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Measuring Effects of Childhood Adversity on Resilience Level of Army Veterans

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2019

Abstract

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MPH, Walden University, 2010

BS, Eastern Kentucky University, 2008

Dissertation Submitted in Partial Fulfilment

Of the Requirements for the Degree of

Doctor of Philosophy

Epidemiology

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Abstract

Veteran suicide is a public health issue that requires more research to understand the multidimensional factors, such as resilience, that lead someone to suicide. Adverse childhood events (ACEs), such as poverty and abuse, have affected how resilience is developed. This study examined the association between childhood factors of socioeconomic status, parental discipline, and being a military child, and adult resiliency level. Dienstbier's theory of mental toughness framed the study, which posits that a child who experiences mild ACEs and has time to recover between events, will be more resilient than children who experience serious ACEs, and children who experience little to no ACEs. Army veterans recruited through social media and veterans' organizations, answered an online survey consisting of demographic questions, the Harsh Discipline Scale and 9 item Resiliency Scale. No significant associations were found between these ACEs and resilience level. However, when the harsh discipline scale was analyzed by individual questions, associations were shown between spanking and high resilience with reported answers of "almost always" having higher level of resilience (OR = 12.001, p = .032), and those who reported they were hit with an object scored much lower on resilience than any other category measured. Examining resilience questions individually showed that low and middle socio-economic status had statistically significant higher resilience in responding to extreme pressure in a positive way. More research is needed on these specific ACEs using Dienstbier's theory. Understanding how specific ACEs affect resilience could lead to developing better prevention strategies that focus on helping children process these ACEs and develop higher resilience as adults, thus reducing suicide in the civilian and veteran population.

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Dedication

This dissertation is dedicated to SFC Jeremy Rausch for his vigilance and sacrifice for his country, and his family. He served the army honorably in combat, winning many battles against enemies of the United States and terrorism, but was sadly and ultimately, unable to concur his own demons. He lived a life of service to others, and in this research continues to serve as the motivation to find a way to help his fellow veterans not fall to their demons as he did. I will forever be in his debt. Until Valhalla cousin!!

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I would like to thank my dissertation chair Dr. Wen-Hung Kuo for your guidance and patience throughout this process. I can only imagine how trying it was to deal with my many panic attacks, having to rewrite a completely new proposal, and all of the other issues I put you through over the past year and half. You have been an amazing mentor and I truly appreciate everything you have helped me accomplish. I would also like to thank my second committee member, Dr. Tami Frye for your time and dedication through this journey, from accepting me as mentee even though I am not from your college, to all of the encouraging words you have offered. You have truly been an asset to my progress.

Finally, I must thank my family, my parents, sister, children, the love of my life, and my extended family. Had I not had your support I would not have made it. I thank you all for getting me through the late nights, extreme stress level, for forgiving me for not being available for things because I had to write, as well as giving me a shoulder for the many cry sessions because this topic is so personal. My family was my rock. Their support and encouragement kept me going. We are stronger together!

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Chapter 1: Introduction to the Study

Introduction

Since the start of the war on terror in 2001, suicide has become a leading cause of death among U.S. veterans (Ashrafioun, Pigeon, Conner, Leong, & Oslin, 2016). Suicide rates in the veteran population have increased by 32% from 2001 to 2016 (U.S. Department of Veterans Affairs, 2016). An uptick in suicide research has occurred within public health agencies in the past 10 years due to the steady increase in rates in the civilian and military populations (Kleiman & Beaver, 2013). In 2010, suicide became the 10th leading cause of death in the United States as a whole, and in 2013 it was the second leading cause of death among 18- to 24-year-old Americans, with rates maintaining since then (National Center for Health Statistics, 2017). Among the veteran population, suicide rates have increased from approximately 18 per day in 2001, to 22 per day in 2016 (U.S. Department of Veterans Affairs, 2016). Many reasons for the increase in suicide have been explored and most researchers have determined that the risks are multidimensional between environment, social, cognitive, and hereditary factors (Nock et al., 2013). This increase must be understood so that public health officials can devise strategies and programs for prevention efforts. Unlike their civilian counterparts, veterans are exposed to multiple physical and psychological traumatic factors during their service time, including death of their team members and facing imminent physical danger, that lead to development of posttraumatic stress disorder (PTSD), which in itself is a risk factor for veteran suicide (Church, Sparks, & Clond, 2016). Veterans are also exposed to a variety of training during their service that is meant to help them overcome traumatic events using techniques for relaxation, meditating, and focusing on positive things. This training

consists of mandatory annual master resilience training (MRT) and suicide prevention and awareness training (Harms, Herian, Krasikova, Vanhove, & Lester, 2013). Research on resilience has been at the forefront of public health and military leaders in the past 10 years as it has been found to be a main factor that leads to how a person processes trauma and whether they can combat depression symptoms and suicide ideation (Horn, Charney, & Feder, 2016). Researchers have found many factors that affect resilience levels in individuals such as family history, adversity in childhood, exposures to certain hardships as adults, combat exposures, and history of depression or mental health issues (Dooley, Slavich, Patricia, Moreno, & Bower, 2017; Hourani et al., 2012). Resilience has been determined to be a fluid characteristic in that levels of resilience changes throughout a person's lifetime and how they respond to different adversities and traumas also changes (Rutter, 2006). Some researchers believe cumulative effects exist regarding resilience level based on exposures to certain adversity's, whereas other researchers have determined that no correlation exists between amount of adversities experiences and resilience levels (Bandoli et al., 2017; Dooley et al., 2017). A large amount of current research exists from public health and psychological perspectives on resilience and how it is affected throughout a lifetime (Horn et al., 2016). Resilience research on a variety of childhood exposures has found that some adverse childhood events (ACEs) can lead to increased or decreased resiliency in individuals once they become adults (Liu, Reed, & Girard, 2017). Childhood adversities such as physical, mental, and sexual abuse have been shown to cause a decrease in mental health in adulthood, whereas other adversities such as parental divorce, low socioeconomic (SES) or death of parent have yielded mixed results in how they affect resilience levels as an adult (Bellis, Hughes, Leckenby, Perkins,

& Lowey, 2014; Logan-Greene, Green, Nurius, & Longhi, 2014). Understanding what factors affect resilience, whether resilience can truly be taught, and how to increase resilience levels in military members will assist public health leaders in determining the proper intervention strategies for decreasing the current rates of veteran suicide. In this research, I focused on understanding the factors that affect resilience specifically in army veterans.

Background

Much research has been conducted on how ACEs affect mental and physical health of children and adults (Tracie O. Afifi et al., 2017; Poole, Dobson, & Pusch, 2017b; Youssef et al., 2013). Researchers have concluded that exposure to ACEs has an overall detrimental effect on adult health (Chartier, Walker, & Naimark, 2009; Hughes, Lowey, Quigg, & Bellis, 2016; Odgers & Jaffee, 2013; Poole, Dobson, & Pusch, 2017a). As explained in further detail in Chapter 2, research into this topic has produced mixed results. Researchers have vastly explored the extreme level of exposure to ACEs including physical, mental and sexual abuse (Bellis et al., 2014; Cronholm et al., 2015; Logan-Greene et al., 2014; Nurius, Green, Logan-Greene, & Borja, 2015a; Tsai & Rosenheck, 2013). I was unable to find a large amount of research on how minor childhood events affect adult resilience or mental health. I found insufficient research on how ACEs affect veterans with or without PTSD. I found several studies that examined adversities that faced children of military members and veterans; however, I found nothing on adults who grew up as military children. Several researchers also examined the role of SES and spanking on mental health, but as detailed in Chapter 2, these results were mixed. In this study, I aimed to fill the gaps in previous research looking

specifically at veterans and how discipline, SES, and being a military child affect their resiliency level as an adult.

Problem Statement

Public health and military leaders have been combating the depression and suicide rates of military members and veterans throughout human history (Bryan, Jennings, Jobes, & Bradley, 2012). Many factors contribute to the increase of veteran's suicide deaths including previous life experiences, poor coping behaviors, substance abuse, combat exposure, PTSD, and dysfunctional family relationships (Nock, et al., 2013). One factor that current public health research is now focusing on is resilience. *Resilience* can be defined as the ability to bounce back from adversity (Rice, et al., 2013). Each individual exhibits a different resilient level and these levels change throughout a person's life as they are exposed to different factors such as stress, adversity, and trauma (Rutter, 2006). Many researchers have studied what causes people to have different levels of resilience (Bellis, Hughes, Leckenby, Perkins, & Lowey, 2014). The main questions with regard to resilience in military veterans is how and why can two soldiers with similar backgrounds be exposed to the same training, and the same combat experiences, but one is able to cope and move on, whereas the other develops mental health issues? What factors affect a soldier's response to adverse events and make a soldier more resilient than another? Some researchers have identified gaps in resilience research that explores how childhood experiences affect resilience of veterans (Seifert, Polusny, & Murdoch, 2011). Most of the available research focuses on severe childhood adversities such as physical and sexual abuse (Tsai & Rosenheck, 2013). Researchers have found that those exposed to severe ACEs do show a variety mental health issues as adults

(Bandoli et al., 2017). However, other researchers have determined that exposure to minor ACEs may serve as a factor for developing more resilience in adulthood (Seery & Hughes, 2012). Minor factors that could affect resilience such as parental discipline style, SES, and being the child of a military member or veteran have been explored for other reasons related to mental health, but not specifically for how they relate to the development of resilience.

Purpose of the Study

My purpose in this study was to explore how specific ACEs affect the resiliency level of veterans. Veteran suicide rates are currently estimated to be more than 50% higher than rates in the civilian population (Ashrafioun et al., 2016). Despite suicide prevention training and resilience training veteran rates of PTSD have climbed considerably during the last 10 years (Steenkamp, Nash, & Litz, 2013). Researchers have determined in many different research studies that higher resilience is associated with lower mental health issues, better coping strategies, and reduced suicide rates (Church et al., 2016; Dray et al., 2017; Hourani et al., 2012; Rose et al., 2013). However, understanding what specific factors contribute to higher resilience rates remains elusive. As discussed in Chapter 2, the specific factors of discipline, SES, and being the child of military family have been explored as separate factors related to resilience outcomes, with mixed results. It is imperative to understand what causes different resilience rates in veterans so that an intervention can be developed to help improve resilience long before the soldier is exposed to adverse events.

Research Questions

The following are the research questions and hypothesis for this study:

- Research Question 1: Is there an association between parental discipline style on a child and their resilience level as an adult veteran?

  H_0: There is no statistically significant association between parental discipline style on a child and their resilience level as an adult veteran.

  H_1: There is a statistically significant association between parental discipline style on a child and their resilience level as an adult veteran.

- Research Question 2: Is there an association between childhood SES status and resilience level as an adult veteran?

  H_0: There is no statistically significant association between childhood SES status and resilience level as an adult veteran.

  H_1: There is a statistically significant association between childhood SES status and resilience level as an adult veteran.

- Research Question 3: Is there an association between being a child of a military veteran and level of resilience as an adult veteran?

  H_0: There is no statistically significant association between being a child of a military veteran and level of resilience as an adult veteran.

  H_1: There is a statistically significant association between being a child of a military veteran and level of resilience as an adult veteran.

Participants filled out a short questionnaire of demographic data that included questions about their prior service and whether they have a parent that served in the military. The remainder of the data collection consisted of the use of pretested, validated, and reliable measurement tools obtained from PsycTESTS database. The variable of resilience was measured using the resiliency scale created by Siu, Hui, Philips, Lin,

Wong, Tze-wai, and Shi (2009). This scale uses a Likert-type rating with nine questions that address different aspects of resiliency. The harsh discipline scale created by Simons, Whitbeck, Conger, and Wu (1991) measured parental discipline style. This scale is also a Likert scale asking four questions relevant to parental discipline style. The final variable of SES was measured using the economic disadvantage scale-7 item version created by Beaver and Wright (2007). This scale is a rating scale with seven questions about family income and living status. Answers on the questionnaires were compared using statistical methods such as Mann-Whitney, Wilcoxon rank-sum, Kruskal-Wallis, and ordinal logistic regression tests to determine the relationship between each variable and all the variables combined. Other variables that could be potential confounders or moderators such as number or deployments, PTSD diagnosis, or TBI history have been analyzed and controlled in the analysis.

Theoretical Framework

I used a theoretical framework and a conceptual framework in this study. The theoretical framework was social cognitive theory (SCT) and the conceptual framework was the less know theory of psychophysiological toughness proposed by Dienstbier (Bandura, 1998; Dienstbier, 2015). The SCT states that people are influenced by what they see, their life experiences, and social interactions (Glanz, Rimer, & Viswanath, 2008). Self-efficiency is a main factor in this theory in that as long as people believe that their actions can have an effect they will act in a such a way as to cause the effect (Bandura, 1998). Without this belief in self-efficiency, people will lack the motivation needed to create changes, or effectively face adversity. With regard to mental health, SCT and the belief in self-efficiency are used to explain how a person is able to move past

tough life situations or face trauma without developing PTSD or other mental health issues (Benight & Bandura, 2004). Bandura (1998) explained that one way of creating self-efficacy is through experiences. This part of the SCT is what leads to the use of Dienstbier's theory of toughness. The theory of psychophysiological toughness proposed by Dienstbier (1989) has also been referred to as stress inoculation theory and the steeling effect (Seery & Hughes, 2012). Dienstbier's theory proposes that resilience in adulthood is built through exposure to adverse events in childhood with certain criteria such as adequate recovery time between adverse events and a support structure to help get through the events (Dienstbier, 1989). This theory simply states that a child who has exposure to minor ACEs with a solid support system should be better able to handle adversities in adulthood, thus having developed a higher level of resilience. As further expanded in Chapter 2, I used these two theories as theoretical lenses to explore how parental discipline style, SES, and being the child of a veteran affects the development of resilience into adulthood.

