2019

# Time and Transitions as Predictors of Effective Postdeployment Resilience

Ricarlos Marcell Caldwell
*Walden University*

# Walden University

College of Social and Behavioral Sciences

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Ricarlos M. Caldwell

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Dr. James Herndon, Committee Chairperson, Psychology Faculty
Dr. Anne Morris, Committee Member, Psychology Faculty
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Eric Riedel, Ph.D.

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Dissertation Submitted in Partial Fulfillment

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## Abstract

Since 9/11 over 2.77 million U.S. service members have deployed 5.4 million times to a theater of war with the majority serving in the U.S. Army. The increased stress inherent in a single combat deployment grows exponentially with each subsequent deployment, resulting in behavioral issues and suicide attempts and ideations. This study's purpose, following resilience theory, was to explore the associations of military life experiences (permanent changes of station, promotions, retirements, etc.) and deployment characteristics (number of deployments, operational specialties, combined lengths of deployments, etc.) to postdeployment resilience in U.S. military personnel. The study's design was a quantitative correlational research design; 102 participants were recruited through social media. Protective factors associated with resilience served as the dependent variable. The independent variables were time and transitions. Covariates included demographic data (age, gender, ethnicity, marital status, rank, branch of service, years of service, etc.), number of combat deployments, and combined length of deployments. The target population consisted of military service members with at least one combat deployment and had been redeployed for a minimum of one year. Results of this study may provide positive social change by identifying points and periods in the redeployment and post redeployment timeline service members can focus on to improve protective factors. Additionally, as Global War on Terror (GWOT) veterans begin leaving the service at an increased rate data focused on resilience may assist military mental health providers with developing treatment strategies that reinforce affect protective factors.

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# Dedication

This dissertation is dedicated to my wife and son. Without your love and support I would not be walking this earth today. You saved my life in my darkest of times and gave me another reason to fight. To my parents, Linda and Rory, thank you for instilling in me the drive to always improve myself. You are the example I constantly measure myself against. To my brothers and sisters: Torre, Chaundra, Lindan, Veronica, James, and Ralph you keep my ego under control and have always been there when I needed you.

Finally, to my fellow combat veterans. Many of us left a piece of ourselves in the mountains of Afghanistan and cities of Iraq. We are forever changed and reforged by our experiences. Know that you are not alone and that while I still breathe, I will always have your six.

Acknowledgements

To the most high. My spiritual and religious journey has been paved with anger, fear, and regret. Thank you for never giving up on me when I had given up on myself.

My dissertation committee chair James Herndon, PhD. Sir thank you for providing guidance and support throughout this long journey. You have walked the path, both militarily and academically, I am on now. Thank you for your unadulterated candor and expedient replies to my many and varied inquiries. My second chair Anne Morris, PhD. Ma'am you were truly a joy to work with throughout the development and finalization of my dissertation. Your upbeat encouragement and poignant critiques were essential to my successful completion. Thank you both for the mentorship and honest feedback. I will hold you in the highest regards for the rest of my life.

To my wife Audrey. Thank you for keeping the home fires burning. These past four years have been a roller coaster ride that has seen us tested beyond words. Through it all you remained steadfast. You are my north star. A shining beacon that always guides me home. Thank you for putting up with the late hours, the deployments, and my mood swings. I could not have accomplished any of this without your love and encouragement.

To my son CJ. You have no idea how much you mean to me. You saved my life. The day your mother told me she was pregnant, after we lost your brother, shifted me from a decision that would have seen me exit this world. You are why I fight. I have no

words to express how happy I am to have you in my life. I am proud of the boy you are and excited to see the man you will become.

My mom and dad. I love you both so much. Thank you for showing me that there is no limit to what I can accomplish. I was blessed to be born into a family of service members. Your service and the service of your fathers has always been central to my drive to uphold our family name. I have tried my hardest to make you proud of me in the classroom, on the battlefield, and in life. Thank you for sacrificing so much for my siblings and I.

To the men and women of the United States Armed Forces past, present, and future. You are a rare breed. When our nation called we few have stepped forward and held the line. To the Ghost of Blue Platoon, the deviant malcontents of the Fish Hooks, and the paratroopers of Bulldog Troop there are no words to express how honored I am to have shared the fields of battle with you. Thank you what you have accomplished and for making me the leader I am today.

Finally, to my brothers and sisters who survived their tours only to succumb to hidden wounds. I love and miss you every day. I am sorry for failing to recognize your pain and not being there when you needed me. This study was created from the hurt of losing just one of you. I can only hope that your final sacrifice will lead to increased studies and support for those of us that are still struggling.

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# Chapter 1: Introduction to the Study

The rise of suicide and behavioral issues in modern military personnel has resulted in an increased focus on resilience. The United States (U.S.) military has been focused on the Global War on Terrorism (GWOT) since September 11, 2001. Since the towers fell over 2.77 million U.S. service members have deployed 5.4 million times to a theater of war with the bulk serving in the U.S. Army (McCarthy, 2018). Data confirm that many service members have conducted multiple combat deployments during their terms of service. The increased stress inherent in a single combat deployment grows exponentially with each subsequent deployment, resulting in behavioral issues and suicide attempts and ideations.

Prior to the start of the war, service member suicides were historically lower than their civilian counterparts (Eaton et. al., 2006), but service member suicides have doubled since the start of the GWOT with the rate surpassing civilian rates around 2008 (Kuehn, 2010; Kinn et al., 2011; Luxton et al., 2012; McLean, et al., 2016). Many factors can be attributed to an increase in suicides or suicidal ideation: multiple combat deployments, inability to cope, preexisting conditions, posttraumatic stress, and survivor's guilt. However, researchers have demonstrated that suicide and other behavioral issues in service members can be correlated to a degradation or lack of resilience (Kinn et al., 2011; Kuehn, 2010; McLean, et al., 2016). Chapter 1 addressed the background of the study, its focus, key definitions, the purpose, and outlined the research questions with associated hypotheses.

## Background of the Study

Forty years ago, Norman Garmezy (Garmezy, 1974a) began studying resilience as a way to understand how some children, in desperate households, were able to successfully overcome issues with seemingly little to no access to support structures. Garmezy's work would continue to evolve across the years and begin to encompass adolescents and adults. The ability to understand and therefore employ the protective factors inherent in strong resilience generates treatment protocols that provide lasting and sustainable success. Understanding the intrinsic value of protective factors correlates to the diminishing of negative stressors, the development of self-regulation and self-efficacy, and self-determination; while accounting for the concept that protective factors are irrelevant unless the individual is exposed to high risk or adverse situations (Cicchetti, 2010; Kim-Cohen, 2007; Vanderbelt-Adriance & Shaw, 2008).

All branches of the military understand that chronicity of exposure to traumatic or adverse situations overwhelms the single risk scenarios typically associated with resilience studies (Dean & Stain, 2007/2010; Hjemdal et al., 2006; Luthar, 2006; Vanderbilt-Adriance & Shaw, 2008). This has resulted in all branches developing resilience studies and strategies in an attempt to mitigate immerging behavioral health trends. Studies and assessments tools such as the Global Assessment Tool, Comprehensive Soldier and Family Fitness, Connor-Davidson Risk and Resilience Scale, the Deployment Risk and Resilience Inventory, the Combat Experience Scale-Modified, and the Mindfulness-Based Mind Fitness Training are all broad and holistic methods to understand causality, repercussions, and future impacts (Bezdjian et al., 2017; Callahan,

2010; Cunningham et al., 2014; Headquarters Department of the Army, 2014; Lester et al., 2015; McHugh, 2013). The U.S. military has begun to mine these best practices by attempting to codify resilience in its service members. These studies and assessments have gone far to identify resilience presence and degradation; but most studies only tangentially attempt to link level of positive protective resilience factors to variables associated with the nomadic lifestyle of the military personnel. In this study I sought to address this gap in research and attempted to determine if there is a significant correlation between time and transitions and positive protective resilience factors.

## Problem Statement

Masten (2013a) identified that the ability for service members to generate resiliency is spread across multiple systems. The maintenance of protective resilience factors is made difficult due to the nomadic nature of military service. As the military began to expand its understanding of a holistic approach to resiliency it incorporated predeployment resiliency training, resiliency support services, training events during the deployment, and reintegration training.

Currently, the military's resilience methodology consists of predeployment training, available resources during the deployment, and a structured reintegration process. Upon completion of the reintegration process families are provided contact information for available services and are released. Outside of military chaplain organized retreats there is no structured follow up to ensure coping strategies remain effective. Limited structured programs compounded by the transitional nature of a military career are stressors to the efficacy of long term resilience. Frequent moves

inherent to military service create negative consequences to well being and resiliency (Wright et al., 2013). Continuous transitions, along with a loss of social support structures, create stressors that threaten the stability of the familial unit/protective factors and through extension the service member's resilience. Skormovsky (2014) focused on interpersonal relations to determine the ones most efficient for maintaining longitudinal resiliency, asserting that maintainable and accessible resiliency strategies are more likely to produce longer lasting positive results. In summation, there was a practical gap in research. Researchers have demonstrated, through empirical testing, the effectiveness of current resiliency coping strategies that focus on the predeployment, deployment, and postdeployment models; but many state in their findings that longitudinal or follow up research focusing a year after redeployment is required to fully understand if the transitional nature of the military affects resiliency (Kees et al., 2015; Lester et al., 2013; Skomorovsky, 2014).

## Purpose of the Study

The purpose of this quantitative study was to explore the associations of military life experiences (permanent changes of station, promotions, retirements, etc.) and deployment characteristics (number of deployments, operational specialties, combined lengths of deployments, etc.) to post deployment resilience in U.S. military personnel. This study assessed post deployment resilience in U.S. military personnel employing the Deployment Risk and Resilience Inventory-2 (DRRI-2). In this study I examined how the factors of time and transitions can determine at what point post deployment resilience begin to degrade. This issue is relevant due to the U.S. military's extended involvement

in combat operations in both Afghanistan and Iraq. Over 2.1 million service members have deployed since 2002 in support of the global war on terrorism (Creech et al, 2014; Siegel & Davis, 2013) and while deployments are not a new facet of U.S. military service, the increased and extended scope of sustained U.S. military operations in Afghanistan and Iraq has placed even greater stress on service members than in the past (Paley et al., 2013). This study will add to the existing reservoir of knowledge by confirming or refuting the predictive capabilities of time and transitions. Understanding how time and transitions affect resilience levels post deployment can be used to improve current resilience coping strategies and generate new methods of support.

## Research Questions and Hypotheses

Research Question 1: To what extent is the length of time elapsed following the completion of a combat deployment associated with levels of protective resilience factors associated with familial, societal, or military social support post deployment?

$H_0$1: The length of time elapsed following the completion of a combat deployment is not significantly associated with levels of protective social support resilience factors one or more years following the completion of a combat deployment.

$H_1$1:: The length of time elapsed following a combat deployment is associated with increased levels protective social support resilience factors one or more years following the completion of a combat deployment.

Research Question 2: To what extent are the number of transitions associated to levels of familial, societal, or military social support protective resilience factors one or more years following the completion of a combat deployment?

$H_0$2: The number of transitions is not associated with levels of protective social support resilience factors one or more years following a deployment.

$H_1$2: The number of transitions is associated with levels of protective social support resilience factors one or more years following a deployment.

Research Question 3: To what extent does the length of time elapsed following the completion of a combat deployment associated with levels of protective resilience factors related to post deployment family experiences?

$H_0$3: The length of time elapsed following the completion of a combat deployment is not associated with levels of protective resilience factors related to post deployment family experiences.

$H_1$3: The length of time elapsed following a combat deployment is associated with levels of protective resilience factors; which are, in turn, are related to positive post deployment family experiences.

Research Question 4: To what extent are the number of transitions following a combat deployment associated with levels of protective resilience factors related to post deployment family experiences?

$H_0$4: The number of transitions is not associated with levels of protective resilience factors related to positive deployment family experiences.

$H_1$4: The number of transitions is associated with protective resilience factors; which in turn is related to positive deployment family experiences.

## Theoretical Foundation

The theoretical framework for this study was resiliency theory. Resiliency theory focuses on positive contextual, social, and individual variables that may disrupt developmental trajectories from risk to problem behaviors, mental distress, and poor health outcomes (Zimmerman, 2013). The theory employs positive factors to frame how individuals maintain or increase their resiliency. The theory defines these positive influences as protective factors. Fergus and Zimmerman (2005) further codified the protective factors into assets and resources; assets being positive factors that reside within individuals, self-efficacy, and self-esteem, and resources refer to factors outside of the individual. Framing the problem as it relates to resources will provide context to how outside factors such as time and transition affect resiliency.

## Nature of the Study

The nature of this study was quantitative with a dependent variable of service member resiliency with time and transitions serving as independent variables. Covariates included demographic data (age, gender, ethnicity, marital status, rank, branch of service, years of service, etc.), number of combat deployments, and combined length of deployments. Time, for the purpose of this study, the period separating the service member from their most recent combat deployment. Transitions were those events that occur, following a combat deployment, that remove the service member from their current environment (for example: permanent change of station, end term of service, retirement, promotion, and inter post transfers). The Department of Defense (DOD) has no common definition of the term resilience. The Air Force defines resilience as the

ability to withstand, recover, or grow in the face of stressors and changing demands (Department of the Air Force, n.d.); the Army defines resilience as a key factor in the mental, emotional, and behavioral ability to cope with and recover from the experience, achieve positive outcomes, adapt to change, and grow from the experience (Department of the Army, 2010); and the Department of the Navy defines resilience as the process of preparing for, recovering from, and adjusting to life in the face of stress, adversity, trauma, or tragedy (Marine Corps, 2010; US Navy, 2010). Current research is focused on the immediate target of predeployment, deployment, and reintegration plus six months. Quantitative research provides descriptive measures that enables the capture of empirical data for a specific population. Through the use of highly structured research design, the process seeks to confirm a hypothesis about the studied phenomena. Additionally, quantitative research allows the researcher to reduce and restructure a complicated problem set into a limited number of variables; while determining the relationship between variables in the form of causality and effect (Creswell, 2013). The current gap is empirical and practical in nature as researchers have stated that the gap exists due to limited follow up data or research. Conducting quantitative research will provide empirical data that statistically confirms or disconfirms that time and transitions effect resiliency coping strategies for military service members postdeployment. The use of statistical analysis will derive objective facts from the research data such as trends, demographics, and differences between various groups within the target population; while employing multivariate statistics, specifically multiple regression correlations, will

further refine the data and determine what factors can attribute to differences within the population (Madrigal & McClain, 2012).

## Definitions

*Combat:* To fight or contend against; oppose vigorously (Word Reference, n.d.).

*Combat deployment:* The movement of military forces into operational areas designated as hostile fire or combat zones as specified through a congressional declaration of war (DOD, 2018).

*Family support factors:* The ability of family members to provide physical, mental, instrumental, and material support when an individual is under pressure (Dunst, Trivette, & Cross, 1986).

