stress within families and can help human service professionals develop mechanisms to provide resources. Resources

such as coping mechanisms, stress reduction, and short and long-term therapy tools can be developed based on understanding the causes of these stressors.

Conclusion

Over 5.5 million caregivers provide day-to-day care needs to veterans (Ramchand et al., 2014). Additionally, 1.1 million caregivers care for OEF veterans (Ramchand et al., 2014). Military caregivers of OEF differ from other populations as they are typically younger, provide childcare in tandem with caregiving, and may be employed (Ramchand et al., 2014). The participants of this study are currently between the ages of thirty-three and fifty-three years old. The study participants had fewer children than Ramchand's (2014) average OEF household. In this average study household with children, they had two children, and the caregiver cared for an injured OEF veteran.

Veteran caregivers typically experience increased strain on a family, strained relationships, and workplace problems, such as loss of employment and an elevated risk for health outcomes (Ramchand et al., 2014). Many post-9/11 caregivers experienced increased symptoms of depression (Ramchand et al., 2014). As stated, thirty-three percent of servicemembers who return from military combat experience traumatic brain injury and PTSD (Cozza et al., 2013a; Donoho et al., 2018; Kritikos et al., 2018). These symptoms can change the service members' behavior and alter personalities (Cozza et al., 2013a).

Unlike death, when a person is physically present but psychologically absent, loss freezes the coping and grieving process (Boss, 2010). When veterans return home with physical and psychological injuries, they may be physically present but psychologically

absent. Psychological changes caused by experiencing combat may cause a sense of loss among caregivers. Palmer (2008) has identified that combat exposure increases the risk of family stress within military families. He has also researched factors that protect against adverse outcomes and can help families build resiliency skills.

This quantitative study analyzed the relationship between the level of Ambiguous loss and the degree of stress in caregivers of injured Veterans who served in OEF. The independent variable is Ambiguous Loss. The dependent variable is stress. H_1: As Ambiguous Loss increases, stress amongst caregivers of injured Operation Iraqi Freedom and OEF Veterans increases. H_0: As Ambiguous Loss increases, stress amongst caregivers of injured Operation Iraqi Freedom and OEF Veterans stays the same or decreases. Boss (2007), the founding theorist of Ambiguous Loss, challenged scholars and practitioners to examine inclusive data to guide interventions that help families cope with stress and trauma.

Positive social change outcomes can be utilized through resiliency skills-based resources for caregivers. Boss (2010) utilized research with dementia caregivers to develop resiliency skills based on the following criteria: (a) understanding the loss, (b) assisting families in finding meaning, (c) reconstructing identity, (d) normalizing ambivalence, and (e) revising attachment. Human service professionals can use this study on caregivers of psychologically injured veterans; their resiliency and coping skills can develop and lead to positive social change.

This study shared the same goal as Palmer (2008) within human services to protect against adverse outcomes for caregivers and families and build resiliency skills by

understanding what causes family stress. The results of this proposed quantitative study are intended to assist professionals in building coping skills and resiliency factors among caregivers.

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Appendix A: Recruitment Flyer

Seeking Caregivers of Operation Enduring Freedom Injured Veterans

Doctoral Student Research Study

There is a new study about the experiences of caregivers of injured Operation of Enduring Freedom Veterans. For this study, you are invited to complete a brief survey about your experiences as a caregiver.

About the study:

- One 30–60-minute online survey will be recorded.
- To protect your privacy, the published study would use anonymous names.

Volunteers must meet these requirements:

- 18 years old or older
- Caregiver of injured Operation Enduring Freedom Veteran.

Registration Link:

This interview is part of the doctoral study for Stephanie Spann, a Ph.D. student at Walden University. Survey collection will take place from December 2022-February 2023

Appendix B: Title

Measurement of Boundary Ambiguity in Families

BOUNDARY AMBIGUITY SCALE #6 FOR CAREGIVERS OF VETERANS

Pauline Boss, Jan Greenberg, and Wayne Caron

The following statements are about your relationship with the injured Veteran. (As you read, imagine his or her name in the blank space in each sentence.) Using the scale provided as a guideline, choose the number that best shows how you feel and place it in the blank to the left of each item. There are no right or wrong answers. It is important that you **answer every item, even if you are unsure of your answer.**