Nature of the Study

My study was quantitative in nature and I used a nonexperimental observational survey design. Quantitative studies are used to determine a numeric relationship between variables and can be used to test a theory (Creswell, 2009). This study is observational because I did not conduct an intervention or experiment. Study participants were volunteers from local veterans groups and social media. The key study variables were resiliency level, parental discipline style, SES during childhood, and growing up as a military child. Resiliency level was the dependent variable. Discipline style, SES, and being the child of a veteran were the independent variables. These variables were

compared with resiliency level to determine whether a relationship existed. I collected the data using previously described survey instruments and analyzed the data using several statistical methods.

Definitions

Adverse childhood event (*ACE*): *ACE*, which includes any event during childhood that could be potentially traumatic and have a negative effect on health such as physical, mental, or emotional abuse, living below poverty standards, bulling, death of a family member or friend, incarceration of a parent, parental divorce, and other event that a child perceives as traumatic or adverse.

Depression/depressive disorders: Includes mood disorders, major depressive disorder, chronic depression, manic depressive, postpartum depression, seasonal depressive disorder, and bipolar disorder, are persistent feelings of sadness, loss of interest in things that used to be enjoyable, mood swings, changes in sleep patterns and appetite, and a general feeling of despair with or without a distinct or perceived reason for such feelings.

Military child: A child who grew up in a household with one or both parents actively serving in the military or one or both parents who were veterans of the military.

Parental discipline style: The type of discipline used by one or both parents during childhood, including administering “time-out”, standing in a corner, grounding to a room, spanking, slapping, hitting with an object such as a belt, and/or taking away objects such as video games/toys, as a punishment for some type of wrong committed by the child.

Posttraumatic stress disorder (*PTSD*): Posttraumatic stress disorder (PTSD) is a mental health illness that develops after experiencing or witnessing a traumatic or life-

threatening event such as abuse, combat, natural disaster, or other life threatening circumstance.

Social cognitive theory (SCT): Social cognitive theory (SCT) is a theory that posits that people learn by watching others and that a personality is formed based on the social environment that a person was exposed to throughout early life.

Socioeconomic status (*SES*): Includes family income level, housing arrangements, size of family, and the use of social services.

Suicide: When someone intentionally takes their own life through lethal means of self-injury.

Suicide attempt: When a person attempts and fails to take their own life through lethal means of self-injury.

Suicide ideation: Also known as suicidal thoughts, when a person thinks about killing themselves whether in detailed plans or just the act of considering performing self-harm with the attempt to end life.

Veteran: Any person who served in the Armed Forces of the United States for an amount time that qualified that person to receive a discharge document such a Department of Defense (DD) Form 214 or retirement certificate.

Assumptions

I assumed that all participants answered the survey questions accurately and honestly. Considering the nature of the questions asks adults to remember aspects of childhood, recall-bias was a potential issue for this study. Experimental study designs are stronger than those of a nonexperimental designs when examining internal validity (Frankfort-Nachmias &

Nachmias, 2008). Due to the nonexperimental, correlational nature of this research, causation determination was not examined.

Scope and Delimitations

I chose the three specific ACEs for this study because I identified a gap in the research. Pervious researchers have focused on ACEs that are considered major life events, whereas smaller ACEs have been grouped into categories with these more seriously studied events (Bellis et al., 2014). Using the theory's that are discussed in more detail in Chapter 2, it may be beneficial to truly understand how specific minor adversities affect adult resilience (Seery & Hughes, 2012). I chose the specific veteran population for this study because suicide in the veteran population has been an issue for many years and continues to be an issue regardless of intervention programs during service and those offered by the Veteran Affair (VA) Administration (Ashrafioun et al., 2016). The results from this study may not be generalizable due to the population being specifically army veterans.

Limitations

This study had several limitations. First, as previously discussed, the results may not be generalizable to the general population because the participants were army veterans only. A second limitation was the use of surveys that have questions about the veterans' past childhood events. This may have introduced recall bias. A third limitation as the use of self-administered surveys. Not all participants can be expected to remain honest on these surveys. I addressed these limitations by explaining to all participants that their answers to the surveys would remain anonymous. A final limitation was selection bias, because all participants would be volunteer only and had to meet the requirement of

being a prior army soldier. I also address limitations by statistically comparing the results of the surveys and excluding all identified outliers.

Significance

The significance of this research could help in understanding how minor adversities in childhood affect how adults develop resilience. As previously discussed, the role of ACEs on the development of resilience is disputed by many researchers, as some have been shown to cause mental health issues in adults, while have been shown to help build resilience in adults (Logan-Greene et al., 2014; Nurius, Green, Logan-Greene, & Borja, 2015b; Tsai & Rosenheck, 2013) Dienstbier (1989) hypothesized that a child will develop better resiliency and coping skills as an adult is they are exposed to adversities in childhood and are given the proper tools to overcome the adversity on their own. Seery and Hughes (2012) validated this hypothesis in their research on ACEs. In this study, I explored this hypothesis by looking at the specific events of discipline styles, socioeconomic status, and being the child of a veteran. If resilience level is dictated by specific childhood experiences, then this information can be used by public health and military officials to better evaluate the mental health of soldiers and veterans and understand how much resiliency training they may need.

Social Change

In keeping with Walden University values and perspectives on social change, my research findings have few social change implications. The military is a respected and needed part of American society and to know that soldiers are taking their lives because of reasons beyond the control of public health officials is devastating. Factors such as

combat exposure, TBI, survivor's guilt, and simpler adversities such as financial hardships, divorce and family issues all plaque our soldiers and affect their mental health and readiness (Nock, et al., 2013). Some of these factors can be controlled and soldiers can be educated on how to better their lives and how to resist depression and stress by building resiliency. But these factors are all related to being an adult as well as a soldier. What can be done about adversities suffered as a child? If this research shows that ACEs do have a negative relationship with adult resilience level, this would apply to soldiers and civilians. Public health leaders could devise ways to help prevent certain ACEs or develop programs for children who are at risk for these specific ACEs so that their resiliency levels are not affected, and they can be mentally healthy adults. If these ACEs are shown to have a positive relationship with adult resiliency levels, more research would be needed to discover what type of positive affect these ACEs are having and how can they be applied to all children. Ultimately the goal is to reduce anything in childhood that causes low resiliency levels in adults so that the rates of depression and suicide can be decreased in the military and throughout the country.

Summary

Veteran suicide is a public health issue that has been in the spotlight in recent years focusing on more research with little results in finding a solution (Ashrafioun et al., 2016). Resilience research has become popular as the understanding of resilience and how it affects mental and physical health has become more evident. The army has instituted many program to help soldiers build resilience to combat PTSD with mixed results, indicating that resilience may need to be learned at an earlier age to serve as a protective factor (Marriott et al., 2016). Current researchers have focused on how

adversities in childhood affect resilience of adults, also with mixed results. In this research, I aimed to fills the gaps in the current research and validate whether minor ACEs have a positive or negative effect on the development of resilience into adulthood.

Chapter 2: Literature Review

In Chapter 2, I review the current and relevant research on the topic of ACEs and how they relate to resiliency and mental health. I review specific literature that pertains to veterans, and the three childhood adversity topics of discipline, socioeconomics, and being a child of a veteran, and I compare the extant literature to establish a thorough background of the relevancy of this study and to establish how this topic is related to public health. I conducted this literature review by searching for relevant peer-reviewed journals using multiple databases that include Science Direct, Academic Search Complete, ProQuest Central, Medline, CINAHL, PubMed, PsycInfo, SocINDEX, PsycARTICLES, *American Journal of Public Health*, SAGE Journals, and Google Scholar. I used the following keyword strategy each database: *Veterans* AND *resilience*, *adverse childhood events* AND *resilience*, AND *mental health*, *adverse childhood events* AND *veterans*, *children of veterans* AND *mental health* AND *resilience*, *corporal punishment* AND *resilience* AND *mental health*, *spanking* AND *resilience* AND *mental health*, *Steeling theory*, *inoculation theory*, *toughness theory*, *time out* AND *resilience* AND *mental health*, *discipline* AND *resilience* AND *mental health*, *toughness* AND *resilience*, *mental toughness* AND *resilience*, *mental toughness* AND *veterans.* As a secondary search method, I reviewed the reference section of all relevant articles to find other related research articles. I used Ulrich's *Periodicals Directory* to ensure all research used in this study was peer reviewed.

Background

Suicide in the general population has become a public health focus in recent years as it has become the tenth leading cause of death in the United States (Curtin, Warner, & Hedegaard, 2016). As with the general population suicide in the military population has also steadily increased since 2001 (Anglemyer, Miller, Buttrey, & Whitaker, 2016). This population includes current military veterans who have a suicide rate of approximately twenty per day or 50% higher rate compared with the civilian population in the United States (Ashrafioun et al., 2016). Rate increases for military and veterans are most often attributed to the ongoing war campaigns in the Middle East since 2001 that have caused an increase in PTSD as well as other forms of depression brought on by strained family relations, finances, serious injuries, and multiple deployments (Nock et al., 2014). In 2009 the Army started resiliency training based on research that building resilience in soldiers would provide a protective factor against PTSD and other forms of depression (Bryan, Jennings, Jobes, & Bradley, 2012). Regardless of such training, suicide rates have not changed among the active duty or veteran populations (Anglemyer et al., 2016). This leads to t questions, can resilience be taught or is a trait that we're born with?

There are many ideas and much research available on the aspects of resiliency. Rutter, (2006) defines resilience as "…an interactive concept that refers to a relative resistance to environmental risk experiences, or the overcoming of stress or adversity." Hourani et al., (2012) also provides a definition of resilience explaining that it is a multidimensional characteristic that varies from person to person based on many different facets of life to include age, gender, culture, and can change throughout time. Resilience

is not a linear concept as it changes based on life experiences from birth through adult hood (Church et al., 2016). Researchers however differ on what causes resilience. Is it a trait that some are just born with or can it be taught? Researchers have explored how early life exposure affect resilience levels in adults with mixed results (Liu et al., 2017; Shiner, Allen, & Masten, 2017). Most of the studies reviewed focus on how childhood adversity such as physical abuse, sexual abuse, and mental abuse affect later mental health and resilience. Research on smaller adverse events such as parental discipline style, socioeconomic status, and being the child of veteran are limited and filled with many gaps.

The current research on the association between ACEs and adult mental health is inconsistent in many areas of ACEs, but overall shows that there is a predictive positive relationship between cumulative ACEs and depression (Poole et al., 2017a). Experiencing an abundant amount of ACEs has been found to cause permanent negative changes to the big five personality traits as one becomes and adult leading to an inability to learn resiliency or other positive coping behaviors (Shiner et al., 2017). Not all research however has found a positive association between ACEs and adult resilience. In some studies adults with exposure to some ACEs were found to have higher levels of resilience indicating that some children can adapt well to early life stressors and build resilience against future adversities and potential mental health issues (Liu et al., 2017). In military members who are deployed exposure to ACEs was predictive of PTSD symptoms (Choi et al., 2013); however, in the same population, researchers have found that resilience acted as a moderator between ACEs and PTS symptoms (Poole et al.,

2017b). Higher levels of ACE exposure in adults has also been linked with increased drug use, alcoholism, and depression (Bellis et al., 2014). The mixed results between different researchers and which ACEs they used in their studies shows gaps and inconsistency in the field of resilience and how it relates to ACEs. The consensus in most of the reviewed literature is that more research needs to be done on specific ACEs and how they relate to adult resilience (Bellis, Hughes, Leckenby, Perkins, & Lowey, 2014; Choi et al., 2013; Liu, Reed, & Girard, 2017; Poole, Dobson, & Pusch, 2017a)

Theoretical Foundation

The foundation that is used for this research is the social cognitive theory. The multidimensional construct of resilience fits into this framework as it applies to how people use their prior belief system to formulate how they respond to environmental and life experiences (Bandura, 1998). SCT is based on the social-structural determinant of health and is often used in public health as a framework to change people's perceptions so that healthier habits will be adopted leading to healthier outcomes (Bandura, 1998). Glanz, Rimer, and Viswanath, (2008) explain the SCT is needed as a general framework when working to adopt positive social change in a population.

The second more controversial theoretical framework that I am using for this research is Dienstbier's theory of mental toughness established by Richard Dienstbier in 1989. Dienstbier's theory explains that resilience is built through continuous exposures to adverse events in childhood as long as there is positive recovery time in between the events (Dienstbier, 1989). This theory has also been called steeling theory or inoculation theory (Dooley et al., 2017). Research into this theory has shown that resilience is related

to ACEs statistically using a "U" curve (Seery & Hughes, 2012). Researchers have noted that those adults who had a large amount of ACE exposure with no recovery between events and those adults who had very little to no exposure to ACEs both showed the same decreased level of resilience in adulthood, while those children who faced ACEs at a moderate level with positive recovery periods in between events showed a high level of resilience and mental toughness into adulthood (Seery, Leo, Lupien, Kondrak, & Almonte, 2013). This theory posits that sheltering children from adversity causes the same amount of mental distress into adulthood as children who have no break from adverse events (Dooley et al., 2017). Dienstbier and Zillig, (2016) stated that some minor adverse events in childhood are needed for children to develop healthy coping strategies and resilience so that when adverse things happen in adulthood such as losing a job, or ending a relationship, the adult has the ability to adjust and bounce back.

The framework of this theory could help explain why depression and suicide rates in the general population and the military have increased so much in the last twenty years. As regulations continue to promote limiting childhood adversity by banning all forms of corporal punishment, giving participation trophies, regulating playtime, and the constant coddling from parents that includes rarely telling children No, children are growing up with no coping skills to perform in the real world (Seery & Hughes, 2012). On the other end of the spectrum, the economy, and consistent increase in one parent households or households with two working parents is causing children to face a vast amount of constant early life stressors with poverty, bullying, homelessness, and parents who are abusive drug or alcohol users. This constant exposure to ACEs causes a child to form maladaptive coping skills making them less resilient adults (Dooley et al., 2017).