*Military deployment:* The movement of armed forces and their logistical support infrastructure around the world (Department of the Army, 2002).

*Military service:* A branch of the Armed Forces of the United States, established by act of Congress, in which persons are appointed, enlisted, or inducted for military service, and which operates and is administered within a military or executive department. The Military Services are: the United States Army, the United States Navy, the United States Air Force, the United States Marine Corps, and the United States Coast Guard (DOD, 2005).

*Protective factors:* Environmental, social, and individual factors that interrupt the trajectory from risk to pathology (Fergus & Zimmerman, 2005).

*Permanent change of station (PCS):* The official relocation of an active duty military service member – along with any family members living with him or her – to a

different duty location, such as a military base. A permanent change of station applies until mooted by another PCS order, completion of active duty service, or some other such preemptive event (Moore & Philpott, 2016).

*Resilience:* The ability to successfully cope with a crisis and to return to precrisis status quickly by employing mental processes and behaviors to promote personal assets and protects an individual from the potentially negative effects of stressors (de Terte & Stephens, 2014; Roberston et. al., 2015).

*Social support factors:* Factors that provide the perception that an individual is cared for, has assistance available from other individuals outside of the familial construct, and that one is part of a supportive social network. Supportive resources can include emotional, tangible (e.g. financial), information, and companionship (Racino, 2006).

*Time:* The measured or measurable period during which an action, process, or condition exists or continues (Merriam-Webster, n.d.). For the purposes of this study time is the period separating the service member from their most recent combat deployment.

*Transition:* A movement, development, or evolution from one form, stage, or style to another (Merriam-Webster, n.d.) For the purposes of this study transitions are those events that occur, following a combat deployment, that remove the service member from their current environment. For example: permanent change of station, end term of service, retirement, promotion, and interpost transfers.

## Assumptions

In this study I used an online survey as its method of data collection. The primary assumption with a survey is that all participants will answer in a truthful and accurate manner. I used an online survey service and provide the link to interested participants, through the use of a various veteran's networks. I will provide the participants with the criteria for participation and must assume that all participants meet the minimum requirements for admission into the study. This will be mitigated by the review of demographic data. All participants whose data do not meet the minimum standard will be removed from the study.

## Scope and Delimitations

This study only employed data collected from the DRRI-2 and an administrative data sheet that will provide demographic data. The study will only use descriptive demographic data that uses binary genders, marital status as approved by the Uniformed Code of Military Justice (single, married, or divorced), education status that includes civilian and military education levels, and combat deployments to the primary GWOT theaters of operation.

## Limitations

1. This study's focus will be on the psychological resilience levels of service members with combat deployments. Data produced may not be applicable to service members who have conducted stress related deployments but outside of a theater of war (i.e. at sea missions, aide missions to disaster zones, humanitarian assistance, or security/training support missions).

2. The study's sample size of 84 is based on a power ranking of .8. The statistical power ranking and small sample size generates a 20% probability of a Type 2 error-insufficient statistical power to identify correlations that exist. This could lead to a failure to reject a false null hypothesis.
3. Conversely since a hierarchical regression will be employed the number of covariates is greater. This creates potential for some variables to be significant due to the principal of chance and therefore creating a Type I error. Where the true null hypothesis is rejected.

## Significance of the Study

This study addressed a gap in research by studying how time and transitions (promotions, moving posts, changing duty positions, etc.) affect service member resiliency more than one year after a service member returns from a deployment. Meadows et al. (2015) identified that the DOD's efforts to promote resilience are still developing, with little formalization, standardization, or evaluation; specifically, that current policies across the services there is no singular definition of resilience or the factors that may contribute to or sustain it. An example is that Army methodology focuses on the current deployment and the immediacy of the return, however there is a gap in the research as the focus on resilience is not one or more years following the service member's redeployment (Masten, 2013b). The results of this study could be used to reevaluate and reinforce current resiliency coping strategies to factor in time and transitions.

## Significance to Social Change

This study contributes to the evolution and improvement of mental health methodologies for military service members. The current generation of combat veterans is the first since the civil war to be an all volunteer Army. Simply stated these service members volunteered to serve in America's longest war knowing the physical risk. However, many did not anticipate the hidden mental risk inherent with a high stress and extremely dangerous profession.

Providing service members with adequate mental health and resilience coping strategies will become increasingly necessary as our current generation of combat veterans begin to exit the military through end term of service, medical retirements, discharges, and retirement. Within the next 5-10 years will see the bulk of service members who executed multiple combat deployments enter civilian life and leave the protective support structures established while on active duty. Having vetted resilience coping strategies vetted and codified using all available information only serves to facilitate an effective transition.

## Summary and Transition

The U.S. military is in a state of transition. As heavy combat operations transition to stability and sustainment so too does its work force begin transitioning. This study will attempt to confirm or deny if there are still areas of resilience that require attention. If for nothing else than to provide the needed mental health services owed to our fighting men and women.

Chapter 2 will focus on literature used to support and inform this study. The chapter will review literature on current military resilience and mental health strategies, effective protective factors, and studies related to post deployment experiences. The chapter also includes a breakdown of resilience theory, its evolution, and its relevance to the current study.

Chapter 3 provides a detailed account of the research design, justification for the research design, the method employed to analyze the data. The chapter includes an explanation of the selected population, justification for the sample size, and threats to validity. Chapter 3 also provides an overview and justification of the testing instrument.

# Chapter 2: Literature Review

## Introduction

The purpose of this quantitative study is to explore the relationships of military life experiences (permanent changes of station, promotions, retirements, etc.) and deployment characteristics (number of deployments, operational specialties, combined lengths of deployments, etc.). Chapter 2 will focus on scholarly peer reviewed literature that outlines the development of resilience theory and its application to military studies. The chapter describes the history and development of resilience theory from separate psychological and physiological constructs to its current format. Chapter 2 will then use current military studies on resilience to frame the U.S. Military's current focus on resilience. The chapter will conclude with a synthesis of how previous research has incorporated the independent variables of time and transitions into recent military and civilian based studies.

## Literature Search Strategy

Multiple search methods and strategies were employed to develop a repository of essential and pertinent literature. First the databases used for this literature review were the Walden University library, Google Scholar, and the Defense Technical Information Center (DTIC) databases. The Defense Technical Information Center is an online repository for research and engineering for the DOD that provides unclassified research reports, technical reports, and Independent Research and Development (IR&D) summaries to DOD personnel (Schwalb, 2005); the Walden library provided access to multiple search engines and databases such as PsycARTICLES, PsycINFO, ProQuest

Central, Sage Journals, and SocINDEX that were employed to further build a source of applicable literature; and Google Scholar allowed for research across multiple literary mediums and allowed for the development of specific research parameters to enable specificity during the literary search. Literature was selected using the keywords of: resilience, postdeployment resilience, deployment resilience, resilience model, family resilience, postdeployment stress, resilience coping strategies, master resilience training, post deployment health assessment, and postdeployment reintegration scale. Scholarly and peer reviewed articles were prioritized as were seminal works on the subject of military resilience. Second, the DTIC and Google Scholar search engines were optimized using their query functionality. The systems allowed the researcher the ability to set date parameters and format priorities. The query functionalities saved time by only returning research within the specified parameters and, where necessary, links to the Walden University library to mitigate fiscal requirements. Third literature addressing chosen theoretical frameworks and testing instruments was gathered using the aforementioned search engines and methodologies. The literature was compiled using keywords: risk and resilience inventory, resilience theory, and developmental systems theory. The research parameters employed focused on scholarly and peer reviewed articles with an intent that at least three quarters of the articles published after 2013. Additionally, Ulrichs Web was employed to validate that all articles used in this literature review were drawn from peer reviewed periodicals.

## Theoretical Foundation

Resilience theory asserts that the presence of one or more protective factors can reduce the effects of exposure to adversity; and that the more protective factors present in an individual the higher the level of resilience (Toomey et al., 2008). Resilience, as a construct, can be traced back to and categorized into physiological and psychological frameworks; the overall concept would emerge out of the areas of materials science and environmental studies but would later expand to encompass the individual (McAslan, 2010). The psychological component focused on coping: unconscious defensive measures, conscious coping strategies, and protective risk factors; while the physiological component consisted of aspects of stress: homeostasis, emotional stress and morbidity, and brain plasticity (Tusaie & Dyer, 2004). The varying studies focused on the mental and physical aspects of what would become resilience first combined in the form of psychoneuroimmunology (PNI). PNI would eventually evolve into resilience theory with further development and research executed by researchers such as Garmezy, Masten, Heston, and Denny.

Resilience, as a psychological theory, began to coalesce in the mid-70s when Norman Garmezy began developing a concept to study at risk children of schizophrenic parents (Garmezy, 1974a). Garmezy (1974b) would initially use Heston and Denny's (1968) term of "invulnerable" to describe children who were performing at the correct grade level with no psychological diagnosis who were raised in unstable and risky home conditions by mentally ill parents. Garmezy's research would begin to evolve as he and other researchers began exploring how these children were thriving and maintaining

positive psychopathology in situations that should have had negative effects (Warner & Smith 1989; Rutter 1999; Masten, Rolf, Cicchetti, Nuechterlein, & Weintraub 1990). Masten (2001) would continue to evolve the theory by identifying and codifying two methods to observe resilience: person- and variable-focused. Person-focused studies employed personality profiles to determine how the individual processes protective factors; while variable focused evaluates what level of risk vs adversity is required to serve as a protective measure to shield from negative extrinsic factors. The theory would continue to develop as researchers asserted that resilience as a heterogenous multilevel process required attributes of the individual, external relationships, and familial support to serve as protective factors; and that these factors could be used as predictors to correlate resilience across a multitude of environments and situations (Cicchetti, 2010; Luthar, 2006; Masten & Obradovic, 2006; Resnick et al., 2004).

**Protective/Protective Factors**

Resilience theory identifies protective factors as the primary variable in individuals with higher levels of resilience. They are considered those elements that diminish or manage the adverse effects of negative stressors or life events (Kim-Cohen, 2007). These factors may include positive parental influence, the existence of positive social support structures, or positive mentorship from an individual viewed by the individual as a positive aspect. Additional protective factors maybe intrinsic to the individual in the form of self-regulation, self-efficacy, and self-determination (Cicchetti, 2010). However, possessing numerous protective factors does not correlate to high levels of resilience. Vanderbilt-Adriance and Shaw (2008) observed that resilience could not

occur without protective factors and experiencing extreme risk and adversity; it was determined that an individual with high protective factors that had not faced extreme adversity could not be considered resilient. Resilience theory posits that protective factors are required to exhibit high levels of resilience but until the individual is exposed to a high risk or adverse situation the protective factors will be untested in providing a protective support buffer.

**Resilience Theory in Military Studies**

Resilience theory as it relates to military studies is extremely cogent at this point and time. The return of over 2.1 million combat veterans with multiple combat deployments (Creech et al, 2014; Siegel & Davis, 2013) is generating a requirement to frame how service members cope in order to maintain combat effectiveness. Masten (2013a, 2013b) has employed resilience theory as a framework to focus on developing protective factors that are beneficial for both the service member and their family.

Resilience theorists have also observed that exposure to high risk or extreme adversity is rarely a single occasion or instance and manifests through a cumulative effect. Researchers suggest that it is numerous instances and the chronicity of risk exposure that supersedes the one risk factor model seen in previous resilience studies (Dean & Stain, 2007/2010; Hjemdal et al., 2006; Luthar, 2006; Vanderbilt-Adriance & Shaw, 2008. This view of resilience theory is critical to framing service member resilience. Researchers have shown that veterans of combat operations, specifically ground force units, experience chronic exposure to extreme adversity with a frequency and consistency well above their civilian counterparts (Bonanno et al., 2012; Smith et al.,

2008; Pietrzak & Cook, 2013). Framing resilience as exposure to chronic extreme adversity mitigated by protective factors will enable the researcher to correlate the independent variables of time and transitions as factors that may provide predictive capability for the success of long-term resilience.

## Resilience and the U.S. Military

In conjunction with a large number of articles focused on suicide, the DOD first began addressing concerns about resilience around 2008. However, research into service member resilience was focused on the immediacy of the deployment and within six months of redeployment. The majority of research conducted on resilience of U.S. military personnel more than six months following a deployment was in conjunction with family focused coping and reintegration studies (Kees et al., 2015; Lester et al., 2013; Masten, 2013a; Masten 2013b; Oshri et al., 2015). During the review into relevant research a trend or gap became apparent. Researchers continually stated that further additional research was required to address efficacy of service member resilience following redeployment and reintegration to account for the transitional nature of U.S. military service (Kees et al., 2015; Lester et al., 2013; Skomorovsky, 2014). Time and transitions are integral parts of the military experience and are relevant variables that can affect a service members long term resiliency level. U.S. Military personnel relocate, on average, once every two to three years and are three times more likely to move overseas than their civilian counterparts (Wright et al., 2010). The gap addressed in this dissertation is specific; but it should not be inferred that all branches of the military are not taking an active role in studying service member resilience. The U.S. military, for its

purposes, considers resilience as the ability to successfully adapt in the face of adversity in order to serve as a protective factor following exposure to stress and trauma (Green et al., 2014) and the U.S. military's focus on the teaching of resiliency coping strategies is an essential component of preventing long term combat related mental disorders (Callahan, 2010). Current research shows that military studies are taking a broad and holistic approach to understanding causality, repercussions, and future impacts. In recent years the U.S. Army has used the Global Assessment Tool (GAT) (Lester et al., 2015) as part of the Comprehensive Soldier and Family Fitness (CSF2) Program (HQDA, 2014; McHugh, 2013) to test service member resilience and commissioned the Army Study to Assess Risk and Resilience in Service Members (Army STARRS), the U.S. Air Force (USAF) has conducted studies focused on using the Connor-Davidson Resilience Scale (CD-RISC) and the Deployment Risk and Resilience Inventory-2 (DRRI-2) to establish resilience baselines and generate predictive models to identify at risk service members, and the U.S. Navy has studied the roles of resilience and social support as predictive measures, and the Marine Corps has conducted research focused on developing effective resilience prior to deploying into a combat theater.

The U.S. Army has developed several initiatives to focus on improving and strengthening service member resilience. The tool currently in use is the GAT which is part of the Army CSF2 concept. CSF2 was created as direct response to the increase soldier reported depression, posttraumatic stress disorder (PTSD), alcohol abuse disorders, and suicides. The purpose was to create a menu of universal prevention strategies to increase soldier resilience in an effort to counter balance a soldier's

vulnerability to stress (HQDA, 2014; McHugh, 2013). The GAT is not solely focused on service member resilience, but takes a holistic approach to the evaluating the soldier's overall psychosocial fitness and wellbeing. In its current iteration it is primarily being employed to gauge the success and effectiveness of the Army's implemented resilience training programs (Vie et al., 2016). The GAT is primarily an assessment tool with limited predictive functionality focused on determining if service members are suffering from depression, alcohol and drug abuse, and whether the service member is benefiting from current Army resilience coping strategies.