For questions 1-14, use the following scale as a guide in answering:

STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE	UNSURE HOW I FEEL
1	2	3	4	5

____ 1. I feel guilty when I get out of the house to do something enjoyable while _____ remains at home.

____ 2. I feel it will be difficult if not impossible to carve out my own life as long as _____ needs my help.

____ 3. I feel incapable of establishing new friendships right now.

____ 4. I feel I cannot go anywhere without first thinking about _____'s needs.

____ 5. I feel like I have no time to myself.

____ 6. Sometimes I'm not sure where _____ fits in as part of the family.

____ 7. I'm not sure what I should expect _____ to do around the house.

____ 8. I often feel mixed up about how much I should be doing for _____.

____ 9. I put _____'s needs before my own.

____ 10. My family and I often have disagreements about my involvement with _____.

____ 11. When I'm not with _____, I find myself wondering how s/he is getting along.

____ 12. Family members tend to ignore _____.

____ 13. _____ no longer feels like my spouse/parent/sibling.

____ 14. I think about _____ a lot.

Appendix C: Title

SCALE #4: BOUNDARY AMBIGUITY SCALE FOR ADOLESCENT AND ADULT CHILDREN OF DIVORCE

1. Recode items 3, 11, 12, 13, 19, 21, 25

   (1=4) (2=3) (3=2) (4=1)

2. Compute total score by adding recoded items and all other items.

SCALE #5: BOUNDARY AMBIGUITY SCALE FOR DIVORCED ADULTS

1. Recode items 2, 9, 11, 17, 19, 20, 22

   (1=5) (2=4) (3=3) (4=2) (5=1)

2. Compute total score by adding recoded items and all other items.

SCALE #6: BOUNDARY AMBIGUITY SCALE FOR CAREGIVERS OF PATIENTS WITH DEMENTIA

Compute total score by adding all items.

INTERPRETATION

The higher the score, the more that respondent perceives his or her family boundary as ambiguous. At this time, information is being gathered concerning the interpretation of boundary ambiguity scores across varied populations. Norms must be established for each population studied. Currently, the best interpretation of scores is to examine within-sample comparisons, using central tendencies and measures of variation as well as correlations with other variables.

Given that boundary ambiguity is theorized as a *perceptual* variable, one that varies within cultural, community, and familial contexts, the authors of this publication are eager for more empirical findings from studies with many populations, including those experiencing different types of loss, and those with various ethnic and socio-economic backgrounds.

The best guide to understanding and interpreting boundary ambiguity scores and to applying the construct in clinical/intervention settings is an integration of data from studies of varied populations, including those experiencing ambiguous and clear-cut losses. This publication is a beginning toward that end.

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Appendix D: Sense of Coherence Scale

Sense of Coherence Scale (9 questions)

1. **(ME)** (A4) Do you have the feeling that you don't really care about what goes on around you? 1 2 3 4 5 6 7 very seldom or never — very often
2. **(MA)** (A9) Do you have the feeling that you're being treated unfairly? 1 2 3 4 5 6 7 very often — very seldom or never
3. **(C)** (A12) Do you have the feeling that you are in an unfamiliar situation and don't know what to do? 1 2 3 4 5 6 7 very often — very seldom or never
4. **(ME)** (A16) Doing the things you do every day is: 1 2 3 4 5 6 7 a source of deep pleasure and satisfaction — a source of pain and boredom
5. **(C)** (A19) Do you have very mixed-up feelings and ideas? 1 2 3 4 5 6 7 very often — very seldom or never
6. **(C)** (A21) Does it happen that you have feelings inside that you would rather not feel? 1 2 3 4 5 6 7 very often — very seldom or never
7. **(MA)** (A25) Many people – even those with a strong character – sometimes feel like sad sacks (losers) in certain situations. How often have you felt this way in the past? 1 2 3 4 5 6 7 never — very often
8. **(ME)** (A28) How often do you have the feeling that there's little meaning in the things you do in your daily life? 1 2 3 4 5 6 7 very often — very seldom or never
9. **(MA)** (A29) How often do you have feelings that you're not sure you can keep under control? 1 2 3 4 5 6 7 very often — very seldom or never
C = comprehensibility; MA = manageability; ME = meaningfulness