Children with moderate exposure to ACEs who have a positive recovery period between events appear to fare better as adults with healthy coping skills and resilience against depression and other mental health issues (Dienstbier, 2015). Dienstbier's theory is a novel approach to how resilience is developed in the young mind and how coping strategies are used once these resilient children become adults. Understanding how early life stressor affect the development of resilience into adulthood in a necessary step in controlling the rates of depression and suicide.

ACEs and Resiliency

As stated previously much research has been done on how general ACEs affect resilience and mental health in adults. The majority of research found focuses on extreme adverse events such as physical or sexual abuse (Liu et al., 2017). The research that this section of the review focuses on is specific to moderate ACEs only, and their relationship with resilience. Dienstbier formulated his theory around exposures to moderate ACEs and hypothesized that this exposure would lead to development of more resilient adults (Dienstbier, 1989). In today's environment childhood adversity is very common with high divorce rates, high poverty rates, high homelessness, lack of quality health care, and so on, and has been associated with negative health affects in adulthood such as depression, anxiety, and suicide (Nurius et al., 2015a). ACE exposure has been found to affect how personality traits are developed over time showing that adversity has a negative effect on specific traits such as neuroticism and agreeableness, and that personality traits are affected by life experiences indicating that resilience as a personality trait could be influenced by ACEs (Shiner et al., 2017). Resilience could be a moderating variable between ACEs and mental health outcomes as shown in a population based

study that used four different birth cohorts ranging in age from eighteen to seventy-nine (Logan-Greene et al., 2014). The younger cohort group experienced higher levels of ACEs and poorer health as adults as well as less education and income that the older cohorts (Logan-Greene et al., 2014). The implications of this research showed that when children had access to resilience resources, they handled ACEs better and had more positive life experiences into adulthood. It may also be possible that early exposure to life stress can act as a buffer against late life stress (Shapero et al., 2015). When a child is exposure to moderate levels of ACEs that exposure can act as a protective factor against depression in adults (Shapero et al., 2015). Harris, Brett, Starr, Deary, and McIntosh, (2016) also explored moderate ACEs and their relationship with adult health outcomes. Their research corroborates other studies cited in this review in that the results indicated that exposure to stress in early life provided an inoculation effect against stress in later life. Participants that experienced moderate ACEs had higher resiliency scores as adults while still facing many life stressors (Harris et al., 2016). While these studies seem to be inconclusive about whether ACEs help to build resilience or cause higher rates of psychological distress in adulthood, they all agree that more research is needed on specific ACEs and their relationship to building resilience.

Parental Discipline Style as an ACE

Parental discipline style could be considered a moderate ACE as proposed by Dienstbier's theory in that minimal or no discipline would be related to no adversity, while moderate discipline such as spanking would be related to mild adversity, and physical abuse would be related as a harmful adversity. Using his framework, the hypothesis for how parental discipline style is related to mental health would be that

some discipline such as spanking would lead to more resilience while no discipline, or physical abuse in childhood would lead to less resilience in adulthood.

There continues to be mixed conclusions on whether corporal punishment or spanking a child should be considered an ACE. Many researchers over the past 30 years have concluded that physical abuse and corporal punishment are related when measuring the effects of these variables on adult mental health outcomes (Gershoff & Grogan-Kaylor, 2016). In most studies on the effects of spanking in early childhood on adult mental health outcomes, researchers have shown that spanking is a popular form of aggressive punishment throughout the world, and when lumped with physical and emotional abuse has a positive significant association with negative mental health outcomes in adulthood (Gershoff & Grogan-Kaylor, 2016).

Corporal punishment including spanking and physical abuse in ten your old children is associated with negative outcomes in adulthood (Tallieu & Brownridge, 2013). The participants in this study reported small levels of corporal punishment and physical abuse at ten years old, had a lower than average level of depression, average levels of anxiety and high level of self-esteem. Tallieu and Brownridge, (2013) discovered that most participants who indicated they were spanked as children also reported other higher levels of physical abuse and these participants were more likely to experience depression as adults. They were unable to discern a difference between corporal punishment and physical abuse in most participants leading to confounding of the results. They concluded that corporal punishment does have an association with adult mental health however, other factors need to be accounted for when measuring the effect between corporal

punishment in childhood and the effect on adult mental health outcomes (Tallieu & Brownridge, 2013). Whereas these results are consistent with other studies on how spanking is related to mental health it was also consistent in that spanking was grouped with physical abuse. Other researchers who attempted to measure spanking as a separate ACE from physical abuse and other aggressive parental discipline styles have also produced inconsistent results. Okuzono, Fujiwara, Kato, and Kawachi, (2017) found that spanking toddlers did not correct behavior problems in children; it was significantly associated with more behavior problems. They concluded that it was possible that increasing behavior problems in children through spanking could lead to increased behavior and mental health problems later into adulthood. In Merrick et al., (2017) the researchers studied the effects of spanking to justify including spanking as an ACE for future research on how ACEs effect mental health. Their results seemed to be inconclusive although they explained that people who reported being spanked as a child had an increased risk of negative adult outcomes such as drug use, alcohol abuse, depression and suicide attempt. However, after adjusting for other ACEs they found that the there was no significant relationship between spanking and adult depression or suicide attempt (Merrick et al., 2017). There was still a relationship with a moderate effect size between spanking and adult drug use and alcohol abuse. Afifi et al., (2017) also studied the idea of adding spanking as an ACE and found comparable results. The researchers discovered that before adjusting for physical and emotional abuse, spanking was positively associated with depression as an adult, but after adjusting for those variables there was no longer a statistical significance between spanking and depression.

As described in the meta-analysis by Gershoff & Grogan-Kaylor, (2016) research into the effect of spanking on adult mental health is consistent in that most researchers have shown a positive relationship between childhood spanking and depression as an adult. However, when critically examining the results of these research studies, most show that when adjusting for other ACEs such as physical abuse, the relationship between spanking and mental health is inconclusive. In the literature review of this topic I was unable to find any relevant peer reviewed literature that analyzed spanking using Dienstbier's theory as framework.

Socioeconomic Status as an ACE

There has been much research conducted on the effect of SES on health and mental health. Researchers have found consistent results that show that financially disadvantaged people have worse health outcomes that those who are financially stable (Ochi, Fujiwara, Mizuki, & Kawakami, 2014). Using Dienstbier's theory to evaluate this variable would equate very poor and very wealthy children with negative adult resiliency, while those who grow up in the middle class would be more resilient adults. The literature on this subject was very consistent in that lower SES was directly related to poorer mental health outcomes. However, some researchers found that while childhood SES was related to adult mental health, education level seems to moderate the relationship between the two variables (Andersson & Vaughan, 2017; Lê-Scherban, Brenner, & Schoeni, 2016). Adults who grew up with financial strain and who were less educated have been found to have higher levels of negative mental health outcomes while those who attained higher education were more resilient as adults regardless of childhood financial strain. Those

who did not suffer financial strain but were undereducated had less protection from depression as adults than those who were financially disadvantaged (Andersson & Vaughan, 2017). The researchers showed that those who grew up poor seemed more likely to attain higher education which in turn caused them to be more resilient than those who grew up wealthy. The researchers did not consider whether SES status was related to education level but predicted that those who grew up poor were more likely to go to school to avoid being poor themselves, while those who grew up wealthy felt no need to attain an education as they already had money and a stable life. Ultimately, those who thought they needed no more education because they had wealth were more likely to develop depression as adults (Andersson & Vaughan, 2017). Lê-Scherban, Brenner, and Schoeni, (2016) conducted similar research and found that higher SES in childhood was associated with lower risk of depression in adulthood when education was not controlled. As with the previous researchers, they found that higher childhood wealth with lower education was significantly associated with higher rates of psychological distress in adulthood (Lê-Scherban et al., 2016).

Further studies into how SES is related to mental health are consistent without regard to education. Salom, Williams, Najman, and Alati, (2014) explored how SES during pregnancy affected the mental health outcomes of adults and found that adult depression was significantly related to prenatal SES of mothers. Children who were born from mothers who were financially disadvantaged during pregnancy were more likely to experience mental distress as adults (Salom et al., 2014). Lindström, Fridh, and Rosvall, (2014) and Ochi, Fujiwara, Mizuki, and Kawakami, (2014) also found that economic

stress in childhood was significantly related to poor mental health and lifetime risk of developing mental disorders. Social adversity such as growing up in a single parent household and residential instability in low SES children also significantly predicted poorer mental health outcomes in adults (Björkenstam, Pebley, Burström, & Kosidou, 2017).

The research into how childhood SES is related resiliency in adulthood is consistent when education is not associated. Children from wealthier families tend to have better adult health and mental health outcomes than those who come from poor families. While this review was consistent, none of the studies found focused on outcomes of middle-class children. The research seems to address those who are below the poverty level and those who are well above middle class in their evaluations of SES and mental health. There is still a large gap in understanding how middle-class children are affected into adulthood.

Children of Veterans as an ACE

Military families are a complicated group when looking at adversities as they face more challenges in a military community than the average civilian family with multiple parental deployments, constantly moving and changing schools, as well as financial stress (Nelson, Baker, & Weston, 2016). The most recent demographic data show that's approximately 42% of United States military personnel have children (Alfano, Lau, Balderas, Bunnell, & Beidel, 2016), averaging over one million military dependent children total (Mustillo, Wadsworth, & Lester, 2016). With the increase in war time deployments for operations in Iraq and Afghanistan since 2001 military families have

become a large source of research into resiliency and mental health (Alfano et al., 2016). Several aspects of military family life can be equated to ACEs, such as an increased rate of family instability and parental separations or divorce, domestic violence, and increased risk of child abuse or neglect (Saltzman et al., 2011). Oshri et al., (2015) explored how ACEs effected the military families compared with civilian families and found that military families that were ridged and had structured routines with the children had better family cohesion and this served as a protective factor against the ACEs experienced by the parents when they were children and the current children of the family. Living in a family environment that had positive support functions, with adequate discipline, and clearly defined rules acted as a buffer against the challenges of military family life (Oshri et al., 2015). This was the only study that showed a positive relationship between military family life and resilience. It is possible that evaluating the ACE aspect in the lens of the family unit over the individual is what caused the inconsistent result as compared with other research.

Throughout all the current research reviewed the most common theme was the association between parental deployments and childhood mental health. Epidemiologic records have shown that there is an increase in outpatient mental health services for children ages 3 to 8 years during deployments as well as a 17% increase in prescription antidepressants for children and 10% increase in prescription anti-anxiety medications for children during parental deployments (Alfano et al., 2016). Youth who had a parent or sibling in the military were found to have an increased risk of mental health issues and suicide ideation (Cederbaum, Gilreath, Benbenishty, Astor, Pineda, DePedro, et al.,

2014). Surprisingly, the children with a sibling in the military were found to have a higher incidence of suicide ideation than those with a parent in the military. It is possible that the increase in mental health issues of these children was induced by instability in the home brought on from multiple deployments and relocations as well as helping the left-behind parent with stress and household responsibilities (Cederbaum, Gilreath, Benbenishty, Astor, Pineda, Depedro, et al., 2014). These results were consistent with research conducted by Gilreath et al., (2016) who found that suicide ideation was highest with military connected youth. Youth with a military connection, whether it be a parent or sibling, was found to be a statistically significant predictor of suicide ideation and suicide attempts as compared with a similar civilian population of youth (Gilreath et al., 2016). Contrary to the research presented from Cederbaum et al., (2014) and Gilreath et al., (2016), other researchers found that age confounds the relationship between military deployments and children mental health (Mustillo et al., 2016). Children ages 0 to 5 years old did not show an association between mental distress and deployment of a parent. There was however a significant correlation between parental deployment and higher risk of anxiety in children aged 3 to 5 years, and higher risk of emotional and peer problems in children aged 6 to 10 years (Mustillo et al., 2016). The researchers' report that the effect sizes in this research was moderate, indicating that military children may have a natural higher level of resilience compared to their civilian counterparts.

Many researchers have shown that it is a valid construct to consider being the child of a veteran as an ACE when evaluating mental health issues. The literature evaluated for this review show that children of current and former service members face a wide variety

of adversities that are not comparable to the adversities that civilian children face. However consistent the research is on the effect of being a military child, I could not find any research on the mental health of current adults who were military children. It appears no one has followed how adults fair in the world after leaving their military family, whether they to join the service or peruse other options in life. The most current data available show that approximately 79% of new military recruits reported having a family member (parent, sibling, grandparent, aunt/uncle, or cousin) who served in the Army, 82% in the Navy, 77% Marine Corps, and 87% Air Force (U.S Department of Defense, 2013). Knowing how being a military child affects the resiliency level of adult veterans is an important question for public health professionals considering the large population of military members who report having a parent that served.