The Army STARRS study was commissioned by the Department of the Army in 2008 as response to the rising suicide trend (Schoenbaum et al., 2014). The study's stated goals were to evaluate modifiable risk and resilience factors that could be used to target preventative interventions and expand on the correlation between the pathology of suicidal behavior and resilience factors. These studies, by their nature, are retrospective case-studies that were conducted to rapidly produce data to identify risk and resilience factors associated with suicides and suicidal ideation (Keesler et al., 2013). The New Soldier Study (NSS) was conducted at three Basic Combat Training facilities and incorporated a cross sampling of 57,000 new service members. The intent of the NSS was to build a base understanding of neurocognitive function and self-assessments of current resilience levels in the new soldiers entering active duty status. The All-Army Study (AAS) focused on a larger population of service members spanning those who had entered and were currently on active duty during the time of the Army STARRS study. The AAS employed a cross sectional self-administered questionnaires spaced quarterly

between 2011-2012. Respondents consisted of a cross section of military operational specialties, military experience, rank, and duty locations. The study was used to continue to build the available data set and tie into the remainder of the studies. The Pre-Post Deployment Study (PPDS) is larger of two additional studies that sought to provide risk and resilience data starting one month after a service member's return from a combat deployment. The survey was a four-wave panel that took data points at the one, two, and six-month mark of the service member's return. The Pre-Post Separation Study (PPSS) was the second of the two additional surveys that collected data on service members after they had transitioned out of the military service. The study focused on further out than the study was funded for and was included as a pilot study during the first Army STARRS funding cycle.

Schoenbaum et al. (2014) results from the first cycle of the Army STARRS study provided improved context to the Department of the Army's drive to better understand risk and resilience factors associated with suicides. The initial study confirmed that suicidal risk was highest during deployments, but suicide rates were not limited to deployed service members. The research identified that suicidal ideations and acts were found those who were currently deployed, recently deployed, and had never deployed. The researchers identified that further scheduled iterations of the study would need to be executed in order to further assess the findings.

As recent as 2017 Bezdjian et al. conducted research focused identifying psychological resilience in Air Force personnel using the CD-RISC. During a two-year period the Air Force administered the CD-RISC to all initial entry service members in an

effort to capture and examine the mean resilience of new service members (Bezdjian et al., 2017). The researchers also intended to confirm the predictive validity of the measure as a means to correlate lowered resilience as a predictor of attrition due to mental health or behavioral issues. The participants consisted of 53,698 initial entry service member who attend basic training between October 2011 and September 2013. The average age of participants was 20, 82% were male, 90% were single, and 66% were Caucasian. During the course of the study the researchers found resilience could serve as a predictor that higher levels of resilience strengthened recruits against removal service due to mental or behavioral issues (Bezdjian et al., 2017). This study, focused on the validity of the CD-RISC as predictive measure, demonstrated the USAF's resolve to study resilience as a predictive measure. The USAF clearly understood that finding ways to predict future mental health concerns as a result of lowered resilience was essential to maintaining a healthy and effective fighting force.

Cunningham et al. (2014) conducted research focused on resilience and social support as predictors of post deployment mental health in Navy personnel. The study was conducted to identify whether social support and resilience predicted mental health or behavioral issues shortly after redeployment. The study incorporated a convenience sample of 132 active duty Navy personnel. The key demographics where 82% male, 55% married, 51% Caucasian, 78% enlisted, and 55% with deployment experience to the Middle East. The researchers used the Combat Experience Scale-Modified to measure level of combat exposure and the Social Readjustment Rating Scale-Schedule of Recent Experiences to categorize the participants' exposure to stressors specific to their personal

life. The researchers determined that with odds ratios of 1.05 and 1.07 social support and resilience demonstrated a statistically significant ability to predict post deployment adjustment; meaning that as resilience increased the odds of positive post deployment adjustment increased by 1.05 (Cunningham et al., 2014). The study continued to build upon previous studies that identified resilience as a predictive measure and further confirmed social support as a key element in positive post deployment adjustments. However, the study did not take a long-term view to ascertain how time and transitions either strengthen or erode the service members' resiliency levels.

Johnson et al. (2014) executed a study to determine whether mindfulness training conducted prior to deployment could be an effective means of strengthening a Marines resilience. Mindfulness-Based Mind Fitness Training (MMFT) is an eight-week course that is focused on training individuals with prior exposure to significant and extended stress. It focuses on enhancing resilience through self-regulation skills and promotes attentional control over previously stressful experiences. The researchers conducted their study using eight rifle platoons from two Marine Battalions; with four being assigned as a control group using standard training methodologies and four platoons conducting MMFT. An MRI was used to create a base line, with additional MRIs conducted at the eight- and nine-week marks, and MRIs conducted following stressful predeployment immersion training. The study provided three key insights to the researchers. First Marines in the MMFT group should improve physiological responses to stressful situations with both heart and breathing rates recovering significantly faster, second Marines in the MMFT group modulated a set of peripheral biomarkers following a

stressful training scenario, and third the MRIs showed that MT has a positive effect on altering brain structures important to reconciling external stressors with bodily responses (Johnson et al., 2014). Relative to this study was the fact that resiliency coping strategies are effective in mitigating the physiological effects generated during stressful, specifically combat, situations. This Marine study continues to add to the body of work on the importance of building and maintaining long term resilience in an effort to manage the effects of post deployment stress, mental health, and behavioral issue.

## Predictive Variables of Positive Post Deployment Resilience

Studies conducted to identify predictive variables that affect military service members have been employed to determine susceptibility to post deployment issues such as substance abuse, discipline issues, and domestic violence incidents. Many of these studies viewed resilience levels as the predictive independent variable. Eisen et al. (2014) and Campbell-Sells et al. (2017) both employed resilience levels as a predictive variable. The researchers determined that while higher levels of predeployment resilience served to provide some indicators of better post deployment mental health and lower instances of alcohol abuse it did not provide predictive indicators of lowered susceptibility to PTSD. In both studies researchers choose to focus on service members' perceived levels of resilience as it correlated to potential postdeployment emotional disorders. The researchers found that self-assessed high levels of resilience could serve as a modest predictor of susceptibility to post deployment mental health and emotional disorders; with the primary take away being higher levels of resilience enabled adaptation and reconciliation of known stressors during deployments. These studies were able to

assess that post deployment resilience levels could, to some effect, predict if service members would experience positive or negative behavior patterns following a deployment. This research serves as a foundational basis for the importance of resilience in post deployment reintegration. However, research in the area only viewed resilience as a variable that was intrinsic to the service member prior to the deployment. Current research has demonstrated a gap that accounts for resilience as a temporal process that ebbs and flows as it is influenced by internal and external experiences across a lifetime (Luthar, 2006).

**Postdeployment Resilience Variable: Transitions**

Transitions are regular and expected occurrence for active duty service members. Transitions consist of permanent changes of station, promotions or demotions in rank, changing duty positions, selection for advanced schooling, and separating or retiring from the service. In its simplest form a transition results in the service member leaving an environment where a routine is established and functional support group exist. Army service members, under the Army Force Generation (ARFORGEN) model and requirement to meet the ready trained forces dynamic, would typically experience a transition within three to six months following a stabilization period in order to fill units preparing to deploy (Casey, 2009). Studies identified that the extended stress of 15 years of continuous combat operations has had adverse effects on the current generation of service members and spouses. The research has correlated lowered resilience with an increase in substance abuse and domestic violence issues and articulated the necessity not to consider the service member's mental health a separate issue from the family system

(Andres, 2014; Eisen, 2014; Skomorovsky, 2014; Wadsworth, 2013). Wadsworth uses the foundation of the family as a support system to emphasize that stable social networks are essential to influencing resilience following a deployment. The transitional nature of a military career creates friction points that can degrade a service members' social support network. Whether that is a result of the stress inherent in removing a married service member and their family from a location where their spouse has found meaningful fulfillment in employment or as a productive member of the local community and their children have developed friendships and relationships that have allowed them to cope with the deployment of their parent. The discord that can be experienced during this turbulent transitional time can negatively influence how the service member is coping with their combat experience post deployment.

Outside of the inherent stress associated with conducting what is typically a cross country move the loss of trusted support structures to include friends, colleagues, trusted chains of command, and known mental health support agencies can be jarring for those still recovering from the effects a combat deployment. Researchers have reviewed and commented on how transitions affect service members' resilience coping strategies and methodologies (Andres, 2014; Eisen, 2014; Oshri's et al., 2015; Pietrzak et al., 2009; Skomorovsky, 2014; Wright et al., 2010). Researchers reviewed stressors that affected service members and their families. Chief amongst the identified issues were service member's transitory and nomadic life style and the continual reestablishing of social support networks. These stressors were deemed to have an influencing effect on maintaining resilience. By mitigating these disruptive stressors service members and their

families could maintain a modicum of stability in a career field defined by change and social flexibility. Pietrzak et al. (2009) studied how social support in conjunction with resilience could serve to protect service members returning from operations in both Afghanistan and Iraq from the effects of PTSD. The researchers found that there was a significant correlation between strong and stable post support structures and a decrease in traumatic stress/depressive disorders. The researcher's viewed their study as one of the first to examine the importance of resilience and social support as protective factors related to post deployment traumatic stress mitigation. Their findings that stable social support structures are essential to maintaining post deployment mental health and resilience continues to enforce the belief that transitions, which affect set support structures, can have a long-term influence on post deployment resilience.

Stable social support is a key tenant that is affected by military transitions. It is common for service members to develop a healthy support structures at a duty assignment only to relocate to a new location where local social support networks will require time to rebuild. Research found that stable post deployment social support predicted better overall mental health and lowered instances of PTSD, alcohol abuse, and drug abuse (Andres, 2014; Eisen, 2014; Skomorovsky 2014). Studies reinforced the importance of a stable, if not continuous, social support structure was beneficial to the effective resilience of military service members and their spouses. The research sought to conceptualize how transitions (moving, separating from a current unit, or leaving the military) could affect a service member's resilience. Stable and consistent support structures are essential to maintaining resilience post deployment. Skomorovsky found

that social support from family, civilian friends, and partners was reliable indicator of higher levels of psychological stability and lowered levels of depression (p. 50). It was also theorized that social support from stable and continuous support structures could enhance resilience through feelings of self-efficacy. This illustrates how a key pillar of resilience can be destabilized by transitions.

Further research by Andres (2014) continued to illuminate that stressors such as life, family conflict, loss of social support, and work conflict can affect resiliency. Andres' research used the greedy institutions theoretical framework which asserts that military responsibilities and family responsibilities are constantly competing for the service member's focus. Andres sought to identify the key factors that either created rifts in resiliency capability or were key in strengthening resiliency before and during the deployment. Andres' used several measures to assess multiple factors. The research determined the need for additional studies focused on resiliency factors and relationship evolution months and years after the service member returns from a deployment. A reoccurring theme when discussing transitions as they relate to resilience was the lack of healthy support structures has on the service members. This research will seek to determine if the transitory nature of active duty military service can serve as a predictor of a service member's resilience level post deployment.

**Postdeployment Resilience Variable: Time**

Time for the purposes of this research is the amount of time that has transpired since the service members' last combat deployment. The concept of temporal distance from extreme adverse situations lessen their effects on the service members' resilience

over time. Research has been conducted on Vietnam Veterans and Global War on Terror Veterans to determine if their resilience reduced, remained the same, or increased with the compound of time. Southwick et al. (2011), Bonanno et al. (2012), Berntsen et al. (2012), and Pietrzak and Cook (2013) showed that between 69.5% and 84% of veterans who experienced a high number of traumas remained psychologically resilient later in life or after multiple deployments. The results of this research demonstrate that across an extended amount of time a fair number of service members maintained positive resilience. However, these studies observed the maintaining of resilience through protective factors such as enlisted versus commissioned, education level, number of deployments, and access to disability services were viable contributing factors. The gap, consistent in all of these studies, consisted of focusing mitigating programs as opposed to determining if time in and of itself could serve as a predictive measure of future positive resilience. This study will seek to identify if time can be considered a protective factor and as such can it be used to predict if a service member will maintain their resilience level post deployment.

**Resilience from a Neurobiological Perspective**

McEwen, Gray, and Nasca (2015) approached resilience from a neurobiological framework. Viewing the brain as a structure that can be changed or remodeled the researchers posited that the brains structure is adjusted after acute or chronic stress. This concept was previously discussed and validated in research that shows a correlation in shrinkage of the hippocampus due to post traumatic stress (Gurvits et al., 1996) and chronic stress (Gianaros et al. 2007). McEwen et al. asked the question of whether these

changes were permanent or could they be reversed. The researchers discussed methods ranging from pharmaceuticals, top down behavioral interventions, social integration, and social support. The researchers concluded that the brain's inherent plasticity throughout adult life is a key component to maintaining brain architecture. They further assert that reactivating plasticity in individuals with lowered resilience can be accomplished using top down interventions like social support (p. 8). McEwen et al. emphasized that this is not a primary or solitary method, but in conjunction with other treatment protocols that this would serve as an effective component of a holistic therapy methodology.

## Summary and Conclusions

Resilience research has evolved its focus and grown in scope. Researchers have shifted from a youth focus to encompass adults as well. The continuing theme throughout this literature review was the positive effect prosocial aspects of strong social support networks has on positive resilience post deployment. However, as stated in the literature review the transitory nature of active duty military service is a detriment to maintaining pre-existing or established social support networks. The literature also provided an overview of current military studies focused on resilience. Current studies specifically focused on maintaining combat effectiveness for the current deployment as opposed to a longitudinal focus. Glynn (2013) observed in her study on community reintegration after war that all though the military emphasizes the importance of service member and family resilience; programs, practices, and policies typically lag. This is the nature of a large organization attempting to implement large sweeping organizational

change and should not be considered a negative to current attempts to facilitate resilience studies in the military.

Based on the literature review conducted in Chapter 2 this study will attempt to increase the available body of work by studying if time and transitions are predictors of positive resilience post deployment. Chapter 3 will provide a detailed explanation of the methodology employed during this study. The methodology will be structured to provide research design and rationale, population selection criteria and selection methods, testing instrument selection and rationale, research questions and hypotheses, and threats to validity.

# Chapter 3: Research Method

The purpose of this quantitative study was to explore the relationships of military life experiences (permanent changes of station, promotions, retirements, etc.) and deployment characteristics (number of deployments, operational specialties, combined lengths of deployments, etc.) to postdeployment resilience in U.S. military personnel. Postdeployment resilience in active duty U.S. military personnel was assessed by employing the Deployment Risk and Resilience Inventory-2 (DRRI-2). This chapter will provide a detailed description of the research design.

The methodology section will establish and define the parameters associated with selection of the research population. Population will be defined as well as ethical procedures to protect participants. Chapter 3 will rationalize selection of the testing instrument followed by an outlining of threats to internal and construct validity. The chapter will conclude with dissemination measures and a summary of what was outlined in the methodology.

## Methodology

### Research Design and Rationale

This study employed a correlational research design. The research tested the hypothesis of whether time and transitions are associated with effective service member resilience postdeployment. Results provided a generalized understanding of the relationships of time and transitions on retaining positive resilience more than one year following a combat deployment. The research design was used to answer the research questions and hypotheses listed below.

Research Question 1: To what extent is the length of time elapsed following the completion of a combat deployment associated with levels of protective resilience factors associated with familial, societal, or military social support post deployment?

$H_0$1: The length of time elapsed following the completion of a combat deployment is not significantly associated with levels of protective social support resilience factors one or more years following the completion of a combat deployment.

$H_1$1:: The length of time elapsed following a combat deployment is associated with increased levels protective social support resilience factors one or more years following the completion of a combat deployment.

Research Question 2: To what extent are the number of transitions associated to levels of familial, societal, or military social support protective resilience factors one or more years following the completion of a combat deployment?

$H_0$2: The number of transitions is not associated with levels of protective social support resilience factors one or more years following a deployment.

$H_1$2: The number of transitions is associated with levels of protective social support resilience factors one or more years following a deployment.

Research Question 3: To what extent does the length of time elapsed following the completion of a combat deployment associated with levels of protective resilience factors related to post deployment family experiences?

$H_0$3: The length of time elapsed following the completion of a combat deployment is not associated with levels of protective resilience factors related to post deployment family experiences.

$H_1$3: The length of time elapsed following a combat deployment is associated with levels of protective resilience factors; which are, in turn, is relates to positive post deployment family experiences.

Research Question 4: To what extent are the number of transitions following a combat deployment associated with levels of protective resilience factors related to post deployment family experiences?

$H_0$4: The number of transitions is not associated with levels of protective resilience factors related to positive deployment family experiences.

$H_1$4: The number of transitions is associated with protective resilience factors; which in turn is related to positive deployment family experiences.

**Population, Setting, and Sample**

The participants were selected using a convenience sample of active duty enlisted service members, non-commissioned officers, warrant officers, and commissioned officers. Participant eligibility was based on specific criteria listed below:

1. Participants must be 18 years of age.
2. Participants must have completed branch of service specific initial entry training for their rank and position.
3. Participants must have completed at least one combat deployment.
4. If participant has only one combat deployment the participant must have been re deployed for one year.
5. Participant must not be pending any adverse administrative action at the time of taking the survey. (The added stress of Non-Judicial

punishment, Uniformed Code of Military Justice actions, or administrative actions could affect the data)

The effective sample size for this study was determined by taking an average of the effect sizes used in three previous studies researching military resilience. The effect sizes were .156 (Skormovsky, 2014), .4 (Smith-Osborne et al, 2017), and .35 (Ribeiro, 2017) resulting in an average effect size of .30. With values of an effect size of .30, an alpha level of .05, and a power rating of .8, the necessary sample size table returned a sample size of 84.

**Procedures**

Potential conflicts, due to my rank and position, required that I have no direct contact with the surveyed population. The DRRI-2 uploaded to Survey Monkey was the primary method of collecting data. A link to the survey was provided to several closed military social media sites (i.e., APA Division 19-Military Psychology, 173rd ABCT, 11th ACR, 1st Infantry Division, and National Training Center Operations Group) for upload to their shared distribution networks. The procedure for data collection is listed below:

1. The DRRI-2 will be transferred to an online survey format.
2. Full written consent will be obtained from each participant.
3. Participants will be informed of their participation, confidentiality of their data, and how their anonymity will be maintained.
4. Each participant will be administered the DDRI-2.
5. Participants' age, gender, rank, and number of combat deployments will be collected using the administrative data portion of the survey.

6. Hypotheses will be tested using linear regression with an analysis of variance (ANOVA).

## Data Analysis

The data analysis strategy I used for all four research questions is a hierarchical multiple regression (HMR). The regression was conducted using IBM's Statistical Package for the Social Sciences (SPSS) version 25. A hierarchical multiple regression was employed to demonstrate if the independent variables, time and transitions, showed a statistically significant amount of variance for the dependent variable, protective factors of resilience, after accounting for potentially confounding variables (Cohen et al., 2003). The regression used a multi model methodology that gradually adds variables at each point until the final iteration when the desired independent variable is introduced to the model. This research used a three-model format. The first regression model consisted of demographic data such as age, ethnicity, gender, etc. The second regression model incorporated the previous variables plus total number of deployments and years deployed. The final regression model included the independent variables of time and number of transitions as related to each research question. What I attempted to observe was whether the third model showed a statistically significant increase in the independent variables' association with the dependent variable. The resulting variance or lack of variance, after all other variables are accounted for in previous steps enabled me to determine if the IVs were associated with the DV at a statistically significant rate higher than other variables.

Cronbach's Alpha will be used to test for reliability. Cronbach's Alpha or tau-equivalent reliability was employed to measure consistency of survey items that

evaluated the same paradigm, were similarly correlated, and when combined created a scale (Lavarakas, 2008). Cronbach's alpha, as a measure of reliability, will provide the researcher with confirmation that a participant would generate the same score for an observed variable if they were to be administered the scale multiple times.

## Instrumentation

The primary instrument employed for this study is the DRRI-2. A detailed overview of the instrument, its psychometric properties, and its appropriateness follows.

### Resilience Test Instrument

DRRI-2 consists of 17 scales arrayed within three categories: predeployment factors (2), deployment factors (12), and postdeployment factors (3). The predeployment factor or prior stress assess exposure to non-combat related traumatic events prior deployment and childhood family functioning assesses the quality of interaction in the respondent's social support network. Deployment factors are further subcategorized into mission related and interpersonal. Mission related factors of difficult living and work environment assess the daily lived in experiences of the respondent during the deployment, combat experiences assesses the severity and type of combat related circumstances during the deployment, aftermath of battle assesses the respondents participation in the collateral operations related to events following a combat engagement, Nuclear Biological Chemical exposure confirms if the participant believes they were in contact with hazards chemicals or weapons of mass destruction, perceived threat encompasses oppositional forces and environmental hazards, and preparedness allows the participant to identify how they perceived their level of preparation for the

deployment. Interpersonal factors of deployment support from family assess the level in which the participant believes their social support network provided emotional support during the deployment, unit social support assesses the participants trust in their deployment team, sexual harassment addresses any exposure to unwanted sexual advances from members surrounding the participant during the deployment, concerns about life allow the participant to address their perception of how the deployment may have affected specific events or relationships in their life, and family stress addresses stressful events related to their social support network during the deployment. Postdeployment factors of post deployment stress assesses any extreme stressors unrelated to the deployment, postdeployment social support addresses the participants integration back into their social support network, and postdeployment family functioning addresses the quality of the participants interaction with their social support network following the deployment.

Scoring for the two scales within the test instrument are based on the sum total of each sections Likert scale (Vogt, 2012). Postdeployment social support has a possible range of 10 to 50; with higher scores indicative of greater perceived social support following the deployment. Postdeployment family support has a possible range of 12-60; with higher scores indicative of greater perceived family support following the deployment.

The DRRI-2 is Vogt et al. (2012) revised version of the DRRI that focused on enhancing the measures applicability across multiple combat experiences, military branches, and deployment lengths. The overall testing instrument is modular and can be

used as a complete measurement or individual scales can be employed to view specific elements of the participants total deployment experience. Vogt et al. (2012) asserted that the measure is capable of examining how psychosocial factors influence postdeployment health and assist researchers in developing interventions cable of reducing postdeployment risk and bolstering resiliency coping strategies postdeployment. Classical test theory of the DRRI-2 confirmed a high level of internal consistency and reliability; with the instrument being considered valid with 13 of 17 scales having alphas of over .80 and 4 of 17 having alphas in the .70 to .80 range (Vogt et al., 2012 p. 15). Permission to employ the DRRI-2 was received via email from Dr. Vogt (Appendix A).

## Threats to Validity

### External

Two threats to external validity are identified for this study: generalization across people and situational specifics. This research will employ a convenience sample of military personnel. This sample could consist of predominantly direct combat ground forces. Lack of diversity or over representation of a specific military class of service member would create a lack of generalization across all facets of military personnel. The second threat to external validity is situational. The participants will be asked to take a survey on their free time. This could result in individuals taking the survey in various domains that may or may not be conducive to effectively completing the requested survey.

**Internal**

Two internal threats to validity are identified for this research: maturation and experimenter bias. Maturation occurs when participants mature or change which can skew results (Cresswell, 2009). This study focuses on service member resilience at least one year following their most recent deployment. Within that year service members invariable mature either through aging, education, or experience. The service member that redeploys is not necessarily the same one, three, or five years following their deployment. Experimenter bias exists when the researcher conducting the study inadvertently influences the test population through their actions (Brewer, 2000). I am a combat veteran who has struggled with PTSD and resilience based mental health conditions. I am intimately tied to the subject matter and my direct interaction with participants could inadvertently confound data. In order to avoid direct contact with the participants and online survey will be employed. This will serve remove potential for experimenter bias as well as undue influence on subordinate participants due to my rank and position in the military.

**Construct**

This research had one threat to construct validity: mono method bias. The use of a single test instrument created a concern that the dependent variable was not fully studied. There are other instruments available to test resilience; however, the DRRI-2 has been validated and is currently in use within the military mental health system.

Additionally, threats to validity existed due to the use of a survey. These threats included participant truthfulness, whether the participant took the survey correctly, the

use of a convenience sample was an adequate representation of the total population, and the participants did not attempt to "game" the survey and provide answers that generated false or inaccurate data.

## Ethical Procedures

Participant confidentiality and identity was protected through the use of a third-party survey website: Survey Monkey. Participants were not be required to provide their names or other identifiable details. Demographic information was limited to rank, branch of service, years of service, age, sex, Military Operational Specialty, and officer branch/duty description. Participants were informed that participation was purely voluntary and collected data would not be employed to locate them or provide specific information back to the service members chain of command. Participants were allowed to discontinue the survey up to the submit screen. Participants were required to digitally sign a consent form through the survey monkey web site (Appendix B). The consent form outlined the rights of the participant, researcher contact information, and contact information for University Ethics department if required. IRB 03-06-19-0072375 approval was gained in order to ensure the study remained within ethical parameters. Participants were afforded the opportunity to request the study's results.

All data was entered into the Statistical Package for the Social Sciences (SPSS) 25. A copy of the data, as well as the full dissertation, was maintained on a 1 TB hard drive stored in a locked safe in my home office. Data is stored for no less than 7 years. There are no hard copies or printed copies of the completed DRRI-2s. Findings are available to be shared with the Department of Defense upon request in order to add to

current military resilience studies. Once my dissertation is completed and approved, I plan to edit the document down for submission for publication in a peer-reviewed journal.

## Summary

Chapter 3 outlined the research methodology, study approach, and rationale. A nonexperimental correlational research design will be employed to capture population data. The DRRI-2 was the test instrument used to collect all required data. This chapter provided a detailed summary of the chosen testing instruments reliability and validity. A hierarchical linear regression was used to test the hypotheses associated with six research questions. The results are documented and analyzed in Chapter 4.

# Chapter 4: Results

The purpose of this study was to explore the associations of military life experiences (permanent changes of station, promotions, retirements, etc.) and deployment characteristics (number of deployments, operational specialties, combined lengths of deployments, etc.) to post deployment resilience in U.S. military personnel. There were four research questions and hypotheses for this study:

Research Question 1: To what extent is the length of time elapsed following the completion of a combat deployment associated with levels of protective resilience factors associated with familial, societal, or military social support post deployment?

$H_0$1: The length of time elapsed following the completion of a combat deployment is not significantly associated with levels of protective social support resilience factors one or more years following the completion of a combat deployment.

$H_1$1:: The length of time elapsed following a combat deployment is associated with increased levels protective social support resilience factors one or more years following the completion of a combat deployment.

Research Question 2: To what extent are the number of transitions associated to levels of familial, societal, or military social support protective resilience factors one or more years following the completion of a combat deployment?

$H_0$2: The number of transitions is not associated with levels of protective social support resilience factors one or more years following a deployment.

$H_1$2: The number of transitions is associated with levels of protective social support resilience factors one or more years following a deployment.

Research Question 3: To what extent does the length of time elapsed following the completion of a combat deployment associated with levels of protective resilience factors related to post deployment family experiences?

$H_0$3: The length of time elapsed following the completion of a combat deployment is not associated with levels of protective resilience factors related to post deployment family experiences.

$H_1$3: The length of time elapsed following a combat deployment is associated with levels of protective resilience factors; which are, in turn, is relates to positive post deployment family experiences.

Research Question 4: To what extent are the number of transitions following a combat deployment associated with levels of protective resilience factors related to post deployment family experiences?

$H_0$4: The number of transitions is not associated with levels of protective resilience factors related to positive deployment family experiences.

$H_1$4: The number of transitions is associated with protective resilience factors; which in turn is related to positive deployment family experiences.

The research questions addressed during this study were analyzed using a Hierarchical Multiple Regression.

Chapter 4 will outline how the data was collected to include a thorough description of the sample and demographics. The data suitability focused on linearity, collinearity, homoscedasticity, normality, and variance is addressed. Finally, the data is presented for all four research questions and summarized.

## Data Collection

Data were collected from March 8 to March 15, 2019. 133 individuals accessed the online survey with 104 completing the document. Two of the 104 participants did not meet the minimum one-year re-deployed requirement resulting in 102 qualified participants. Each participant met the required standards of military service to a combat theater with having returned home for at least one year.

An IRB 03-06-19-0072375 approved social media invitation was developed, posted to several closed military sites, and redistributed by moderators of additional military servicing sites. Participants were also encouraged to redistribute the site within their spheres of influence using civilian transmission methods. Data collected from Survey Monkey showed that participants to an average of six minutes and twelve seconds to take the survey. The anonymous online survey consent form assured participants that none of their responses would be tied to their personal information and were assigned participant numbers by the online system. Once the survey was completed participants were given an opportunity to provide contact information if they wished to view the completed data analysis of which 43 responded.

## Description of Sample

The participants ranged in age from 28 to 67 years old with a mean age of 39.4. Males represented 93.1% of the sample and females were 6.9%. Ethnic demographics consisted of Caucasians at 72.5%, Black or African American at 11.8%, Latino or Hispanic at 10.8%, Native American/Alaskan Native and Native Hawaiian/Asian Pacific Islander at 2% each, and Asian at 1%. All participants had served in the United States

military for at least 3 years with an average of 15.2 years of service. The population also consisted primarily of United States Army veterans at 82.4%. Table 1 provides a summarization of demographic characteristics for the sample.