Veterans Resiliency as Related to ACE's

The connection between ACEs and adult mental health is clear in that research has proven ACEs have a direct impact on how personality and coping skills develop regardless of which theory one believes in. This connection has also been studied in veterans, although limited, to discover the root causes of the steady rate of depression and suicide in this population despite current programs aimed at reducing such deaths (Ashrafioun et al., 2016). Researchers have found correlations between combat and mental health, but the effects were small indicating that combat exposure alone does not account for the high prevalence of veteran suicide (Applewhite et al., 2016). There are several studies on how ACEs in veterans is related to resiliency while controlling other factors such as PTSD and combat exposure. Many researchers conclude veterans report

higher rates of ACEs than the general population (McGuinness & Waldrop, 2015), and that enlisting in the military may be a way for people to escape poor family, social, and home environments (Blosnich, Dichter, Cerulli, Batten, & Bossarte, 2014). Exposure to ACEs has been linked to depression and anxiety in in military members after a combat deployment. However, as with other studies on specific ACEs in the general population, ACE research in military members and veterans is inconsistent. In one study of a population that consisted of 83% veterans reporting exposure to some form of ACE, there was no significant association with combat related mental health issues (Applewhite et al., 2016). Whereas another researcher showed a strong association between exposure to ACE and depressive and cognitive issues in an sample of veterans who served during Iraq and Afghanistan wars (Youssef et al., 2013). Montgomery, Cutuli, Evans-Chase, Treglia, and Culhane, (2013) found that the relationship between mental health issues and ACE exposure was stronger in people who reported having served on active duty in some military service. In a cross sectional study involving 204 soldiers, 46% reported they suffered some form of childhood abuse, whereas 25% reported they were exposed to childhood sexual abuse (Seifert et al., 2011). Those who reported abuse did not show a significant difference in depression and alcohol use than those who did not report abuse, however they did exhibit more severe PTSD symptoms than the not abused population (Seifert et al., 2011).

As with previous studies on ACEs the main focus of the research on veterans was on severe ACEs such as physical and sexual abuse. I found limited recent research on how ACEs effect the resilience levels of veterans as most of the research found seemed to

focus on homelessness and those receiving health care from Veterans Affairs (VA) hospitals. Most of the articles reviewed explained that more research into how individual ACEs effect resiliency in veterans was needed for future research. There was a large gap in this area of research as I was unable to find anything that specifically looked at veterans past associations with discipline, SES, and how being a child of service member affected future development of resilience.

Conclusion

Suicide and depression among the U.S. Veteran population is an increasing concern for public health professionals (Church et al., 2016). Rates of PTSD among veterans who served during war time after 9/11 have increased despite multiple resilience training and skills building interventions conducted in-service and through the VA (Denckla, Bailey, Jackson, Tatarakis, & Chen, 2015). While there have been many research studies that explore how exposures to ACEs affect the development of resilience in adults, they have mostly focused on extreme cases such as physical or sexual abuse and are limited in the realm of veterans. Even fewer recent and relevant studies were found on the specific ACEs that are proposed in this paper. The relevant research found on parental discipline style largely looked at spanking and physical abuse, with many conclusions stating that childhood spanking did cause lower resilience levels in adults, however when adjusted for physical abuse, this correlation was not strong in almost all of the recent studies reviewed (T. O. Afifi, Mota, MacMillan, & Sareen, 2013; Gershoff & Grogan-Kaylor, 2016; Merrick et al., 2017). According to Dienstbier's theory of toughness, spanking as defined as an open hand hit on a child's clothed bottom, for discipline purposes only,

should not cause any future mental health or aggression issues (Dienstbier, 2015). Researchers however have found that spanking is often accompanied by more physical aggression and agitation by the parent and is not delivered in a consistent manner (Okuzono et al., 2017). Therefore, understanding the parental discipline style is important in ACE research with veterans. The literature reviewed on SES as an ACE was fairly consistent and showed a strong correlation between SES during childhood and future resilience (Björkenstam et al., 2017; Ochi et al., 2014; Salom et al., 2014). As with parental discipline style there lacked research on this ACE as it relates to veterans and to middle class individuals. Using Dienstbier's theory, middle class children should fare better with resiliency than those of the lowest and highest SES (Dienstbier, 1989). I did not find literature that explored this concept in the general population or veterans. Finally, research on being the child of veteran also produced mixed results, with some researchers finding that children of service members and veterans had higher suicide ideation and attempts, but that they were also more resilient than civilian children with similar exposures to other ACEs (Alfano et al., 2016; Cederbaum, Gilreath, Benbenishty, Astor, Pineda, DePedro, et al., 2014; Oshri et al., 2015). This research also did not look into the resiliency level of adults who were military children. With the statistics showing that one quarter of all military members have a parent or sibling that is currently serving or is a veteran, it is important to understand how being the child of a veteran affects future development of resilience (U.S Department of Defense, 2013). Exploring how these three variables effect the resilience level of veterans could help public health professionals have a better understanding of what causes PTSD and other mental health issues in veterans and develop effective intervention strategies to prevent these issues.

Understanding how these variables affect veterans can also have an impact on how the military recruits new members and how these members are trained and treated in future resilience training.

Chapter 3: Research Method

Introduction

My purpose in this study was to explore how specific ACEs affect the resiliency level of adult army veterans. Previous researchers have found positive and negative relationships between ACE's and resilience (Bandoli et al., 2017; Dooley et al., 2017). In this study, I used a qualitative observational methodology using data collected on specific demographics and two different questionnaires the harsh discipline scale and resiliency scale that will be discussed in more detail later in this chapter. The target population was recently retired or discharged army veterans recruited from several different veterans' organizations in Jefferson, Meade, and Hardin Counties in Kentucky. In this chapter, I cover, in depth, the research design, variables, methodology, recruiting and sampling procedures, instrumentation, threats to validity, and ethical concerns.

Research Design and Rationale

The design of this study is quantitative survey research that is observational in nature. The independent variables as previously discussed are parental discipline style, childhood SES, and being a child of a veteran/service member. The dependent variable is current resilience level. There are several potential covariates, or moderating/mediating variables including number of deployments, PTSD diagnosis, Traumatic Brain Injury (TBI) diagnosis, physical abuse, homelessness, drug or alcohol abuse, or current SES. Quantitative survey research is used to give a numerical value to attitudes and behaviors of the specific population being studied and fits well with this research because it allows a numeric comparison and examine statistical associations between the independent variables and dependent variables, as well as allow the potential covariates and

moderators to be adjusted out of the statistical analysis (Creswell, 2009). Observational research methods have been used in the social sciences for many years because it allows researchers the chance to observe behaviors and actions in real time (Frankfort-Nachmias, Nachmias, & DeWaard, 2015). The use of survey methods allows for less time constraints and limitations with the intended population.

Methodology

In my research, I used a specific population with a convenience sampling strategy. The target population consists of army veterans who are either retired or discharged from the army for any reason. The population was recruited from several different veterans' organizations located in or near Louisville, Kentucky. These organizations include the American Legion, the Radcliff Veterans Center, USA Cares, Veterans Community Alliance of Louisville, and local Veterans of Foreign Wars (VFW) posts located in Radcliff, Elizabethtown, Irvington, and Louisville. The sampling strategy of convenience sampling was used because the population of this study must be volunteers and they must be former army service members. Since the nature of this study is a sensitive topic revolving around mental health, it is imperative that the participants are well informed about the parameters of the study, understand that the information they provide is completely anonymous, and are willing to volunteer their time to answer the surveys and demographic questionnaires.

Sample Size

G*Power was used to determine the sample size for this research. The G*Power program gives a researcher many different choices when calculating needed sample sizes by making available several types of statistical tests and allowing a choice in power,

effect size, and alpha numbers. The power of a statistical test represents the probability that the study will detect and effect when there is an effect, and reject the false null hypothesis (Ellis, 2010). The greater the power the less likely there will be type 2 errors in the results. Type 2 errors are false negatives, meaning an effect is not detected when it is there (Forthofer, Lee, & Hernandez, 2007). When determining a sample size the power calculation that is most often used by researchers is 80% (Ellis, 2010). Using 80% means that there is only 20% chance that an effect will not be observed when it is present thereby reducing the probability of a type 2 error. Larger effect sizes such as 90% or higher can be used and do represent more power, but will also require a larger sample size (Ellis, 2010). This study will use the standard 80% power level because using a higher power will require a larger sample size that may not be attainable within the volunteer population required.

The second variable needed for sample size calculations is the alpha. The alpha represents the probability of making a Type 1 error. A Type 1 error is seeing an effect when there is none (Forthofer et al., 2007). An alpha level can range from 0 to 1 and is traditionally set at .05 in research indicating that there is a 5% chance of having a Type 1 error (Ellis, 2010). This research will use the standard .05 alpha level to calculate the needed sample size.

The final variable needed for G*Power to calculate a sample size is the effect size. The effect size number is different depending on the type of statistical test performed. The effect size is a number that gives an indication of the size of effect on the results. A large effect size with a significant p-value would be indicative of a strong relationship between the tested variables while a small effect size would show that even with a

significant p-value the relationship between variable may not be significant (Ellis, 2010). This research will use a medium effect size for determining the needed sample size.

I used a couple different statistical tests further described in the analysis section of this chapter. Linear multiple regression was the test used in G*Power to determine the needed sample size. I used this test because the calculation rendered the largest sample size out of all of the tests using a power of 80%, alpha of .05, a medium effect size, and three predictors because there are three independent variables. Using these tests statistics G*Power calculated a sample size of 67. To account for potential incomplete data, biases, and other limitations in data collection, the sample population will be rounded up to at least 150 participants.

Recruiting and Data Collection

Recruiting was conducted using flyers, information pamphlets, social media, and word of mouth from the leaders of the different veterans' organizations previously discussed. Invitation flyers were distributed at the organizations and through social media. The flyer contained information about the study and my email address and phone number. Interested participants would call or email me. I sent these participates the link to the survey. The survey was conducted using the platform provided by SurveyMonkey. SurveyMonkey has a very strict privacy and confidentiality policy that is clearly detailed on their website. The questions included on the survey are taken from pre-validated scales that are explained in detail in the Instrumentation section of this paper. Once participants complete the survey, the results were generated and sent to me for further analysis and no further action is needed from the participant.

Instrumentation

There are four specific variables being collected in this research. The dependent variable of resilience level, and three independent variables of childhood SES, parental discipline style, and military child status. I used a demographic survey that collected two of the independent variables, military child status and SES, as well as potential moderators or covariates such as PTSD, TBI, or number of deployments. The third independent variable was collected using the Harsh Discipline Scale (HDS) further described in this section. The dependent variable was collected using the 9-Item Resiliency Scale (RS-9) described later in this section.

Demographic variables. The demographic survey had two parts. The first part was questions asking current age, gender, length of service, rank at retirement/discharge, and number of deployments, whether they have ever been diagnosed with PTSD, and if they have ever had a TBI. The data from this part was used to determine the potential for moderators, or covariates. Variables such as number of deployments, PTSD, TBI, or gender could potentially be moderators, mediators, or covariates. Previous researchers have found that PTSD and TBI can both be moderators when determining levels of depression or resilience (Rodin et al., 2017). Bryan, Rudd, and Wertenberger (2013) found that number of deployments and length of service could both act as covariates when measuring depression and resiliency in service members. These variables are important for this research to ensure they are controlled if needed when analyzing the results.

Measuring independent variables. The second part of the demographic data had questions about family information before the participant was 18 years old and included

family size, family income (if known), fathers' education level, mothers' education level, and whether either parent was a member of any branch of the military. The family questions were used as the independent variable of SES. The final question about parent's military status was used as the independent variable of being a military child.

Harsh Discipline Scale. The Harsh Discipline Scale developed in 1991 by Simons, Whitbeck, Conger, and Wu is a 4 item scale that asks participants how their mother or father disciplined them as a child. It was used in an original research study to determine if parents who experienced hash discipline styles as children used the same harsh discipline on their own children. The scale was given to mothers and fathers of 7th grade students, in a total of 451 two parent families. The parents were asked to first fill out the scale rating their own parents, then to fill out the scale rating their own parenting styles. The 7th graders were then asked to fill out one scale for each parent. The scales were then compared using path analysis. The authors found the coefficient alpha was .73 for fathers rating fathers. .70 for fathers rating mothers, .78 for mothers rating fathers, and .75 for mothers rating mothers. They found in the self-rating for parents the coefficient alpha was .54 for fathers and .58 for mothers. In the scales done by the 7th graders the coefficient alpha was .74 for fathers and .70 for mothers. These numbers all indicate there is a strong correlation between the harsh discipline of grandparent and how a parent disciplines their child (Simons et al., 1991). The path analysis showed for all possible models ranging from grandparent to parent to child the Goodness of Fit Index (GFI) was .975 or higher, indicating that all models fit the data well. This scale was chosen for this research because it asks the specific question about spanking or slapping. This is important as discussed in chapter 2 that most research on spanking appears to fail at

separating spanking from other physical abuses. This scale specifically focuses on discipline styles rather than physical or mental abuse. This scale will be used to determine how parental discipline affects resiliency. The four questions are:

1. When you did something wrong, how often did your mom (dad) lose her temper and yell at you?

2. When you did something wrong, how often did your mom (dad) spank or slap you?

3. When punishing you, did your mom (dad) ever hit you with a belt, paddle, or something else?

4. When you did something wrong, how often did your mom (dad) tell you to get out or lock you out of the house?

The questions are rated on a 5-point scale with 1 equal to never, 3 equal to about half the time, and 5 equal to always. The answers to the questions will be added and then averaged. The higher the score the harsher the parenting style with a low score meaning less harsh parenting. This measurement tool was found in the Walden Library Database and the permissions state that the test may be used for education purposes without seeking the authors consent.

Measuring dependent variable. The 9-item Resiliency Scale was developed in 2009 by Siu, Hui, Phillips, Lin, Wong, and Shi to study how healthcare workers cope with workplace stress. This instrument was initially developed by Siu et al., (2009) as a 10-item resiliency scale with 7 items taken from the Resiliency Self-Test created by the Army in their Hooah4Health Program in 2001. The Hoooah4Health program was used to assess soldier's resiliency and stress levels and teach better coping mechanisms (Pufal, 2001). This program has since transformed into the Global Assessment Tool (GAT) and

Master Resiliency Training (MRT) Program. Two other items on this scale were adapted from earlier research from the same authors, and the tenth item was newly formed for this specific scale (Siu et al., 2009). They used a two-wave longitudinal study to evaluate the validity and reliability of the scale. The first wave was composed of 773 participants from several different health care facilities throughout China. They gave participants the Resiliency Scale, and several other pre-validated scales to measure quality of life, work balance, job satisfaction, injuries at work and physical and psychological symptoms. They also took saliva samples from willing participants to test IgA levels with a hypothesis that IgA levels are higher in those who are more resilient (Siu et al., 2009). The second wave was conducted five months later with a total of 698 participants, 411 being part of the wave 1 and 287 new participants. They developed their survey to utilize a 6-point Likert scale to reduce central tendency bias among participants. All items on the resiliency scale correlated with the other scales and IgA tests except the one new item that was added. When that tenth item was removed from statistical analysis, there was a correlation of .40 or above with the remaining 9-item scale (Siu et al., 2009). The revised scale showed high internal consistency with an alpha of .88. Cornbach's alpha for the resiliency scale was 0.90 with a test-retest reliability of 0.68 between the two waves. This scale was chosen for use in this study because it was adapted from a scale already used on United States army personnel and has been tested to show high internal and external validity and reliability. The nine questions on this scale are:

1. I feel capable of overcoming my present or any future difficulties and problems I might face such as resolving dilemmas or making difficult decisions.

2. I have high capacity for facing adversity.

3. When there is a great deal of pressure being placed on me, I remain calm.

4. During stressful circumstances, I never experience anxiety.

5. When I have made a mistake during a stressful situation, I continue to like myself.

6. When I need to stand up for myself, I can do it easily.

7. In really difficult situations, I feel able to respond in positive ways.

8. I experience peacefulness – free of thoughts and worries, when I need to relax during stressful times.

9. I remain calm, even when I am in a frightening situation.

The scale ranges from 1 to 6 with 1 equal to very inaccurate, and 6 equal to very accurate. The 9 items are added together, and the average is calculated to determine level of resiliency. A higher score is equal to a high resilience level, with a low score meaning a low resilience level. This scale was also found in the Walden Library database and permissions listed by the author state that it may be used for educational purposes without seeking consent from the authors.

Data Analysis Plan

All the variables collected from the demographic survey and two Likert scales were calculated and categorized so that all variables are categorical and at the nominal or ordinal level for statistical analysis purposes.

Coding for covariate variables. The demographic data collected includes two independent variables and potential covariates or moderators. The potential covariate and moderator variables include age, gender, length of service, number of deployments, PTSD diagnosis, and TBI diagnosis. The age, length of service, and number of deployments are all continuous variables that can be grouped to make them categorical if

needed for statistical analysis. The gender variable will be binary, coded 0 for Male, 1 for Female. TBI will be coded 0 for "No," 1 for "Yes," and PTSD will be coded 0 for "No" and 1 for "Yes."

Coding for independent variables. The independent variable of military child status will be 0 for "No" and 1 for "Yes." It will be treated as a categorical variable for statistical purposes.

The independent variable of SES includes the variables of family size, income level, and education level of parents when the participant was a child. SES is not just family income, but also includes parents education, and family size, so all of these variables are important and must be measured together to get the full picture of SES (Lê-Scherban et al., 2016). These variables will all be measured as categorical. Family size will be measured using 0 for "3 or less members," 1 for "3-4 members," 2 for "5-6 members, and 3 for "more than 6 members". Parents education will be coded as 0 is "less than high school graduate", 1 for "high school graduate", 2 for "undergraduate degree", 3 for "master's degree or higher".

The annual level of income that qualifies as poverty, low, middle, or upper class has changed in the last 20 years and therefore is being coded and measured based on the median household income chart for 1990 to 2016 provided by the U.S. Census Bureau and Prior HHS Poverty Guidelines from 1982 - 2016 chart from U.S. Department of Health and Human Services. Using these two charts, income is separated into poverty which will be coded as 0 is "less than $15,000 per year", low class coded as 1 is "$15,000 – $45,000 per year", middle class coded as 2 is "$45,000 – $65,000 per year", and upper class coded as 3 is over "$65,000 per year".

The answers to the three socioeconomic questions will be added together and averaged to create a SES variable to compare with the dependent variable. The new SES variable range will be from 0 to 3 and will categorized and coded as 0 to less than 2 will equal “low socioeconomic status”, 2 to less than 3 will be “median socioeconomic status”, and 3 will be “upper socioeconomic status”. Each question will also be statistically analyzed separately against the dependent variable to determine if one specific socio-disadvantage causes more variance than another.

The independent variable of discipline style is measured using the Harsh Discipline Scale as previously discussed. The scale has four questions measured on a scale of 1 to 5 with 1 equal to never and 5 equal to always. The results from this scale will be added and averaged to create the discipline variable. The average score will be rounded to the nearest whole number with .5 always rounding up. The rounded scores will then be categorized the same way as the scale for each question with 1 equal to never, 2 equal to almost never, 3 equal to about half the time, 4 equal to almost always, and 5 equal to always.

Coding for dependent variable. The dependent variable of resiliency is measured using the 9-item Resiliency Scale previously discussed. The answers to the nine questions will be added together, averaged and rounded to the nearest whole number to form the resiliency variable. The range of this variable is 1 to 6, with 1 equal to strongly disagree, 2 equal to disagree, 3 equal to somewhat disagree, 4 equal to somewhat agree, 5 equal to agree, and 6 equal to strongly agree.

Statistical analyses. The statistical program IBM SPSS version 23 was used to analyze the data. The data collected for this research is mostly Likert scale data and is

therefore ordinal in nature. Some researchers do not recommend analyzing ordinal data using parametric statistical procedures (Norman, 2010). The statistical analysis of this research was completed using mostly nonparametric statistical procedures. There are several common statistical tests that can be used with categorical and ordinal data such as ordinal logistic regression, chi-squared, and Odds ratios (Sheskin, 2000). I used the Chi-squared Goodness of Fit to ensure that the data fits the model and to identify any potential outliers (Forthofer et al., 2007). The distribution of the data was tested with the Chi-Squared Test for Homogeneity. Correlations between the variables was tested using several nonparametric test procedures and ordinal logistic regression. Each independent variable was compared with the dependent variable using the Mann Whitney Test and Wicoxon's Rank Sum Test to explore differences between groups (Field, 2009). The Kruskal-Wallis test was used to compare all of the variables together to determine differences between groups (Gerstman, 2008). Ordinal logistic regression was used for hypothesis testing by testing the interactions between the independent and dependent variables to determine if the independent variables can predict the dependent variable (Laerd Statistics, 2013). As previously discussed, variables such as PTSD and TBI diagnoses, as well as number of deployments could have confounding or moderating effect on the association between independent and dependent variables. Adding and removing these variables from the logistic regression model will help identify whether they are confounders or moderators. Finally, an odds ratio was used to determine the odds of the dependent variable when given the independent variables (Field, 2009). Results of the statistical tests was determined using calculated effect sizes, p-values, Expected B values, and confidence intervals. P-vales are set at <0.05 level as significant.

Threats to Validity

Threats to validity can be external, internal, or construct and must be minimized by a researcher as much as possible (Frankfort-Nachmias et al., 2015). This proposal has several threats to validity that will need to be considered when collecting and analyzing data.

External validity threats can threaten generalizability of the results and include selection bias, confounding, experimental variables, and interference (Frankfort-Nachmias et al., 2015). This study requires the use of a very specific population creating a selection bias and threatening the generalizability of the results. Using the population of only retired or discharged army soldiers will make the results seem less likely to apply to a civilian population. Due to the nature of the job of army soldiers, preventing this bias is not possible. The general population does not have exposures to combat like the army soldier does and thus will make these results specific to military members. However, depending on what is discovered as the relationship between the tested variables, this research could be reproduced with a civilian population to determine generalizability. It is reasonable to assume that if ACEs influence the resiliency of soldiers, they will also have an effect on the resiliency of the civilian population because both populations were children and had no military experience at the time of the ACE occurrence.

Internal validity threats affect the reliability of the results and can include threats such as instrumentation bias, statistical errors, and differential selection (Frankfort-Nachmias et al., 2015). The internal threat of this study is introduced by the use of a specific target population and the inability to randomize the sample. An experimental study is the only way to control for internal validity threats (Creswell, 2009).

Construct validity is the ability for the test to measure what it was meant to measure (Frankfort-Nachmias et al., 2015). This validity threat is minimized by using pre-tested questionnaires that have been shown in previous research to be valid and reliable. Statistical procedures will also be used to ensure the measurement tools did measure the intended variables.

Ethical Concerns

Ethical concerns arise when discussing mental health and veteran populations as these topics are both considered sensitive. I did not measure mental health or ask any questions that make a participant disclose any mental health treatments, suicide ideation, or past suicide attempts. Information was provided for the suicide hotline, VA treatment centers, and other resources in the email sent to participants that gives the link for the online survey, just in case anyone is experiencing any mental distress at the time of the survey, or after they complete the survey. To further minimize ethical issues as previously stated all participants are volunteers only and the online surveys will remain completely anonymous with no identifying personal information included on the surveys.

Summary

I used a quantitative survey research design to explore how specific ACEs are related to adult resiliency in army veterans. Participants were volunteers recruited through several veteran's organizations and they received an email containing the link to an online survey that is constructed using the demographic questions, the Harsh Discipline Scale, and the 9-Item Resiliency Scale. The data was cleaned and analyzed using SPSS and several statistical tests to first ensure there is normal distribution, then to discover the relationship between the independent and dependent variables. Ethical concerns were

addressed by ensuring all participants receive an informed consent document and understand that all data collected is anonymous.

Chapter 4: Results

Introduction

In this study, I explored the relationship between childhood SES, parental discipline, and growing up as a military child and adult resiliency in army veterans. The three research questions and hypothesis are:

- Research Question 1: Is there an association between parental discipline style on a child and their resilience level as an adult veteran?

  H_0: There is no statistically significant association between parental discipline style on a child and their resilience level as an adult veteran.

  H_1: There is a statistically significant association between parental discipline style on a child and their resilience level as an adult veteran.

- Research Question 2: Is there an association between childhood SES status and resilience level as an adult veteran?

  H_0: There is no statistically significant association between childhood SES status and resilience level as an adult veteran.

  H_1: There is a statistically significant association between childhood SES status and resilience level as an adult veteran.

- Research Question 3: Is there an association between being a child of a military veteran and level of resilience as an adult veteran?

  H_0: There is no statistically significant association between being a child of a military veteran and level of resilience as an adult veteran.

  H_1: There is a statistically significant association between being a child of a military veteran and level of resilience as an adult veteran.

In this chapter, I cover the time frame for data collection, sociodemographic of participants, discrepancies between what really happened and what I outlined in the plan of Chapter 3, descriptive statistics of the data collected, and the statistical results.

Data Collection

I used the online platform SurveyMonkey to create the survey with 25 questions. The survey was open for 30 days. I shared the link to the survey through social media and on flyers that were distributed in multiple veterans' organizations throughout Kentucky and Maryland. I followed the data collection plan outlined in Chapter 3 with one deviation. The IRB requested that the consent form be included as page one of the online survey, instead of being emailed to participants. This allowed the distribution of the survey link without any need of the participants to directly email the researcher to obtain the consent form. I collected a total of 205 responses collected as of the survey close date. A total of 21 surveys were not complete, leaving 184 completed survey responses for data analysis.

Data Analysis

Cleaning Data

I downloaded the data into an Excel spreadsheet. All surveys that were incomplete were cut and placed on a different page within excel. I then copied into an SPSS datasheet. I corrected and cleaned demographic variables that were open response, rank, years of service, and number of deployments, so that all data was uniform as follows. The responses to the rank variable included the letter-number answer i.e. E-3 represents enlisted at the third level, or the grade designation answer (i.e., PFC is private first class or E-3). I changed all ranks to the letter-number designation. Participants answered the years of service and number of deployments in a variety of ways including listing

different types of deployments and indicating a specific number of years on active duty versus years in the reserves. All years of service answers were changed to reflect the total years indicated by the respondent. All number of deployments answers were changed to the total number of deployments indicated by the respondent.

Coding Data

The first part of the demographic questions consisted of questions about current age, gender, rank at discharge, years of service, PTSD diagnosis, and TBI diagnosis. The age variable was categorical with age choices of 18-24, 25-34, 35-44, 45-54, 55-64, 65-74, and 75+. There was no response in the 18-24 year category. I created a new age variable labeling the different categories in order from 1 to 6. Gender was recoded into a new variable with 0 equal to male, and 1 = to female. Rank at discharge was recoded into a new variable based on four categories. All E1 through E4 ranks were coded as 1 equals Lower Enlisted, E5 through E9 were coded as 2 equals Senior Enlisted, O1 through O3 were coded as 3 equals Junior Officer, and O4 – O6 were coded as 4 equals Senior Officer. Years of service was left as a continuous variable. The PTSD and TBI variables were recoded into new variables with 0 equal to No and 1 = Yes.

Independent variables. The survey consisted of several demographic questions that represent the independent variable of SES. These questions were "what was your family size?", "what was your fathers education level?", "what was your mothers education level?", and "what was your family income?" The specific coding for each question was previously discussed in chapter 3. However, the coding needed to be changed upon statistical analysis because SPSS would not compute the 0 variable properly. After consulting with university statistic help, I recoded the variable to remove

all zeros, leaving 1 equal to the lowest value, and ranging up to 4 as the highest value for each question. Once the coding was completed the four questions were averaged in SPSS to create a new variable of SES. I coded the new SES variable as 1 equals low social economic status and consisted of the calculated averages between 0 and 1.75, 2 equals median SES and consisted of the calculated averages of 2 to 2.75, and 3 equals high SES and consisted of the calculated averages of 3 to 4.