Table 1

*Demographic Characteristics for Online Sample of Combat Veterans*

| Variable | | Frequency | Percentage |
|---|---|---|---|
| Gender | | | |
| | Male | 95 | 93.1 |
| | Female | 7 | 6.9 |
| Ethnicity | | | |
| | American Indian or Alaska Native | 2 | 2.0 |
| | Asian or Asian American | 1 | 1.0 |
| | Black or African American | 12 | 11.8 |
| | Hispanic or Latino | 11 | 10.8 |
| | Native Hawaiian or other Pacific Islander | 2 | 2.0 |
| | White or Caucasian | 74 | 72.5 |
| Age | | | |
| | 28-34 | 32 | 31.4 |
| | 35-41 | 35 | 34.3 |
| | 42-49 | 27 | 26.4 |
| | 50-67 | 8 | 7.9 |
| Years of Service | | | |
| | 3-9 | 20 | 19.7 |
| | 10-20 | 57 | 55.9 |
| | 21-30 | 24 | 23.7 |
| | 40 | 1 | 1.0 |
| Marital Status | | | |
| | Divorced | 8 | 7.8 |
| | Married | 80 | 78.4 |
| | Single | 14 | 13.7 |
| Branch of Service | | | |
| | Air Force | 13 | 12.7 |
| | Army | 84 | 82.4 |
| | Marine | 5 | 4.9 |

N=102

## Preliminary Analysis

Prior to executing the planned hierarchical multiple regression the suitability of the data, as they are associated to assumptions related to a hierarchical multiple regression, was analyzed. The data were tested for linearity, collinearity, homoscedasticity, normality, and variance. Test of the assumption of collinearity showed that multicollinearity was not a concern. Table 2 provides a summary of collinearity.

Table 2

*Collinearity Results for Independent Variables and Covariates*

| Variable | Tolerance | VIF |
|---|---|---|
| Gender | .944 | 1.060 |
| Ethnicity | .938 | 1.066 |
| Age | .292 | 3.424 |
| Marital Status | .948 | 1.054 |
| Years of Service | .296 | 3.381 |
| Number of Combat Deployments | .673 | 1.486 |
| Number of Years Deployed | .679 | 1.472 |
| Years Since Last Deployment | .657 | 1.52 |
| Transitions | .768 | 1.303 |

The histograms of standardized residuals for RQ 1-4 demonstrated that the data contained approximately normally distributed errors (Figures 1, 4, 7, 10). This was also the case with normal P-P plot of standardized residuals where points were not entirely on line, but sufficiently close (Figures 2, 5, 8, 11). The scatterplots (Figures 3, 6, 9, 12) showed that the data met the assumption of homogeneity and linearity.

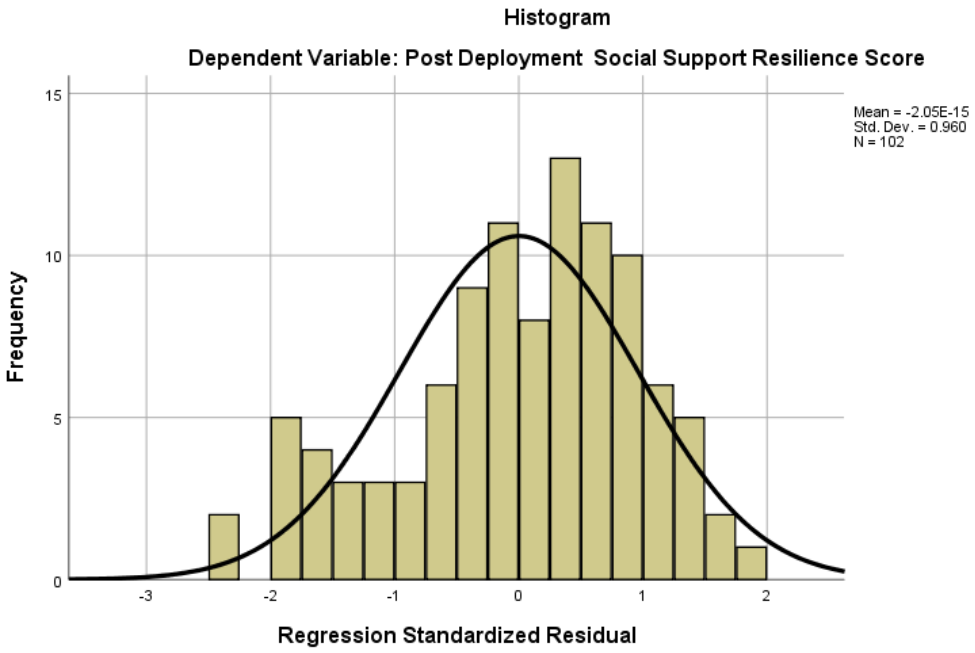


*Figure 1.* Histogram of social support associated with time.

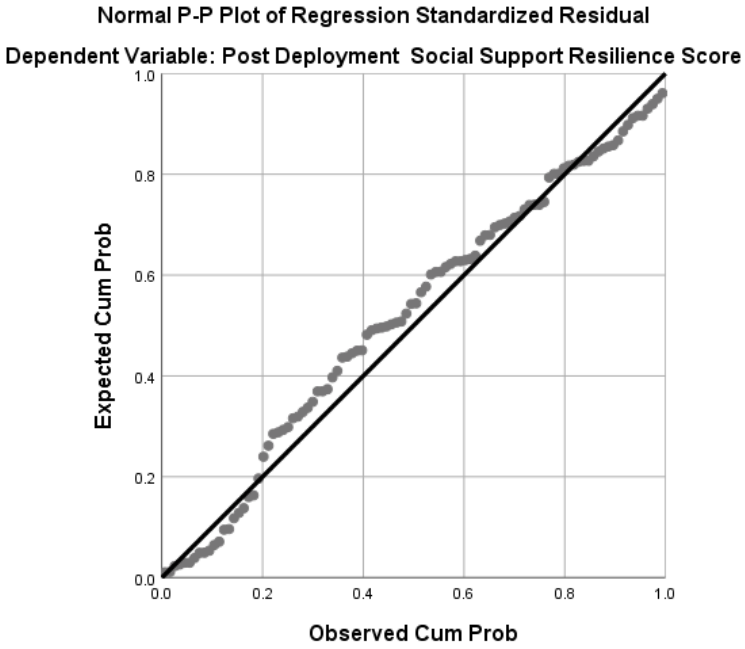


*Figure 2.* Normal P-P plot of standardized residual for social support and time.

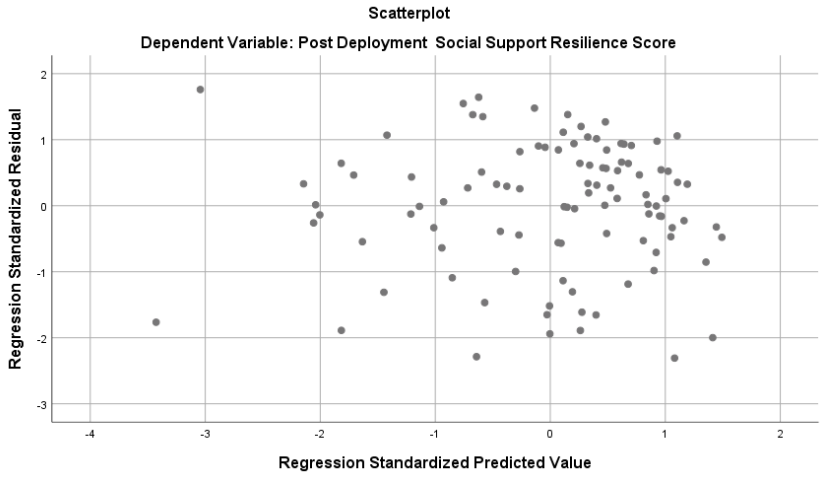


*Figure 3.* Residual scatterplot for homoscedasticity for time and social support.

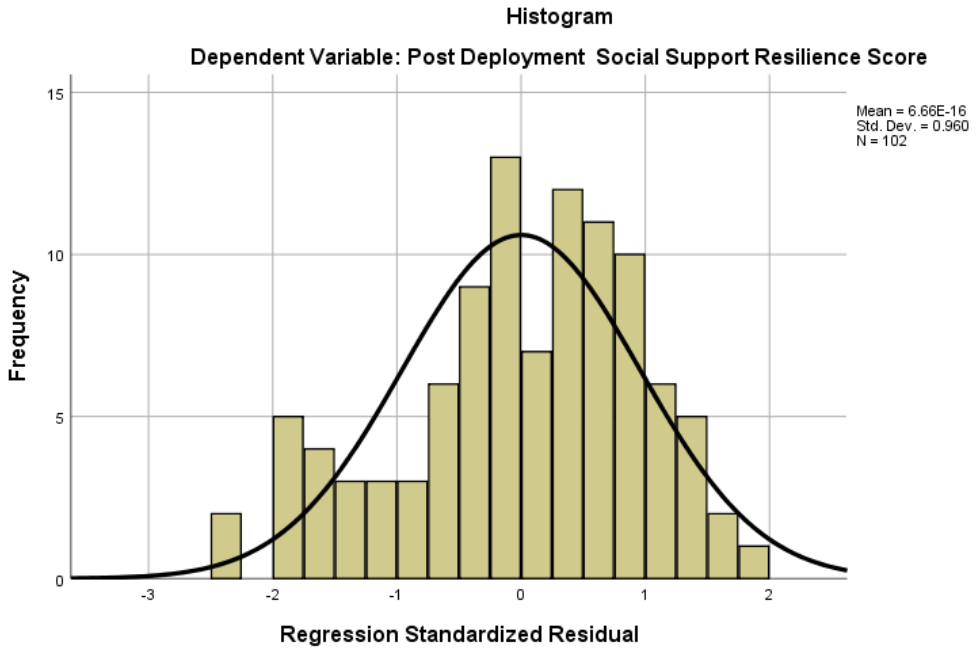


*Figure 4.* Histogram of social support associated with transitions.

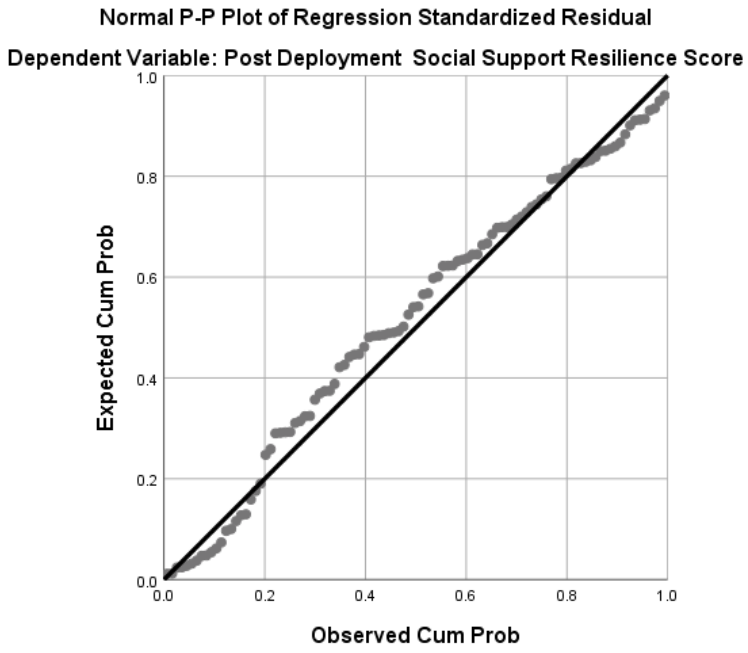


*Figure 5.* Normal P-P plot of standardized residual for social support and transitions.

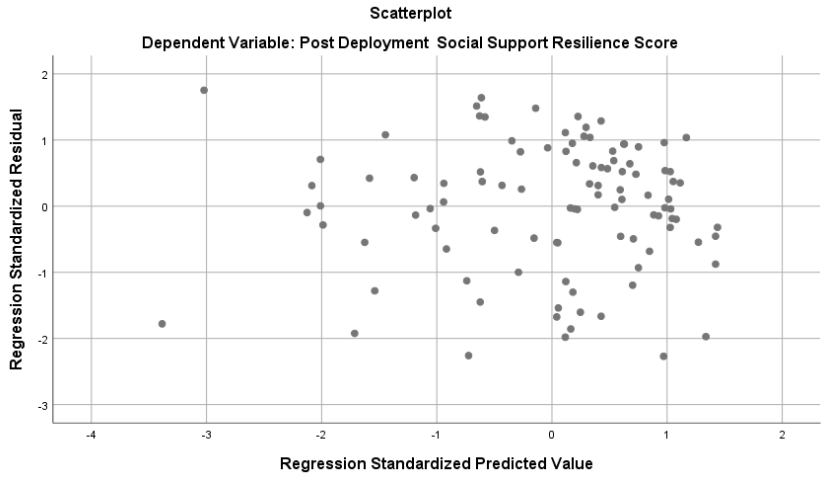


*Figure 6.* Residual scatterplot for homoscedasticity for transitions and social support.

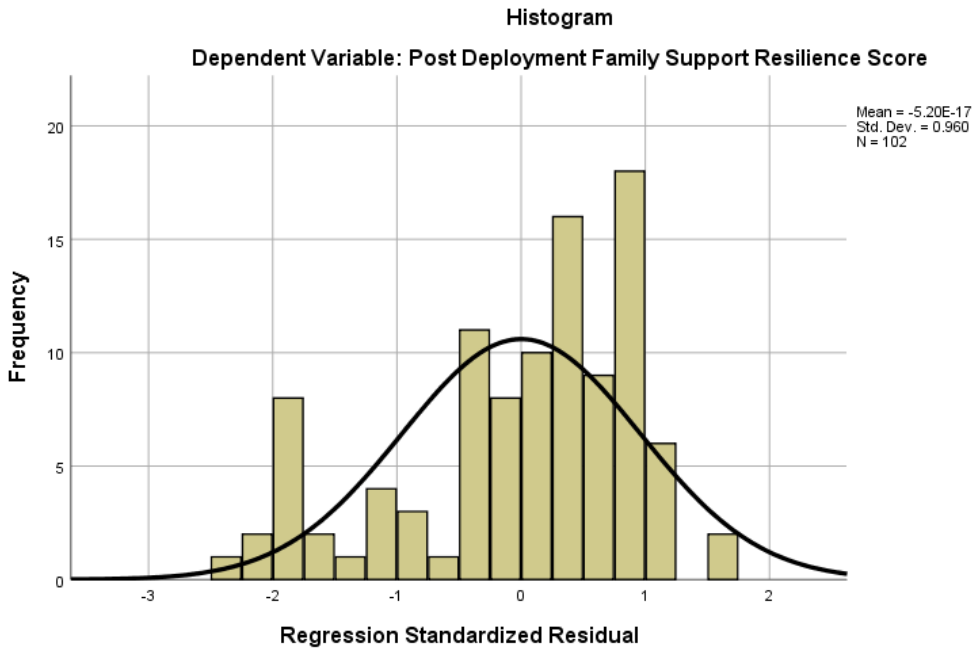


*Figure 7.* Histogram of family support associated with time.