The independent variable of military child was collected with the demographic question asking if either parent was ever a member of the military with the choices of none, mother, father, or both. I recoded this variable into a new variable with 0 equal to none, 1 equal to father or mother or both.

The independent variable of discipline style was collected using the four question from the Harsh Discipline Scale (HDS). These questions have a five-point Likert scale answers that range from never to always and were recoded per the coding plan presented in chapter three. I created the new variable of discipline by averaging the recoded answers of all four questions within SPSS.

Dependent variable. The dependent variable of resilience was collected from the survey using the nine question from the 9-item Resiliency Scale (RS). The answers from this scale were a 6-point Likert scale ranging from strongly disagree to strongly agree. The answers were recoded based on the coding plan in chapter 3. I created the new resilience variable by averaging the answers to all nine questions in SPSS.

Demographic Characteristics

A total 204 participants responded to the survey link, with 184 participants answering every question. The following basic demographic characteristics are reported on Table 1.

There were 117 males and 67 females. Rank at discharge covered all available ranks in the army except O7 through O10 which encompasses the four levels of general officers. The rank of E4 had the highest frequency of 43 responses or 23.4%. Rank was further analyzed into categories as described previously with senior enlisted ranks being the most reported at a total of 83 or 45.1%. The average age category with 57 responses and 31% was 45-54. The question about prior PTSD diagnosis was answered with 72 (38.1%) reporting "yes - they had been diagnosed with PTSD", and 112 (60.9%) answered no. The TBI diagnoses questions was answered with 36 (19.6%) reporting yes, and 148 (80.4) reporting no. The following demographic data is presented in Table 2. The years of service reported ranged between 1 and 37 with a mean of 13.23. Number of deployments ranged from 0 to 16, with the mean of 1.74.

Table 1

Demographics for Gender, PTSD, TBI, Age, and Rank

		Frequency	%
Gender	Male	117	63.6
	Female	67	36.4
PTSD	Yes	72	39.1
	No	112	60.9
TBI	Yes	36	19.6
	No	148	80.4
Age (years)	25 - 34	21	11.4
	35 - 44	50	27.2
	45 - 54	57	31.0
	55 - 64	46	25.0
	64 - 74	8	4.3
	75 or older	2	1.1
Rank	Lower enlisted	54	29.3
	Senior enlisted	83	45.1
	Junior officer	22	12.0
	Senior officer	25	13.6

Table 2

Demographic Data for Years of Service, and Number of Deployments

	N	Minimum	Maximum	*M*	*SE*
Year of service	184	1	37	13.23	8.506
Number of deployments	184	0	16	1.74	2.259

Independent variable characteristics. The following demographic statistics for the independent variable of military child status is reported on Table 3. There were 112 (60.8%) participants who answered that they had a father or mother serve in the military, 11(5.9%) participants indicated that both parents served, and 61 (33.2) participants answered that neither parent served.

Table 3

Demographics for Military Child Status

	Frequency	%
None	61	33.2
Father, mother, both	123	66.8

The following demographic statistics for the discipline variable and four HDS questions are presented on Table 4. The HDS was averaged and 3 (1.6%) participants had average answers of never, 74 (40.2%) participants had an average answer of almost never, 71 (38.6%) participants had an average of about half time, 36 (19.6%) participants had an average of almost always, and 0 (0%) had an average of always. Question One for the HDS asked about "*how often parents lost their temper"*. The most common answer with 61 (33.2%) participant responses was never. Question Two asked about "*how often parents spanked or slapped the participant*." The most common answer with 70 (38%) participant responses was never. Question Three asked about "*being hit with a belt or*

other object." The most common answer with 47 (25.5%) participant responses were never. Question Four asked "*how often a participant was kicked out of the house*". The most common answer with 130 (70.7%) participant responses was almost always.

Table 4

Demographics for Discipline Variable and HDS Questions

	Never		Almost never		About half time		Almost always		Always	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%
Discipline	3	1.6	74	40.2	71	38.6	36	19.6	0	0
HDS question 1	61	33.2	46	25	47	25.5	28	15.2	2	1.1
HDS question 2	70	38	43	23.4	52	28.3	10	5.4	9	4.9
HDS question 3	47	25.5	41	22.3	39	21.2	25	13.6	32	17.4
HDS question 4	19	10.3	4	2.2.	31	16.8	130	70.7	0	0

The following demographic statistics for the SES variable and four SES questions are presented on Table 5. The SES variable was averaged into 1) low SES, 2) median SES and 3) high SES, based on answers to family size, parent's education, and household income. There were 84 participants who had an average of low SES, 75 participants had an average of median SES, and 25 participants had an average of high SES. For the family size question, the category of 5-6 family members had the highest frequency at 69 (37.5%) responses. For the fathers' education, "less than a high school diploma" had the highest frequency with 101 (54.9%) responses. For the mothers' education, "*less than a high school diploma*" had the highest frequency, with 111 (60.3%) responses. For the income question, the highest frequency was 88 (47.8%) responses in the category of "*less than 15 thousand dollars per year category*".

Table 5
Demographics for SES Variable and SES Questions

		N	%
SES	Low	84	45.7
	Median	75	40.8
	High	25	13.6
Family size	Less than 3	27	14.7
	3 – 4 members	60	32.6
	5 – 6 members	69	37.5
	More than 6	28	15.2
Fathers education	Less than high school	101	54.9
	High school or equivalent	24	13.0
	Undergraduate degree	24	13.0
	Masters or higher	35	19.0
Mothers education	Less than high school	111	60.3
	High school or equivalent	31	16.8
	Undergraduate degree	9	4.9
	Masters or higher	33	17.9
Family income	Less than $15,000	88	47.8
	$15,000 - $45,000	43	23.4
	$45,000 - $65,000	18	9.8
	Over $65,000	35	19.0

Dependent variable characteristics. The following demographic characteristics for the dependent variable are reported in Table 6. The dependent variable of resiliency was an averaged score from the nine questions on the resiliency scale. There were 4 (2.2%) participants that had average answers of strongly disagree, 45 (24.5%) participants had an average answer of disagree, 79 (42.9%) participants had an average of somewhat disagree, 42 (22.8%) participants had an average of somewhat agree, 14 (7.6%) participants had an average of agree, and 0 (0%) had an average of strongly agree. Question One asked about being capable of overcoming future problems. The choice of "agree" had the highest frequency of 109 (59.2%) responses. Question Two was a statement about having high capacity for facing adversity. The choice of "*agree*" had the highest frequency of 101 (54.9%) responses. Question Three was about remaining calm

under pressure. The choice of "*strongly disagree"* had the highest frequency of 78 (42.4%) responses. Question Four was about experiencing anxiety under stressful circumstances. The choice of "*disagree*" had the highest frequency with 49 (26.6%) responses. Question Five was about continuing to like oneself after making a mistake. The choice of "*strongly disagree*" had the highest frequency of 67 (36.4%) responses. Question Six is about standing up for oneself. The choice of "*agree*" had the highest frequency of 70 (38%) responses. Question Seven was about responding to difficult situations in a positive way. The choice of "*strongly disagree*" had the highest frequency of 72 (39.1%) responses. Question Eight was about experiencing peacefulness during stressful times. The choice of "*somewhat disagree*" had the highest frequency of 43 (23.3%) responses. The last question was about remaining calm in frightening situations. The choice of "*strongly disagree*" and "*somewhat disagree*" both were equal with the highest frequency of 54 (29.3%) responses each.

Table 6
Demographics for Resiliency Variable and Resilience Questions

	Strongly disagree		Disagree		Somewhat disagree		Somewhat agree		Agree		Strongly agree	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%
Resiliency	4	2.2	45	24.5	79	42.9	42	22.8	14	7.6	0	0
Question 1	49	26.6	1	.5	21	11.4	4	2.2	109	59.2	0	0
Question 2	52	28.3	1	.5	24	13	6	3.3	101	54.9	0	0
Question 3	78	42.4	11	6	42	22.8	9	4.9	41	22.3	3	1.6
Question 4	28	15.2	49	26.6	41	22.3	27	14.7	14	7.6	25	13.6
Question 5	67	36.4	14	7.6	39	21.2	21	11.4	36	19.6	7	3.8
Question 6	56	30.4	6	3.3	37	20.1	14	7.6	70	38.0	1	.5
Question 7	72	39.1	4	2.2	40	21.7	23	12.5	43	23.4	2	1.1
Question 8	42	22.8	36	19.6	43	23.4	35	19	14	7.6	14	7.6
Question 9	54	29.3	9	4.9	54	29.3	17	9.2	48	26.1	2	1.1

Distribution and Normality Analysis

I tested the distribution and normality of the variables using the Mann-Whitney U/Wilcoxon Rank Sum test, Kruskal-Wallis test, and Chi-squared tests. The Mann-Whitney U and Wilcoxon Rank Sum test was performed on all variables to examine if there was a difference between medians in each group.

Chi-Squared Goodness of Fit. I ran a chi-squared goodness of fit test on all variables to determine if the distribution of data matched the population. The test was run with the assumption that all observed frequencies would be of equal proportions. The chi-squared results for all variables are reported on table 7.

The resiliency variable has five groups, strongly disagree (N=4), disagree (N=45), somewhat disagree (N=79, somewhat agree (N=42), and agree (N=14). The minimum expected frequency was 36.8. There was a statically significant difference between the five resiliency groups and what is expected in the population with almost half of participants averaging a resilience score of somewhat disagree, $X^2(4) = 94.315, p = .000$.

The SES variable has three groups, low SES (N=84), median SES (N=75), and high SES (N=25). The minimum expected frequency was 61.3. There was a statistically significant difference between the three groups of SES and what is expected in the population with almost half of the participants averaging in the low SES score, $X^2(2) = 32.946, p = .000$.

The discipline variable has four groups, never (N=3), almost never (N=74), about half time (N=71), and almost always (N=36). The minimum expected frequency was 46. There was a statistically significant difference between the groups of discipline and what

is expected in the population with over half of the participants averaging in the almost never and about half time categories, $X^2(3) = 73, p = .000$.

The military child variable has two groups, none (N=61), father, mother, both (N=123). The minimum expected frequency was 92.0. There was a statistically significant difference between the two groups of military child and what is expected in the population with over half of the participants indicating they were a military child, $X^2(1) = 20.891, p = .000$.

Table 7
Chi-Squared Statistics

	Chi-squared	df	sig
Resilience	94.315	4	.000
Discipline	73.000	3	.000
SES	32.946	2	.000
Military child	83.163	2	.000

Mann Whitney U/Wilcoxon Rank Sum. I used the Mann Whitney U/Wilcoxon Rank Sum test to determine if there was a difference in medians between groups. The statistics for this test are reported on table 8.

Since the SES variable had more than two groups, the test was run separately for SES groups 1 (low SES) and 2 (median SES), groups 1 (low SES) and 3 (high SES), and groups 2 (median SES) and 3 (high SES). Graphing of resilience with each group of SES showed the scores between groups were similar. Median score differences were not statistically significant, $p > .05$, between resilience and all groups of SES with SES (1, 2) $U = 2779.5, W = 6349.5, z = -1.352, p = .176$, SES (1, 3) $U = 1036.5, W = 1361.5, z = -.104, p = .917$, and SES (2, 3) $U = 819, W = 1144, z = -.987, p = .324$.

The discipline variable also has more than two groups and was run with groups 1 (never) and 2 (almost never), and groups 3 (about half time) and 4 (almost always). Group 5 (always) of discipline had 0 frequencies and could not be compared with any other group for this analysis. Graphing of resilience with each discipline group showed scores between groups were similar. Median score differences were not statistically significant, $p > .05$, between resilience and all discipline groups with discipline (1, 2) *U = 93.5, W = 2869.5, z = -.501, p = .663*, and discipline (3, 4) *U = 1246.5, W = 3802.5, z = -.218, p = .827.*

The military child variable has two groups and was compared as groups 0 (none) and 1 (father, mother, both). Graphing of resilience with each military child variable group showed scores similar between groups. Median score differences were not statistically significant, $p > .05$ between resilience and military child with *U = 3408, W = 11034, z = -.1.068, p = .285*.

Table 8
Mann-Whitney/Wilcoxon Rank Sum Test Statistics

		Mann-Whitney U	Wilcoxon W	z-score	Sig
Resilience X	SES (1,2)	2779.5	6349.5	-1.352	.176
	SES (1,3)	1036.5	1361.5	-.104	.971
	SES (2,3)	819.0	1144.0	-.987	.324
Resilience X	discipline (1,2)	93.5	2868.5	-.501	.617
	discipline (3,4)	1246.5	3802.5	-.218	.827
Resilience X	military child	3408.0	11034.0	-1.068	.285

Kruskal-Wallis. I ran the Kruskal-Wallis H test to determine if there were differences between resilience and the independent variables of SES, discipline, and military child. The statistics for this test are presented on table 9. In comparing resilience with the three groups of SES, low SES, median SES, and high SES. There was no

statistically significant difference between resilience and the groups of SES, $X^2(2) = 2.13, p = .345$. In comparing resilience with the four groups of discipline, never, almost never, about half time, and almost always (always had a frequency of 0 and was not included in the test), the difference between groups was not statistically significant, $X^2(3) = .726, p = .867$. In comparing resilience to the two groups of the military child variable, the differences between groups was not statistically significant, $X^2(1) = 1.141, p = .285$.

Table 9
Kruskal Wallis Test Statistics

	Test Statistic	df	Sig
Resilience X SES	2.131	2	.345
Resilience X discipline	.726	3	.867
Resilience X military child	1.141	1	.285

Hypothesis Testing – Overall Resiliency as Dependent Variable

I used ordinal logistic regression and odds ratio analysis for hypothesis testing. The GENLIN and PLUM functions were used in SPSS to conduct ordinal logistic regression and the odds ratio in one test. There were four assumptions that had to be addressed to ensure that ordinal regression would work with this data. The first two assumptions were that the dependent variable was ordinal in nature and the independent variables were either ordinal, continuous, or categorical. The dependent variable or resilience and the independent variable of harsh discipline were collected from Likert scales making them ordinal. Other independent variables of SES and military child status were calculated and coded into categorical variables. Other covariates like PTSD, TBI, gender, age, and rank were all converted into categorical variables. Assumptions one and two are met.

Assumption Three for ordinal regression is that the data must not show any multicollinearity, meaning none of the independent variables should be correlational

with each other (Laerd Statistics, 2013). To test this assumption the dependent and independent variables were recoded into dummy binary dummy variables so that linear regression could be performed. The resilience variable was converted to three separate resilience dummy variables of lowRES, medRES, and HighRES. The SES dummy variable consisted of LowSES, MedSES, and HighSES. The dummy variables for discipline consisted of the categories of discipline coded as CAT1 through CAT5. Military child dummy variables consisted of MCYes, and MCNo. In SPSS under linear regression the test of collinearity diagnostics was chosen and ran with the dependent variable and all independent variables. Collinearity is present if the tolerance is less than .01 and VIP statistic is greater than 10 (Laerd Statistics, 2013). None of the variables had tolerance values less than .01, or VIP values greater than 10 indicating that there is no multicollinearity occurring between variables. Assumption three is met.

Assumption Four for ordinal regression is that there are no proportional odds. This assumption is tested in SPSS using the full likelihood ratio test in PLUM ordinal regression. The full likelihood ratio test compares the fit of the proportional odds model. The results of this test were not statistically significant, indicating there is no violation of this assumption, $X^{2(}48) = 56.889, p = .178.$

GENLIN Ordinal Regression. I ran GENLIN ordinal regression tests in several different iterations to test the hypothesis between the dependent variables, independent variables, and interactions with all potential moderators. The procedures were run with the dependent variable and three independent variables, then the moderating variables were added. Ordinal regression was also run with each individual resilience question against the independent variables to see if there was an interaction with specific resilience

values. The dependent variable was also tested separately with each question from the HDS, and each SES variable (fathers' education, mothers' education, family size, family income) to determine if there were interactions between specific variables.

Resiliency and independent variables. Resiliency was compared with SES, military child status, and discipline to determine if the independent variables predicted the dependent variable. In the test of model effects output, there was no statistically significant results between any of the independent variables and the dependent variable.

The parameter estimates table shows the odds ratio and significance of the ordinal regression for each independent variable and is reported in Table 10. The odds of discipline level 1 (never) scoring high on the resiliency scale was almost two times higher than discipline level 4 (almost always), but was not statistically significant (odds ratio of *1.926, 95% CI [.220, 16.838]*) *Wald* $X^2(1) = .351$, $p = .553$. The odds of discipline level 2 (almost never) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not statistically significant (odds ratio of *1.095, 95% CI [.527, 2.276]*) *Wald* $X^2(1) = .059$, $p = .809$. The odds of discipline level 3 (about half time) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not statistically significant (odds ratio of *.946, 95% CI [.452, 1.977]*) *Wald* $X^2(1) = .022$, $p = .882$.

The odds of SES 1(low SES) scoring higher on the resiliency scale was similar to SES 3 (high SES) and was not statistically significant (odds ratio of *1.040, 95% CI [.456, 2.371]*) *Wald* $X^2(1) = .009$, $p = .926$. The odds of SES 2 (median SES) scoring higher on the resiliency scale was one and half times higher than SES 3 (high SES) and was not

statistically significant (odds ratio of *1.555, 95% CI [.674, 3.592]*) *Wald $X^2(1) = .1.071$, $p = .301$.*

The odds of not being a military child and scoring higher on the resiliency scale was almost one and half times higher than being a military child and was not statistically significant (odds ratio of *1.373, 95% CI [.778, 2.424]*) *Wald $X^2(1) = .1.197$, $p = .274$.* However, none of these variables are associated with the dependent variables.

Table 10

Ordinal Regression with Independent Variables Only

							95% Wald Confidence Interval for Exp(B)	
Parameter	B	Std. Error	Wald Chi-Square	df	Sig.	Exp(B)	Lower	Upper
Discipline almost never	.656	1.1061	.351	1	.553	1.926	.220	16.838
Discipline never	.090	.3734	.059	1	.809	1.095	.527	2.276
Discipline about half time	-.056	.3762	.022	1	.882	.946	.452	1.977
Discipline almost always (Baseline)	0[a]	.	.	.	.	1	.	.
Military child no	.317	.2899	1.197	1	.274	1.373	.778	2.424
Military child yes (Baseline)	0[a]	.	.	.	.	1	.	.
Low SES	.039	.4205	.009	1	.926	1.040	.456	2.371
Median SES	.442	.4270	1.071	1	.301	1.555	.674	3.592
High SES (Baseline)	0[a]	.	.	.	.	1	.	.

Note. Dependent Variable: RESILIENCE

Covariates of PTSD, TBI added. I added the PTSD and TBI variables to the model to test if they have a moderating or mediating effect between the dependent variable and the independent variables. The test of model effects for all variables showed little change and no statistically significant results.

In the parameter estimates table shown in table 11, the odds of a veteran that does not have PTSD scoring high on the resiliency scale was similar to those who reported a PTSD diagnosis and was not statistically significant (odds ratio of 1.097*, 95% CI [.604, 1.990]*) *Wald* $X^2(1) = .092$, $p = .761$. The odds of a veteran that does not have TBI scoring high on the resiliency scale was similar to those who reported a TBI diagnosis and was not statistically significant (odds ratio of .525*, 95% CI [.250, 1.103]*) *Wald* $X^2(1) = 2.892$, $p = .089$.

The added variables of TBI and PTSD did not cause a change in odds ratios or statistical significance in any of the three independent variables indicating there is not a moderating or mediating relationship between these variables.

Table 11

Ordinal Regression with PTSD and TBI Added

							95% Wald Confidence Interval for Exp(B)	
Parameter	B	Std. Error	Wald Chi-Square	df	Sig.	Exp(B)	Lower	Upper
Discipline never	.766	1.1157	.471	1	.493	2.150	.241	19.151
Discipline almost never	.079	.3749	.045	1	.832	1.083	.519	2.257
Discipline about half time	-.100	.3786	.070	1	.792	.905	.431	1.901
Discipline almost always (Baseline)	0[a]	.	.	.	.	1	.	.
Military child no	.247	.2920	.716	1	.397	1.280	.722	2.269
Military child yes (Baseline)	0[a]	.	.	.	.	1	.	.
Low SES	.034	.4209	.006	1	.937	1.034	.453	2.360
Median SES	.388	.4282	.819	1	.365	1.473	.637	3.410
High SES (Baseline)	0[a]	.	.	.	.	1	.	.
PTSD no	.092	.3040	.092	1	.761	1.097	.604	1.990
PTSD yes (Baseline)	0[a]	.	.	.	.	1	.	.
TBI no	-.644	.3790	2.892	1	.089	.525	.250	1.103
TBI yes (Baseline)	0[a]	.	.	.	.	1	.	.

Note. Dependent Variable: RESILIENCE

Covariates of gender, age, years of service, rank, and deployments. I added the remaining potential moderators of gender, age, years of service, rank, and number of deployments to the model to test the relationship between the variables. These values are reported on Table 12. The addition of these variables did not significantly change the odds ratios or statistical significance of the independent variables' relationship with the dependent variable.

There was a marginal association between age and scores on the resilience scale with no statistical significance (odds ratio of .763*, 95% CI [.566, 1.026]*) *Wald* $X^2(1) = 3.176$*, p = .075.* An increase in years of service was not statistically associated with the odds of a slight increase of scores on the resilience scale (odds ratio of .975*, 95% CI [.930, 1.023]*) *Wald* $X^2(1) = 1.043$*, p = .307.* An increase in number of deployments was not statistically associated with the odds of an increase of scores on the resilience scale (odds ratio of 1.099*, 95% CI [.955, 1.265]*) *Wald* $X^2(1) = 1.739$*, p = .187.* The odds of junior enlisted ranks scoring higher on the resiliency scale was similar to senior officers and was not statistically significant (odds ratio of .573*, 95% CI [.180, 1.822]*) *Wald* $X^2(1) = .889$*, p = .346.* The odds of senior enlisted ranks scoring higher on the resiliency scale was similar to senior officers and was not statistically significant (odds ratio of .1.093*, 95% CI [.349, 2.724]*) *Wald* $X^2(1) = .036$*, p = .849.* The odds of junior officer ranks scoring higher on the resiliency scale was similar to senior officers and was not statistically significant (odds ratio of .480*, 95% CI [.143, 1.612]*) *Wald* $X^2(1) = 1.412$*, p = .235.* The odds of a male scoring higher on the resiliency scale was similar to females and was not statistically significant (odds ratio of .992*, 95% CI [.925, 1.876]*) *Wald* $X^2(1) = .001$*, p = .980.*

Table 12
Ordinal Regression with All Variables Added

Parameter	B	Std. Error	Wald Chi-Square	df	Sig.	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	Upper
Discipline never	.622	1.1332	.301	1	.583	1.862	.202	17.164
Discipline almost never	-.043	.3881	.012	1	.911	.958	.448	2.049
Discipline about half time	-.230	.3900	.347	1	.556	.795	.370	1.707
Discipline almost always (Baseline)	0[a]	.	.	.	.	1	.	.
Military child no	.161	.3065	.276	1	.599	1.175	.644	2.142
Military child yes (Baseline)	0[a]	.	.	.	.	1	.	.
Low SES	.010	.4418	.000	1	.982	1.010	.425	2.400
Median SES	.460	.4533	1.031	1	.310	1.585	.652	3.853
High SES (Baseline)	0[a]	.	.	.	.	1	.	.
PTSD no	.306	.3206	.909	1	.340	1.357	.724	2.545
PTSD yes (Baseline)	0[a]	.	.	.	.	1	.	.
TBI no	-.446	.4041	1.217	1	.270	.640	.290	1.414
TBI yes (Baseline)	0[a]	.	.	.	.	1	.	.
Age	-.271	.1519	3.176	1	.075	.763	.566	1.027
YOS	-.025	.0243	1.043	1	.307	.975	.930	1.023
Deployments	.094	.0716	1.739	1	.187	1.099	.955	1.265
Lower enlisted	-.556	.5898	.889	1	.346	.573	.180	1.822
Senior enlisted	.089	.4659	.036	1	.849	1.093	.439	2.724
Junior officer	-.735	.6185	1.412	1	.235	.480	.143	1.612
Senior officer (Baseline)	0[a]	.	.	.	.	1	.	.
Male	-.008	.3251	.001	1	.980	.992	.525	1.876
Female (Baseline)	0[a]	.	.	.	.	1	.	.

Note. Dependent Variable: RESILIENCE

Hypothesis Testing - Individual Independent Variables

I conducted a separate regression analysis with each individual independent variable to assess the associations between specific SES parameters and aspects of discipline.

Regression was done with each HDS question, and each SES questions to explore potential associations.

Resiliency and separate HDS questions. *I used o*rdinal regression to examine how each HDS question predicted resilience level. These values are reported on Table 13. Question one of the HDS was "*when you did something wrong how often did your mom/dad lose her/his temper and yell at you?*" The odds of people who answered never scoring high on resilience were similar to those who answered always and was not statistically significant (odds ratio of .767*, 95% CI [.053, 11.006]*) *Wald* $X^2(1) = .038$, $p = .845$. The odds of people who answered almost never scoring high on resilience were similar to those who answered always and was not statistically significant (odds ratio of .1.030*, 95% CI [.068, 15.576]*) *Wald* $X^2(1) = .000$, $p = .983$. The odds of people who answered about half time scoring high on resilience were similar to those who answered always and was not statistically significant (odds ratio of .967*, 95% CI [.069, 13.632]*) *Wald* $X^2(1) = .001$, $p = .980$. The odds of people who answered almost always scoring high on resilience were similar to those who answered always and was not statistically significant (odds ratio of 1.086*, 95% CI [.066, 17.811]*) *Wald* $X^2(1) = .003$, $p = .952$.

Question two of the HDS was "*when you did something wrong how often did your mom/dad spank or slap you?*" The odds of people who answered never scoring high on resilience were four time higher those who answered always and was not statistically significant (odds ratio of 4.854*, 95% CI [.876, 26.894]*) *Wald* $X^2(1) = .3.270$, $p = .071$. The odds of people who answered almost never scoring high on resilience were three times higher than those who answered always and was not statistically significant (odds ratio of .3.586*, 95% CI [.560, 22.958]*) *Wald* $X^2(1) = .1.817$, $p = .178$. The odds of

people who answered about half time scoring high on resilience were two times higher than those who answered always and was not statistically significant (odds ratio of 2.653, *95% CI [.630, 11.174]*) *Wald* $X^2(1) = 1.769$, $p = .183$. The odds of people who answered almost always scoring high on resilience were twelve times higher than those who answered always and was statistically significant (odds ratio of 12.001, *95% CI [.1.235, 116.637]*) *Wald* $X^2(1) = .4.587$, $p = .032$.

Question three of the HDS was "*when punishing you did your mom/dad ever hit you with a belt, paddle, or something else?*" The odds of people who answered never scoring high on resilience were less than half of those who answered always and was not statistically significant (odds ratio of .379, *95% CI [.118, 1.220]*) *Wald* $X^2(1) = .2.643$, $p = .104$. The odds of people who answered almost never scoring high on resilience were less than half of those who answered always and was statistically significant (odds ratio of .215, *95% CI [.063, 741]*) *Wald* $X^2(1) = .5.935$, $p = .015$. The odds of people who answered about half time scoring high on resilience were less than half those who answered always and was statistically significant (odds ratio of .273, *95% CI [.099, 747]*) *Wald* $X^2(1) = 6.385$, $p = .012$. The odds of people who answered almost always scoring high on resilience were less than half to those who answered always and was not statistically significant (odds ratio of .325, *95% CI [.075, 1.419]*) *Wald* $X^2(1) = .2.233$, $p = .135$.