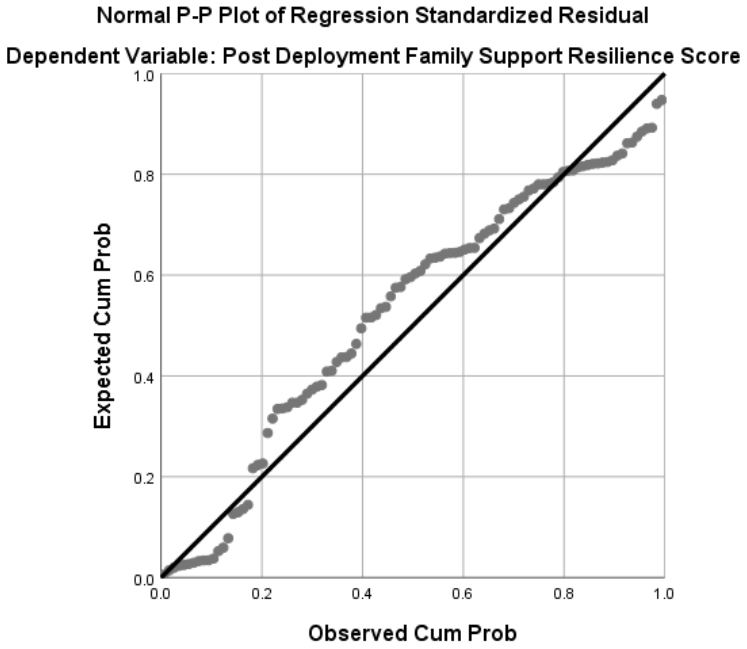


*Figure 8.* Normal P-P plot of standardized residual for family support and time.

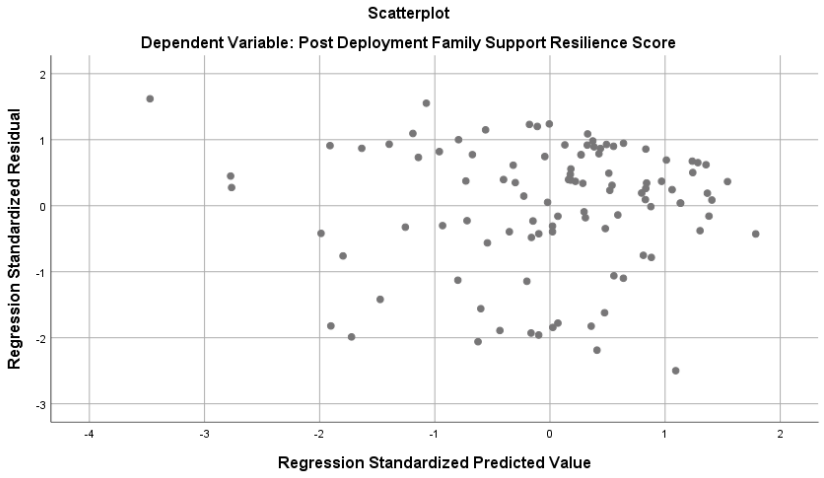


*Figure 9.* Residual scatterplot for homoscedasticity for time and family support.

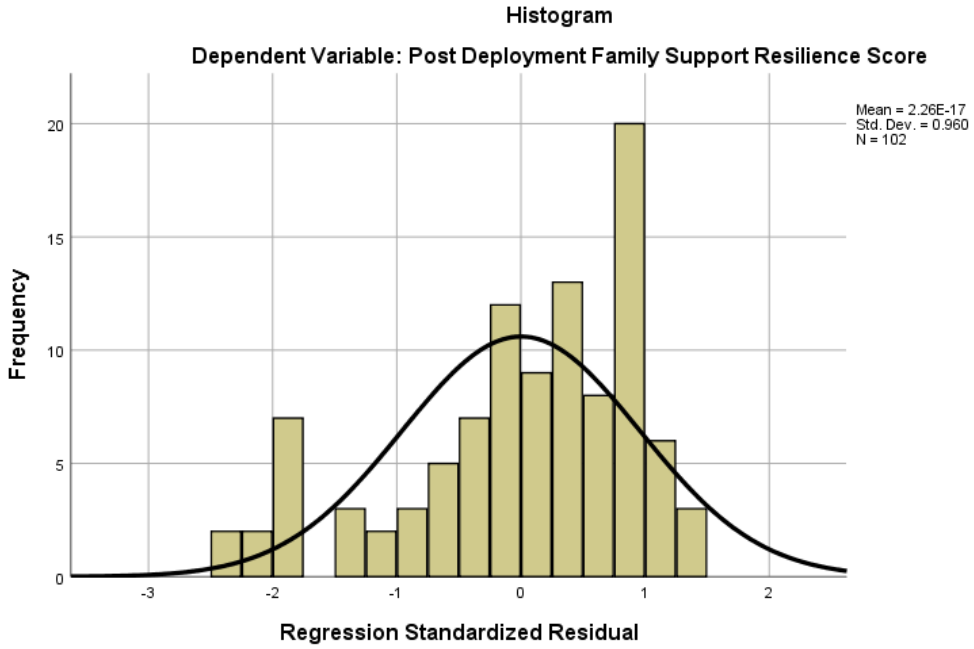


*Figure 10.* Histogram of family support associated with transitions.

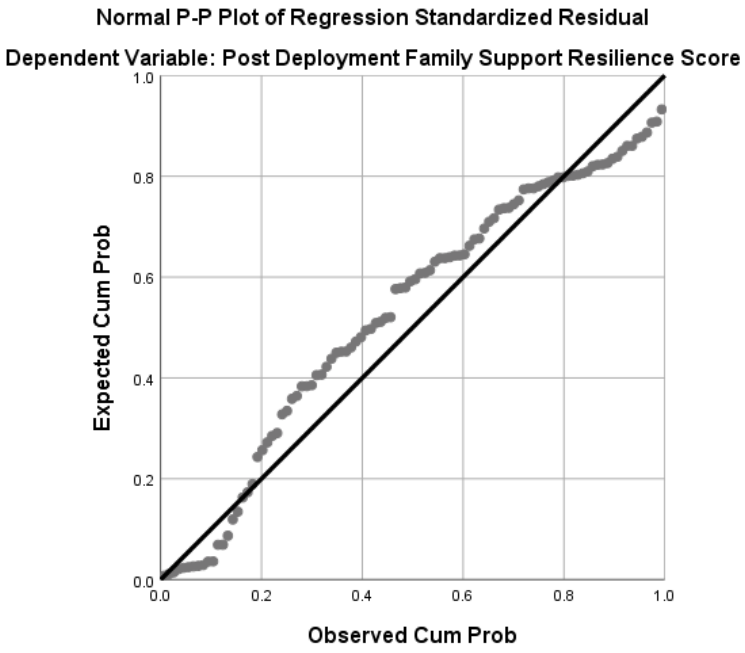


*Figure 11.* Normal P-P plot of standardized residual for family support and transitions.

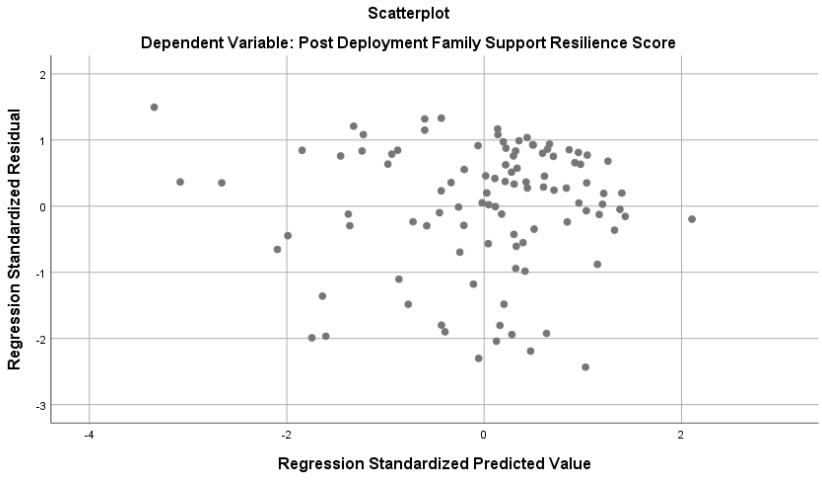


*Figure 12.* Residual scatterplot for homoscedasticity for transitions and family support.

## Study Results

This study was focused on four research questions and their related hypotheses. This section will present the results of the data analysis as it relates to the four research

questions. A hierarchical multiple regression was conducted to test the association of time and transitions to resilience as expressed by family and social support scores on the DRRI-2. The dependent variable for Research Questions 1 and 2 was the DRRI-2 social support score. The dependent variable for Research Questions 3 and 4 was the DRRI-2 family support score. A three-stage hierarchical multiple regression was used to analyze all four research questions. Stages 1 and 2 were the same for all four research questions. Stage one was demographics (age, gender, ethnicity, years of service, and marital status) and Stage 2 consisted of deployment data (number of deployments and total number of years deployed). Stage three for RQ 1 and RQ 3 saw the addition of time as the predictor variable while RQ 2 and RQ 4 had transitions as the predictor variable.

**Research Question and Hypothesis 1**

RQ 1 explored whether there was an association between the amount time elapsed following a combat deployment and protective resilience factors as assessed by the DRRI-2's social support metric. The hypothesis predicted that an extended amount of time following a deployment was associated with a higher protective resilience factor based on social support. The null hypothesis was tested using a three-stage hierarchical multiple regression with the cumulative social support score as the dependent variable. Demographic data were entered during stage one to control for no deployment related factors. Deployment data (number of deployments and total length of time deployed) were added during stage two to control for any factors that may be associated with the degradation due to extended exposure to combat. Regression statistics are reported in Table 3.

Table 3

*Summary of Hierarchical Regression Analysis for Time Associated with Social Support*

| Variable | β | *t* | Sig. | $R^2$ | Adj $R^2$ | p |
|---|---|---|---|---|---|---|
| Stage 1 | | | | .110 | .64 | .045 |
| Gender | -1.717 | -.608 | .545 | | | |
| Ethnicity | -1.936 | -2.899 | .005 | | | |
| Age | -.001 | -.006 | .996 | | | |
| Marital Status | -1.704 | -1.388 | .168 | | | |
| Years of Service | .165 | .868 | .387 | | | |
| Stage 2 | | | | .110 | .064 | .127 |
| # of Deployments | .055 | .133 | .894 | | | |
| Years Deployed | -.074 | -.139 | .406 | | | |
| Stage 3 | | | | .111 | .034 | .187 |
| Time | -.059 | -.234 | .816 | | | |

Dependent Variable: Social Support Score.

The hierarchical multiple regression revealed that stage one: demographics contributed significantly to the regression model, $F$ (5,96) = 2.37, $p < .05$ and accounted for 11% of the variation in social support factors. Adding deployment data accounted for 11% of the variation in social support factors and the change in $R^2$ was not significant $F$ (2,94) = .013, $p > .05$. Stage three's addition of time explained an additional 11% of the variation in social support factors and this change in $R^2$ was also not significant $F$ (1,93) = .055, $p > .05$. Due to the third stage addition of time not being statistically significant I failed to reject the null hypothesis, thus the length of time elapsed following the completion of a combat deployment is not significantly associated with levels of protective social support resilience factors one or more years following the completion of a combat deployment.

**Research Question and Hypothesis 2**

RQ 2 explored whether there was an association between the number of transitions following a combat deployment and protective resilience factors as assessed by the DRRI-2's social support metric. The hypothesis predicted that the number of transitions following a deployment is associated with levels of resilience based on social support metrics as assessed by the DRRI-2. The null hypothesis was tested using a three-stage hierarchical multiple regression with the cumulative social support score as the dependent variable. Demographic data were entered during stage one to control for no deployment related factors. Deployment data (number of deployments and total length of time deployed) were added during stage two to control for any factors that may be associated with the degradation due to extended exposure to combat. Stage three added transitions as the primary observed independent variable. Regression statistics are reported in Table 4.

Table 4

*Summary of Hierarchical Regression for Transitions Associated with Social Support*

| Variable | β | *t* | Sig. | $R^2$ | Adj $R^2$ | p |
|---|---|---|---|---|---|---|
| Stage 1 | | | | .110 | .64 | .045 |
| Gender | -1.717 | -.608 | .545 | | | |
| Ethnicity | -1.936 | -2.899 | .005 | | | |
| Age | -.001 | -.006 | .996 | | | |
| Marital Status | -1.704 | -1.388 | .168 | | | |
| Years of Service | .165 | .868 | .387 | | | |
| Stage 2 | | | | .110 | .064 | .127 |
| # of Deployments | .055 | .133 | .894 | | | |
| Years Deployed | -.074 | -.139 | .406 | | | |
| Stage 3 | | | | .111 | .034 | .187 |
| Transitions | -.074 | -.226 | .822 | | | |

Dependent Variable: Social Support Score.

The hierarchical multiple regression revealed that stage one: demographics contributed significantly to the regression model, $F$ (5,96)=2.37, $p$<.05 and accounted for 11% of the variation in social support factors. Deployment data accounted for 11% of variance in social support factors and the change in $R^2$ was not significant $F$ (2,94)=.013, $p$>.05. Stage three's addition of transition explained an additional 11% of the variation in social support factors and this change in $R^2$ was also not significant $F$ (1,93)=.055, $p$>.05. The addition of transitions in the third stage was shown to not be statistically significant. This resulted in failing to reject the null hypothesis: the number of transitions is not associated with levels of protective social support resilience factors one or more years following a deployment.

**Research Question and Hypothesis 3**

RQ 3 explored whether the time elapsed following the completion of a combat deployment was associated with levels of protective resilience factors related to post deployment family experiences. The hypothesis predicted that time is associated with levels of resilience based on family support metrics as assessed by the DRRI-2. The null hypothesis was tested using a three stage hierarchical multiple regression with the cumulative social support score as the dependent variable. Demographic data was entered during stage one to control for no deployment related factors. Deployment data (number of deployments and total length of time deployed) were added during stage two to control for any factors that may be associated with the degradation due to extended exposure to combat. Stage three added time as the primary observed independent variable. Regression statistics are reported in Table 5.

Table 5

*Summary of Hierarchical Regression Analysis for Time Associated with Family Support*

| Variable | β | *t* | Sig. | $R^2$ | Adj $R^2$ | p |
|---|---|---|---|---|---|---|
| Stage 1 | | | | .155 | .112 | .006 |
| Gender | -.959 | -.203 | .840 | | | |
| Ethnicity | -3.848 | -3.439 | .001 | | | |
| Age | .302 | .964 | .338 | | | |
| Marital Status | -3.650 | -1.773 | .079 | | | |
| Years of Service | .004 | .014 | .989 | | | |
| Stage 2 | | | | .170 | .108 | .012 |
| # of Deployments | -.868 | -1.261 | .211 | | | |
| Years Deployed | .327 | .369 | .713 | | | |
| Stage 3 | | | | .113 | .113 | .013 |
| Time | -.498 | -1.206 | .231 | | | |

Dependent Variable: Family Support Score.

The hierarchical multiple regression revealed that stage one: demographics contributed significantly to the regression model, $F$ (5,96) = 3.535, $p < .05$ and accounted for 16% of the variation in family support factors. Deployment data accounted for 17% of variance in social support factors and the change in $R^2$ was significant $F$ (2,94) = .825, $p < .05$. Stage three's addition of time accounted for an additional 18% of the variation in family support factors and this change in $R^2$ was also significant $F$ (1,93) = .1.453, $p <$ .05. The statistical significance of time resulted in the rejection of the null hypothesis and the acceptance of the hypothesis that time is associated with positive family support factors.

**Research Question and Hypothesis 4**

RQ 4 explored whether the number of transitions following the completion of a combat deployment was associated with levels of protective resilience factors related to post deployment family experiences. The hypothesis predicted that transitions are

associated with levels of resilience based on family support metrics as assessed by the DRRI-2. The null hypothesis was tested using a three-stage hierarchical multiple regression with the cumulative social support score as the dependent variable. Demographic data was entered during stage one to control for no deployment related factors. Deployment data (number of deployments and total length of time deployed) were added during stage two to control for any factors that may be associated with the degradation due to extended exposure to combat. Stage three added transitions as the primary observed independent variable. Regression statistics are reported in Table 6.

Table 6

*Summary of Hierarchical Regression for Transitions Associated with Family Support*

| Variable | β | *t* | Sig. | $R^2$ | Adj $R^2$ | p |
|---|---|---|---|---|---|---|
| Stage 1 | | | | .155 | .112 | .006 |
| Gender | -.959 | -.203 | .840 | | | |
| Ethnicity | -3.848 | -3.439 | .001 | | | |
| Age | .302 | .964 | .338 | | | |
| Marital Status | -3.650 | -1.773 | .079 | | | |
| Years of Service | .004 | .014 | .989 | | | |
| Stage 2 | | | | .170 | .108 | .012 |
| # of Deployments | -.868 | -1.261 | .211 | | | |
| Years Deployed | .327 | .369 | .713 | | | |
| Stage 3 | | | | .170 | .099 | .022 |
| Transitions | .084 | .155 | .877 | | | |

Dependent Variable: Family Support Score.

The hierarchical multiple regression revealed that stage one: demographics contributed significantly to the regression model, $F$ (5,96)=3.535, $p$<.05 and accounted for 16% of the variation in family support factors. Deployment data accounted for 17% of variance in social support factors and the change in $R^2$ was significant $F$ (2,94)=.825, $p$<.05. Stage three's addition of transitions accounted for an additional 17% of the

variation in family support factors and this change in $R^2$ was also significant $F$ (1,93) = .024, $p < .05$. The statistical significance of transitions resulted in the rejection of the null hypothesis and the acceptance of the hypothesis that transitions are associated with positive family support factors.

## Summary

The current research studied the association of time and transitions with protective resilience factors. The results identified there was no association between time and transitions with social support protective resilience factors, while also showing there was a significant associate between time and transitions with family support protective resilience factors. Chapter 5 will address research findings, implications for social change, limitations of the study, recommendations, and conclusions.

# Chapter 5: Discussion, Conclusion, and Recommendations

## Introduction

The purpose of this study was to explore the association of military life experiences (permanent changes of station, promotions, retirements, etc.) and deployment characteristics (number of deployments, operational specialties, combined lengths of deployments, etc.) to post deployment resilience in U.S. military personnel. 102 combat veterans from multiple service branches completed an online survey consisting of demographic information, the DRRI-2 social support scale, and the DRRI-2 family support scale. The survey was distributed through social media sites linked to combat veteran organizations. The independent variables of time and transitions were tested using a hierarchical multiple regression (HMR) to determine their association to the dependent variable of resilience as measured by the DRRI-2's social and family support scales. The analysis showed no statistical significance between time, transitions, and social support. However, the analysis of time, transitions, and family support was statistically significant.

This chapter will discuss the research findings. I will also outline the studies limitations, future research recommendations, and social change implications. Finally, I will provide a conclusion and summary.

## Interpretation of Findings

### Time

Research Questions 1 and 3 addressed time and its association to positive protective factors as measured by social and family support scores on the DRRI-2.

Previous studies asserted that 69.5% to 84% of veterans who multiple traumatic events remained psychological resilient years after the last combat deployment (Berntsen et al., 2012; Bonanno et al., 2012; Pietrza & Cook, 2013, Southwick et al., 2011). Research Question 1 which tested time as it was associated with social support protective factors was found to not be statistically significant $F$ (1,93) = .055, $p > .05$.

Research Question 3 addressed whether time was associated with family support protective factors. The data showed that there was a significant association between the dependent and independent variables $F$ (1,93) = .1.453, $p < .05$. Due to the use of ordinal data the HMR was limited as it can only address correlation and not causality. There could be any number of reasons that participants' answers resulted in no significant association between time and social support protective factors. More research would be needed to ascertain where the deficit may lie. Anything greater than that would be purely speculative at this point.

**Transitions**

Pietrzak et al. (2009) studied how social support was essential as a positive protective factor in resilience; finding that there was a significant correlation between strong and stable post support structures and a decrease in traumatic stress/depressive disorders. Research Questions 2 and 4 addressed transitions and their association to positive protective factors as measured by social and family support scores on the DRRI-2 between time, transitions and social support protective factors. Transitions and social support scores were shown to not have a statistically significant association $F$ (1,93) =

.055, $p > .05$. While, transitions and family support scores were found to have a statistically significant association $F$ (1,93) = .024, $p < .05$.

These differing data points are at odds with the literature. Research showed that service member's transitory life style and the continual reestablishing of social support networks was deemed to have an influencing effect on protective factors (Andres, 2014; Eisen, 2014; Oshri's et al., 2015; Pietrzak et al., 2009; Skomorovsky, 2014; Wright et al., 2010).

**Social Support**

Research Questions 1 and 2 employed the social support scale to assess participant resilience. Both RQs were shown to not be statistically significant. This is completely at odds with the past research addressed in the literature review. Researchers found that stable post deployment social support predicted better overall mental health and social support structures were beneficial to effective resilience (Andres, 2014; Eisen, 2014; Skomorovsky 2014). There are several aspects that could be responsible for this phenomenon. Chief amongst these is the concept of the civil-military divide. Currently less than 1% of Americans are serving in the military and 95.5% of the population not currently in military have limited or weaker ties to the military then in generations past (Ulrich, 2019). The disparity in the number of those who are currently serving and the average American citizen having limited association potentially generates a perception in service members that society does not understand or support their sacrifice. However, while probable this most likely not the primary on only reason for a lack of statistical significance. The mean score for participants social support score was 39.8. The scale

assesses the lowest social support protective factors score as 10 and the highest at 50. The mean average demonstrates that participants had, on average, an above average higher social support protective factor. The HMR only provides correlation and not causality and the results show that participants social support protective factors were not extremely low but were not affected by time or transitions. The most likely perspective is that participants perception of social support was locked and not affected by time elapsed since their last deployment nor the number of transitions experienced. The above average mean score does provide additional credence to the concept that social support is relevant protective factor for long term positive resilience. This is in keeping with Pietrzak et al. (2009) study in how social support in conjunction served to protect service members and there was a significant correlation between strong and stable post support structures and a decrease in traumatic stress/depressive disorders.

**Family Support**

Research questions 3 and 4 focused on the family support scale to assess the participant's protective factors. Both research questions were found to be statistically significant. This is in line with prior research that addressed the importance of family support in the development of long-term protective factors. Skomorovsky contended that positive support from family was reliable indicator of higher levels of psychological stability and lowered levels of depression (Skomorovsky, 2014 p. 50). Family support, as a protective factor, is considered essential to the development of long-term resilience through self-efficacy. The fact that RQs 3 and 4 are statistically significant remains consistent with research that shows family support can be affected over time or through

stressors associated with life transitions. Family support protective factors are considered those elements that diminish due to adverse effects of negative stressors or life events and maybe intrinsic to individual forms of self-regulation and self-efficacy (Cicchetti, 2010; Kim-Cohen, 2007).

## Limitations of the Study

There are several limitations to this study. First this study focused on combat veterans. This means that the data cannot be applied universally across the military or the general population as a whole.

A second limitation is related to the demographic distribution. The demographic analysis shows that the bulk of the participants were primarily Caucasian male members of the United States Army. The most recent demographic data shows that the Army accounts for 46.5% of armed forces, 82.8% are male, and 70.6% are Caucasian (DoD, 2016). The data, while close to the demographic make-up of the current force, does not contain enough ethnic or gender diversity to be generalize across the military.

Third, the youngest participant was 28 years of age. The current reduced operational tempo of combat operations accounts for a limited sample of 18-27-year-old combat veterans. However, the lack of this demographic limits the generalization across a large population of first or second term enlistment service members.

Incomplete surveys or ineligible participants created another limitation to the survey. One hundred thirty-three individuals accessed the survey. Twenty-nine participants failed to fully complete the survey and 2 did not meet eligibility requirements. This limitation was mitigated by removing incomplete surveys and

ineligible participants. The survey held an algorithm that would not allow participants to skip questions. My assumption is that participants who failed to fully complete the survey may have experienced a system lag, website crash, or loss of connectivity. The limitation lies primarily in the loss of additional data points.

Finally, the use of a Likert scale for data collection resulted in the collection of ordinal data. The DRRI-2 generates a score by combining the Likert scale results for each protective factor. Meaning the higher the cumulative score the higher the level of protective factors. However, ordinal data is considered interpretive and categorical. Effectively providing the ability to view correlational relationships, but no causal relationships.

## Recommendations

The primary recommendation derived from this research is the execution of a longitudinal study across all branches and components. Without the presence of a baseline resilience score it is difficult to gauge if a service members resilience level is above or below their standard operating level. Implementing resilience surveys such as the Connor-Davidson at points of initial entry followed by periodic reassessment using the DRRI-2 would allow researchers to chart the ebbs and flow of service members across their careers.

Executing follow on research focused on branch specific demographics would allow researchers the ability to observe protective factor impacts based on exposure and training levels. Each branch has a specific methodology of recruitment and training that could have an impact on how service members develop and maintain protective factors.

Additionally, exposure to combat stress and trauma is different based on the participants branch of service and military operational specialty.

The data having split findings that are complimentary and contradictory to past studies deserves further study. Future studies focused on causality of why participants showed no statistical significance in reference to social support protective factors could generate further insight into lowered resilience amongst veterans. Whether it is stigmatization or the civilian military divide there appears to be a gap in how veterans perceive support from outside their familial construct.

## Implications

Global War on Terrorism Veterans are beginning to leave the military in greatly increasing numbers as their terms of service expire. This will result in over half a million combat veterans leaving an organization that understands their situation and has resources available to support positive mental health. This study and the necessity to continue studying resilience in our combat veterans has potential for positive social change at the individual, family, organization, and societal levels. By identifying potential areas or stressors that reduce protective factors we can arm both the individual and the families with precursor knowledge. Having this information could allow those directly affected by reduced resilience, brought about by post-traumatic stress, to be watchful of critical stress points in protective factors.

The organizational aspect for positive social change would be focused on current Department of Defense and Department of Veterans Affairs procedures. Specifically, the major transition from military to civilian life. The current medical transition procedure is

to have the service member generate a hard copy of their records. This requires the service member to hand deliver a copy of their records to their next level of care. If the service member is a retiree their records would transfer in TRICARE; but that is focused on if the retiree uses a military facility. If they choose to employ a civilian primary care provider then they must pass this information to their next level of care as well.

The potential for positive social change focused on society would be the de-stigmatization of service members with lowered resilience levels. The warrior mentality lends itself to burying pain and perceived weakness. If society only views service members as broken objects then service members are less likely to seek help. By understanding how resilience is affected by social support protective factors then society will be able to adequately address the needs of if its military class.

## Conclusions

When I first started my journey to completing this study, I was dealing with the effects of PTSD from multiple combat deployments. At my weakest point I was days away from committing suicide. I felt as if I was a burden on my family and society as a whole. I could not control my physical pain or function effectively in an environment outside of the military. At that point I felt my only option was to remove myself from the equation. Many of our veterans feel the same way. I have lost many battle buddies, in the four years since I started this journey, to suicide and substance abuse. The irony of resilience, based on past studies, is that that resilience cannot occur without protective factors and experiencing extreme risk and adversity; it was determined that an individual with high protective factors that has not faced extreme adversity cannot be considered

resilient (Vanderbilt-Adriance and Shaw, 2008). Understanding the long-term effects of combat on protective resilience factors is critical to breaking through to an entire generation of combat veterans. Veterans who have served their entire careers in active conflict. If this study has done nothing else, I sincerely hope it serves as a catalyst for follow on research. Our returning veterans deserve it.

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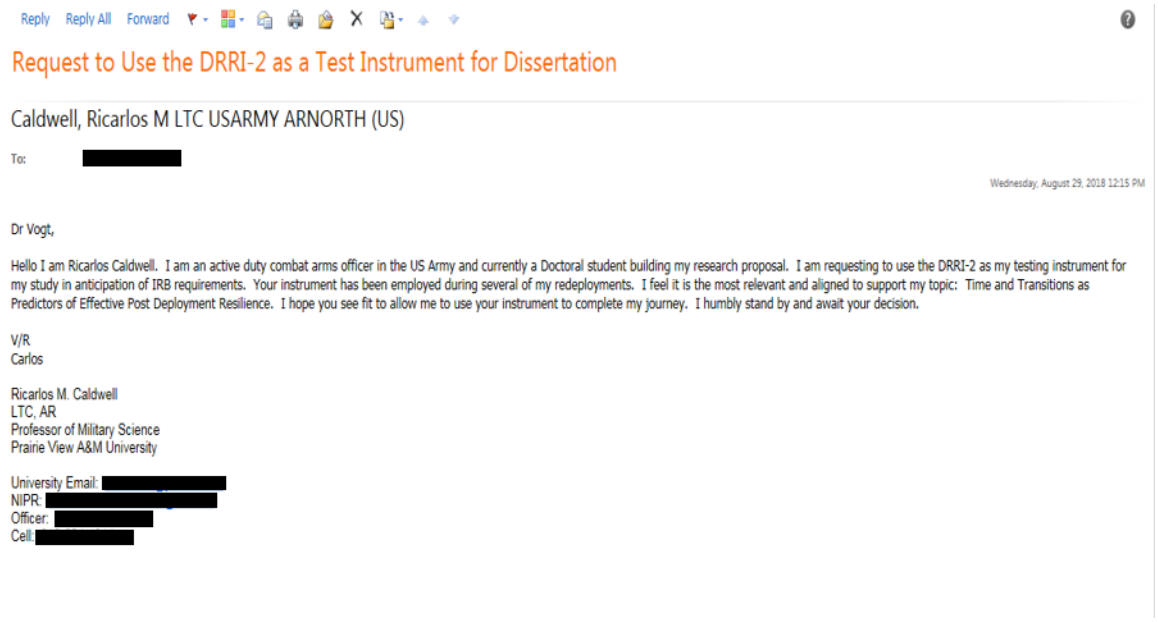
# Appendix A: DRRI-2 Permission for Use



Reply Reply All Forward

Request to Use the DRRI-2 as a Test Instrument for Dissertation

Caldwell, Ricarlos M LTC USARMY ARNORTH (US)

To: [redacted]

Wednesday, August 29, 2018 12:15 PM

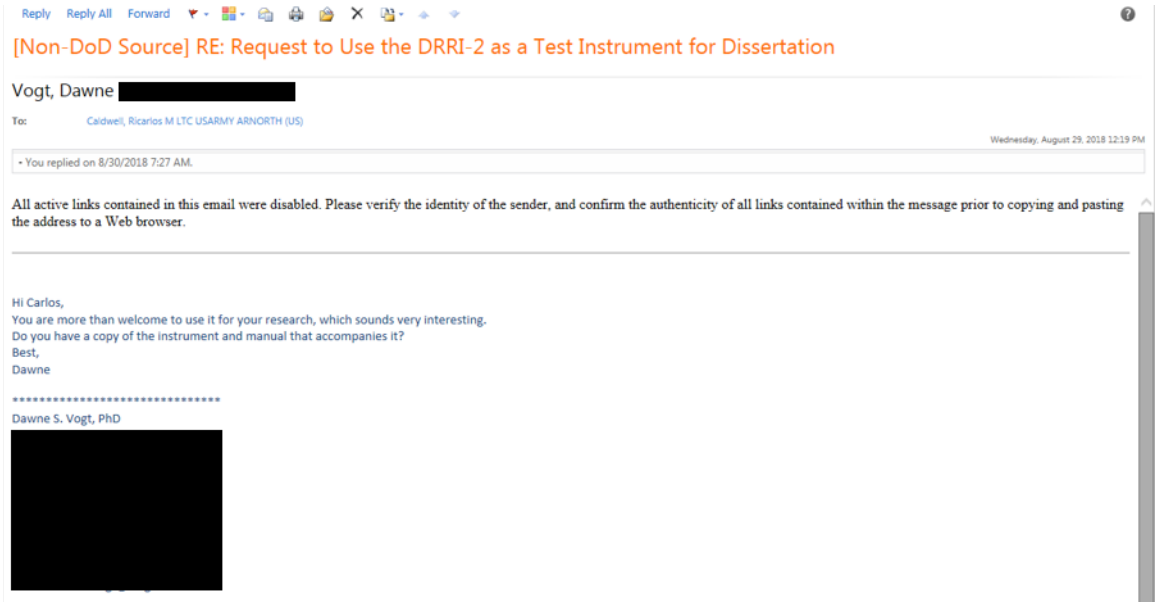
Dr Vogt,

Hello I am Ricarlos Caldwell. I am an active duty combat arms officer in the US Army and currently a Doctoral student building my research proposal. I am requesting to use the DRRI-2 as my testing instrument for my study in anticipation of IRB requirements. Your instrument has been employed during several of my redeployments. I feel it is the most relevant and aligned to support my topic: Time and Transitions as Predictors of Effective Post Deployment Resilience. I hope you see fit to allow me to use your instrument to complete my journey. I humbly stand by and await your decision.

V/R
Carlos

Ricarlos M. Caldwell
LTC, AR
Professor of Military Science
Prairie View A&M University

University Email: [redacted]
NIPR: [redacted]
Officer: [redacted]
Cell: [redacted]



Reply Reply All Forward

[Non-DoD Source] RE: Request to Use the DRRI-2 as a Test Instrument for Dissertation

Vogt, Dawne [redacted]

To: Caldwell, Ricarlos M LTC USARMY ARNORTH (US)

Wednesday, August 29, 2018 12:19 PM

- You replied on 8/30/2018 7:27 AM.

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Hi Carlos,
You are more than welcome to use it for your research, which sounds very interesting.
Do you have a copy of the instrument and manual that accompanies it?
Best,
Dawne

**********
Dawne S. Vogt, PhD
[redacted]

Reply Reply All Forward

RE: [Non-DoD Source] RE: Request to Use the DRRI-2 as a Test Instrument for Dissertation

Caldwell, Ricarlos M LTC USARMY ARNORTH (US)

To: Vogt, Dawn[redacted]

Thursday, August 30, 2018 7:27 AM

Dr Vogt,

Thank you for allowing me to use your instrument. I have down loaded the instrument and manual from the VA website. Thank you for your support.

V/R
Carlos

Ricarlos M. Caldwell
LTC, AR
Professor of Military Science
Prairie View A&M University

University Email: [redacted]
NIPR: [redacted]
Officer: [redacted]
Cell: [redacted]

# Appendix B: Online Survey

## Deployment Risk and Resilience Inventory-2

### Informed Consent

**Anonymous Online Survey, Informed Consent Form**
Walden University IRB Approval# 03-06-19-0072375,06 March 2019

**AGREEMENT TO PARTICIPATE IN**
**"Time and Transitions as Predictors of Post Deployment Resilience"**

STUDY LEADERSHIP: The researcher is an active duty Army service member with 18 years of service and three combat deployments. He is currently a Doctoral candidate in the General Psychology department at Walden University. The researcher is requesting you take part in his PhD dissertation research project. Dr James Herndon, a professor in the department, is serving as the dissertation committee chair.

PURPOSE: The purpose of this study is to determine if there is a statistically significant relationship between time and transitions as predictors of post deployment resilience in U.S. military personnel.

ELIGIBILITY: Participant eligibility is based on specific criteria listed below:

1. Participants must be 18 years of age.
2. Participants must have served in the United States Army, Navy, Air Force, Marine Corps, or Coast Guard
3. Participants must have completed branch of service specific initial entry training for their rank and position.
4. Participants must have completed at least one combat deployment.
5. If participant has only one combat deployment the participant must have been re-deployed for one year.
6. Participant must not be pending any adverse administrative action at the time of taking the survey.

PARTICIPATION: This study will consist of an online survey that will use portions of the Deployment Risk and Resilience Inventory-2 (DRRI-2) as well as some elements from your military experience, deployment history, and demographic information such as your age and marital status. Completing the survey will take approximately 15-20 minutes. Example questions are listed below:

A. …people made me feel proud to have served my country in the Armed Forces.
1. Strongly disagree
2. Somewhat disagree
3. Neither agree nor disagree
4. Somewhat agree
5. Strongly agree

B. …I feel like my contributions to my family are appreciated.
1. Strongly disagree
2. Somewhat disagree
3. Neither agree nor disagree
4. Somewhat agree
5. Strongly agree

RISKS OF PARTICIPATION: The physical risks of this survey are minimal. However, the survey questions reference past combat deployment experiences. If this causes you any distress you are free to skip the question or exit the survey in its entirety. *Distress is defined as issues arising from the intensity of past experiences that significantly impacts the participant's ability to function at normal capacity.* There will be no reprisal for participants unable to continue the research due to distress. If this survey causes continued distress the following 24 hour resources are available to provide support:

Veteran's Crisis Line
1-800-273-8255 press 1
1-800-799-4889 for the hearing impaired
Text 838255

BENEFITS OF PARTICIPATION: This study seeks to add to the body of information related to successful resilience. Honest participation in this study will assist in that endeavor. Support will benefit future studies in this growing section of mental health services.

VOLUNTARY PARTICIPATION: Your participation in this online survey is entirely voluntary. You are able to stop and exit the survey at any time or refuse to answer a specific question without prejudice.

COMPENSATION: Participation in this study is voluntary and as such no gifts or compensation will be provided for completion of the survey.

CONFIDENTIALITY: This is an anonymous study that will be executed using the website SurveyMonkey, an independent online survey company. You are welcome to research the website at www.surveymonkey.com. No identifying information will be collected. In order to protect anonymity of your responses, no IP addresses, email addresses, or PII will be collected. SurveyMonkey employs industry-standard security methods to protect data transmission and storage. A copy of the data, as well as the full dissertation, will be maintained on a 1 TB hard drive stored in a locked safe in my home office. Data will be stored for no less than 7 years. There will be no hard copies or printed copies of the completed DRRI-2s. Findings will be shared with the Department of Defense if requested in order to add to current military resilience studies.

SUPPORT: If you have any questions before proceeding you may contact the researcher at ricarlos.caldwell@waldenu.edu. If you begin to experience any discomfort or concerns you may contact the Walden University Research Participant Advocate at 1-800-925-3368 ext. 312-1210 from within the USA, 001-612-312-1210 from outside the USA, or email address irb@waldenu.edu.

***Note: Participants should print or maintain a digital copy of this consent form for their personal records.**

* 1. To Proceed Please Select Yes or No

- ◯ Yes
- ◯ No

* 2. Have you been re-deployed from a combat theater for at least 1 year?

- ◯ Yes
- ◯ No

## Deployment Risk and Resilience Inventory-2

### Demographic

* 3. Gender:

- ◯ Male
- ◯ Female

* 4. Ethnicity

- ◯ White or Caucasian
- ◯ Black or African American
- ◯ Hispanic or Latino
- ◯ Asian or Asian American
- ◯ American Indian or Alaska Native
- ◯ Native Hawaiian or other Pacific Islander
- ◯ Another race

* 5. Age Now:

* 6. Age During Most Recent Deployment:

* 7. Maritial Status Now:

- ◯ Married
- ◯ Single
- ◯ Divorced

* 8. Marital Status During Most Recent Deployment

- ◯ Married
- ◯ Single
- ◯ Divorced

* 9. Number of Children Now (Include if Expecting):

* 10. Number of Children During Most Recent Deployment:

* 11. Branch of Service Now:

- Army
- Air Force
- Marine
- Coast Guard
- Navy

* 12. Branch of Service During Most Recent Combat Deployment:

- Army
- Air Force
- Marine
- Coast Guard
- Navy

* 13. Component

- Active Duty
- National Guard
- Reserve

* 14. Component During Most Recent Deployment:

- Active
- National Guard
- Reserve

* 15. Rank Now (Include Rank at Retirement or Discharge):

- Enlisted (E1 to E4)
- Company Grade Officer (O1-O3)
- NCO (E5 to E9)
- Field Grade Officer (O4-O6)
- Warrant Officer (WO1 to WO5)
- General Officer (O7-O10)

* 16. Rank During Most Recent Depolyment:

- Enlisted Member (E1 to E4)
- Company Grade Officer (O1-O3)
- NCO (E5 to E9)
- Field Grade Officer (O4-O6)
- Warrant Officer (WO1 to WO5)
- General Officer (O7-O10)

* 17. Current Duty Status:

- ◯ Still Serving
- ◯ Retired
- ◯ Discharged

* 18. Years of Service:

* 19. Military Occupation During Most Recent Deployment:

- ◯ Combat Operations (examples: Armor, Infantry, SOF, Attack or Combat Lift Aviation (rotary and fixed), Field Artillery, JTAC, TAC/P, Combat Engineers, Tactical Military Police)
- ◯ Combat Support (examples: Security Forces, Lift Aviation, Signal, Intelligence, Horizontal/Vertical Engineers)
- ◯ Combat Services (examples: Medical, Finance, Logistics, Administrative, Religious Services)

* 20. Total Number of Combat Deployments:

* 21. Number of Years Since Most Recent Combat Deployment (Use Whole Numbers):

* 22. Total Number of Years Deployed to a Combat Zone (Use Whole Numbers):

* 23. Number of Promotions Since Last Deployment (Position and Rank):

* 24. Number of Permanent Changes of Station (PCS) Since Last Deployment:

* 25. If you have ETSd or retired have you accessed Veteran's Affairs services:

- ◯ Yes
- ◯ No
- ◯ N/A

## Deployment Risk and Resilience Inventory-2

### Post Deployment Support

**Deployment Risk & Resilience Inventory-2 (DRRI-2)**

This survey contains questions regarding your experiences before, during, and after military deployment. No one has had exactly the same experiences that you have had, so your input is very important. There are no right or wrong answers. Be sure to answer every statement.

The Deployment Risk and Resilience Inventory-2 (DRRI-2) was prepared with support from the Department of Veterans Affairs (DVA Grants DHI 05-130-3 and DHI 09-086), Dr. Dawne Vogt, Principal Investigator. The original DRRI was developed with support from the department of Defense and DVA (Grant DoD PG-087), Drs. Daniel King and Lynda King, Co-Principal Investigators. For inquiries or further information, please contact Dr. Dawne Vogt at NCPTSD, VA Boston Healthcare System (116D-3) 150 S. Huntington Ave., Boston, MA 02130; Phone: 857-364-5976; Dawne.Vogt@ va.gov

**Post Deployment Support**

This set of statements refers to social support AFTER YOUR MOST RECENT DEPLOYMENT, as well as current social support. Please mark how much you agree or disagree with each statement.

* 26. … the American people made me feel at home.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

* 27. …people made me feel proud to have served my country in the Armed Forces.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

* 28. …my family members and/or friends make me feel better when I am down.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

* 29. …I can go to family members or friends when I need good advice.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

* 30. …my family and friends understand what I have been through in the Armed Forces.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

* 31. …there are family and/or friends with whom I can talk about my deployment experiences.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

* 32. …my family members or friends would lend me money if I needed it.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

* 33. …my family members or friends would help me move my belongings if I needed help.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

* 34. …if I were unable to attend to daily chores, there is someone who would help me with these tasks.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

* 35. …when I am ill, family members or friends will help out until I am well.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

## Deployment Risk and Resilience Inventory-2

### Post Deployment Family Experiences

**Post Deployment Family Experiences**

The sentences below refer to family experiences AFTER YOUR MOST RECENT DEPLOYMENT. Please mark how much you agree or disagree with each statement. If you spend time in more than one family setting, please answer these questions about the family in which you spend the greatest amount of time.

Since returning...

36. ...my input is sought on important family decisions.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

37. ...I feel I fit in with my family.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

38. ...family members know what I think and how I feel about things.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

39. ...I feel like my contributions to my family are appreciated.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

40. ...I share many common interests and activities with family members.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

41. ...my opinions are valued by other family members.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

42. ...I am affectionate with family members.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

43. ...I play an important role in my family.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

44. ...I spend as much of my free time with family members as possible.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

45. ...family members tell me when they are having problems.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

46. ...I can be myself around family members.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

47. ...I get along well with my family members.

| Strongly Disagree | Somewhat Disagree | Neither Agree nor Disagree | Somewhat Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

Deployment Risk and Resilience Inventory-2

Conclusion

48. Thank you for participating in this study. If you wish to receive a summary of the results upon conclusion of this dissertation please leave a valid email address below. This information will not be used to identify you our your survey answers.