Question four the HDS was "*when you did something wrong how often did your mom/dad told you to get out or lock you out?*" For this question there were not any answers in the always category, making the almost always category the reference category. The odds of people who answered never scoring high on resilience were three

times those who answered almost always and was statistically significant (odds ratio of .2.939, *95% CI [1.123, 7.692]*) *Wald* $X^2(1) = 4.826$, $p = .028$. The odds of people who answered almost never scoring high on resilience were two times those who answered almost always and was not statistically significant (odds ratio of 2.591, *95% CI [.366, 18.376]*) *Wald* $X^2(1) = .910$, $p = .340$. The odds of people who answered about half time scoring high on resilience were almost two times those who answered always and was not statistically significant (odds ratio of 1.770, *95% CI [.808, 3.883]*) *Wald* $X^2(1) = 2.029$, $p = .154$.

Table 13

Resilience Compared with Individual Harsh Discipline Scale Questions

HDS Questions	B	Std. Error	Wald Chi-Square	df	Sig.	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	Upper
Question 1: *when you did something wrong how often did your mom/dad lose her/his temper and yell at you?*								
- Never	-.265	1.3590	.038	1	.845	.767	.053	11.006
- Almost never	.029	1.3840	.000	1	.983	1.030	.068	15.516
- About half time	-.033	1.3498	.001	1	.980	.967	.069	13.632
- Almost always	.083	1.4271	.003	1	.954	1.086	.066	17.811
- Always (Baseline)	0[a]	.	.	.	.	1	.	.
Question 2: *when you did something wrong how often did your mom/dad spank or slap you?*								
- Never	1.580	.8736	3.270	1	.071	4.854	.876	26.894
- Almost never	1.277	.9473	1.817	1	.178	3.586	.560	22.958
- About half time	.976	.7336	1.769	1	.183	2.653	.630	11.174
- Almost always	2.485	1.1603	4.587	1	.032	12.001	1.235	116.637
- Always (Baseline)	0[a]	.	.	.	.	1	.	.
Question 3: *when punishing you did your mom/dad ever hit you with a belt, paddle, or something else?*								
- Never	-.969	.5960	2.643	1	.104	.379	.118	1.220
- Almost never	-1.535	.6303	5.935	1	.015	.215	.063	.741
- About half time	-1.300	.5145	6.385	1	.012	.273	.099	.747
- Almost always	-1.123	.7516	2.233	1	.135	.325	.075	1.419
- Always (Baseline)	0[a]	.	.	.	.	1	.	.
Question 4: *when you did something wrong how often did your mom/dad tell you to get out or lock you out?*								
- Never	1.078	.4908	4.826	1	.028	2.939	1.123	7.692
- Almost never	.952	.9982	.910	1	.340	2.591	.366	18.326
- About half time	.571	.4009	2.029	1	.154	1.770	.807	3.883
- Almost always (Baseline)	0[a]	.	.	.	.	1	.	.

Note. Dependent Variable: RESILIENCE

Resiliency and separate SES variables. Ordinal regression was used to examine how each SES variable, family size, fathers' education, mothers' education, and income level, predicted resilience level. These values are reported on Table 14. The odds of people who grew up in family sizes of less than 3 family members scoring higher on the resiliency scale was similar to those who grew up in family sizes of greater than 6 and was not

statistically significant (odds ratio of *1.049, 95% CI [.371, 2.970]*) *Wald* $X^2(1) = .008$, $p = .928$. The odds of people who grew up in family sizes of 3 to 4 family members scoring higher on the resiliency scale was similar to those who grew up in family sizes of greater than 6 and was not statistically significant (odds ratio of *.892, 95% CI [.376, 2.118]*) *Wald* $X^2(1) = .067$, $p = .796$. The odds of people who grew up in family sizes of 5 to 6 family members scoring higher on the resiliency scale was similar to those who grew up in family sizes of greater than 6 and was not statistically significant (odds ratio of *1.121, 95% CI [.480, 2.620]*) *Wald* $X^2(1) = .070$, $p = .792$.

The odds of people whose father did not complete high school scoring higher on the resiliency scale was similar to those whose father completed a graduate degree and was not statistically significant (odds ratio of *1.298, 95% CI [.612, 2.752]*) *Wald* $X^2(1) = .463$, $p = .496$. The odds of people whose father earned at least a high school diploma scoring higher on the resiliency scale was twice as high as those whose father completed a graduate degree and was not statistically significant (odds ratio of *2.625, 95% CI [.910, 7.575]*) *Wald* $X^2(1) = 3.187$, $p = .074$. The odds of people whose father earned an undergraduate degree scoring higher on the resiliency scale was one and half times more than those whose father completed a graduate degree and was not statistically significant (odds ratio of *1.504, 95% CI [.563, 4.014]*) *Wald* $X^2(1) = .664$, $p = .415$.

The odds of people whose mother did not complete high school scoring higher on the resiliency scale was similar to those whose mother completed a graduate degree and was not statistically significant (odds ratio of *1.164, 95% CI [.546, 2.483]*) *Wald* $X^2(1) = .154$, $p = .695$. The odds of people whose mother earned at least a high school diploma scoring higher on the resiliency scale was slightly lower than those whose mother

completed a graduate degree and was not statistically significant (odds ratio of *.760, 95% CI [.274, 2.109]*) *Wald* $X^2(1) = .278$, $p = .598$. The odds of people whose mother earned an undergraduate degree scoring higher on the resiliency scale was slightly lower than those whose mother completed a graduate degree and was not statistically significant (odds ratio of *.722, 95% CI [.183, 2.856]*) *Wald* $X^2(1) = .215$, $p = .643$.

The odds of those who grew up in households where the income was less than fifteen thousand per year scoring higher on the resiliency scale was half of those who grew up in households where the income was more than sixty-five thousand per year and was not statistically significant (odds ratio of *.531, 95% CI [.239, 1.184]*) *Wald* $X^2(1) = 2.392$, $p = .122$. The odds of those who grew up in households where the income was between fifteen and forty- five thousand per year scoring higher on the resiliency scale was almost half of those who grew up in households where the income was more than sixty five thousand per year and was not statistically significant (odds ratio of *.642, 95% CI [.268, 1.537]*) *Wald* $X^2(1) = .991$, $p = .319$. The odds of those who grew up in households where the income was between forty-five and sixty-five thousand per year scoring higher on the resiliency scale was similar to those who grew up in households where the income was more than sixty five thousand per year and was not statistically significant (odds ratio of *.817, 95% CI [.258, 2.586]*) *Wald* $X^2(1) = .118$, $p = .732$.

Table 14
Resilience Compared with Individual SES Variables

Parameter	B	Std. Error	Wald Chi-Square	df	Sig.	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	Upper
Family Size								
Less than 3 members	.048	.5310	.008	1	.928	1.049	.371	2.970
3 to 4 members	-.114	.4410	.067	1	.796	.892	.376	2.118
5 to 6 members	.114	.4331	.070	1	.792	1.121	.480	2.620
More than 6 members (Baseline)	0[a]	.	.	.	.	1	.	.
Father's Education								
Less than HS grad	.261	.3834	.463	1	.496	1.298	.612	2.752
HS grad or equivalent	.965	.5407	3.187	1	.074	2.625	.910	7.575
Undergraduate	.408	.5009	.664	1	.415	1.504	.563	4.014
Masters or higher (Baseline)	0[a]	.	.	.	.	1	.	.
Mothers' Education								
Less than HS grad	.152	.3866	.154	1	.695	1.164	.546	2.483
HS grad or equivalent	-.275	.5210	.278	1	.598	.760	.274	2.109
Undergrad	-.325	.7014	.215	1	.643	.722	.183	2.856
Masters or higher (Baseline)	0[a]	.	.	.	.	1	.	.
Family Income								
Less than $15,000	-.632	.4087	2.392	1	.122	.531	.239	1.184
$15,000 to $45,000	-.444	.4458	.991	1	.319	.642	.268	1.537
$45,000 - $65,000	-.202	.5875	.118	1	.732	.817	.258	2.586
Greater than $65,000 (Baseline)	0[a]	.	.	.	.	1	.	.

Note. Dependent Variable: RESILIENCE

Hypothesis Testing – Individual Resiliency Item as Dependent Variables

Each individual resiliency question was further analyzed against the independent variables to determine if there were any specific aspects of resiliency that were more associated than others.

Question One. Ordinal regression was used to examine how each independent variable, SES, discipline, and military child status, was predictive of the answers to question one of the resilience scale. These values are reported in Table 15. The first question of the resiliency scale was "I feel capable of overcoming my present or any future difficulties and problems I might face such as resolving dilemmas or making difficult decisions". The odds of discipline level 1 (never) scoring high on the resiliency scale was half that of discipline level 4 (almost always) and was not statistically significant (odds ratio of .517*, 95% CI [.054, 4.930]*) *Wald* $X^2(1) = .328$, $p = .567$. The odds of discipline level 2 (almost never) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not statistically significant (odds ratio of *1.211, 95% CI [.552, 2.660]*) *Wald* $X^2(1) = .228$, $p = .633$. The odds of discipline level 3 (about half time) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not statistically significant (odds ratio of *1.135, 95% CI [.515, 2.501]*) *Wald* $X^2(1) = .099$, $p = .753$.

The odds of SES 1(low SES) scoring higher on the resiliency scale was half that of SES 3 (high SES) and was not statistically significant (odds ratio of *.527, 95% CI [.204, 1.363]*) *Wald* $X^2(1) = 1.747$, $p = .186$. The odds of SES 2 (median SES) scoring higher on the resiliency scale was almost half that of SES 3 (high SES) and was not statistically significant (odds ratio of *.607, 95% CI [.232, 1.592]*) *Wald* $X^2(1) = 1.029$, $p = .310$.

The odds of not being a military child and scoring higher on the resiliency scale was one and half times higher than being a military child and was not statistically significant (odds ratio of *1.648, 95% CI [.875, 3.104]*) *Wald* $X^2(1) = 2.396$, $p = .122$.

Table 15

Resiliency Scale Question 1 Compared with Independent Variables

Parameter	B	Std. Error	Wald Chi-Square	df	Sig.	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	Upper
Discipline								
Never	-.659	1.1502	.328	1	.567	.517	.054	4.930
Almost never	.192	.4014	.228	1	.633	1.211	.552	2.660
About half time	.127	.4031	.099	1	.753	1.135	.515	2.501
Almost always (Baseline)	0[a]	.	.	.	.	1	.	.
Military child								
No	.500	.3229	2.396	1	.122	1.648	.875	3.104
Yes (Baseline)	0[a]	.	.	.	.	1	.	.
SES								
Low SES	-.641	.4851	1.747	1	.186	.527	.204	1.363
Median SES	-.499	.4917	1.029	1	.310	.607	.232	1.592
High SES (Baseline)	0[a]	.	.	.	.	1	.	.

Note. Dependent Variable: Resiliency Scale Question 1

Question Two. Ordinal regression was used to examine how each independent variable, SES, discipline, and military child status, was predictive of the answers to question two of the resilience scale. These values are reported in table 16. The second question of the resiliency scale was "I have a high capacity for facing adversity". The odds of discipline level 1 (never) scoring high on the resiliency scale was similar to discipline level 4 (almost always) and was not statistically significant (odds ratio of 1.070*, 95% CI [.107, 10.664]*) *Wald* $X^2(1) = .003$, $p = .954$. The odds of discipline level 2 (almost never) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not statistically significant (odds ratio of *1.244, 95% CI [.574, 2.695]*) *Wald* $X^2(1) = .306$, $p = .580$. The odds of discipline level 3 (about half time) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not

statistically significant (odds ratio of .931, *95% CI [.431, 2.013]*) *Wald* $X^2(1) = .033$, $p = .856$.

The odds of SES 1(low SES) scoring higher on the resiliency scale was half that of SES 3 (high SES) and was not statistically significant (odds ratio of *.584, 95% CI [.231, 1.471]*) *Wald* $X^2(1) = 1.303$, $p = .254$. The odds of SES 2 (median SES) scoring higher on the resiliency scale was half that of SES 3 (high SES) and was not statistically significant (odds ratio of *.493, 95% CI [.194, 1.252]*) *Wald* $X^2(1) = 2.213$, $p = .137$.

The odds of not being a military child and scoring higher on the resiliency scale was one and half times higher than being a military child and was not statistically significant (odds ratio of *1.413, 95% CI [.769, 2.597]*) *Wald* $X^2(1) = 1.239$, $p = .266$.

Table 16
Resiliency Scale Question Two Compared with Independent Variables

							95% Wald Confidence Interval for Exp(B)	
Parameter	B	Std. Error	Wald Chi-Square	df	Sig.	Exp(B)	Lower	Upper
Discipline								
Never	.067	1.173	.003	1	.954	1.070	.11	10.664
Almost never	.218	.3945	.306	1	.580	1.244	.57	2.695
About half time	-.071	.3933	.033	1	.856	.931	.43	2.013
Almost always (Baseline)	0[a]	.	.	.	.	1	.	.
Military child								
No	.346	.3105	1.239	1	.266	1.413	.77	2.597
Yes (Baseline)	0[a]	.	.	.	.	1	.	.
SES								
Low SES	-.539	.4718	1.303	1	.254	.584	.23	1.471
Median SES	-.708	.4757	2.213	1	.137	.493	.19	1.252
High SES (Baseline)	0[a]	.	.	.	.	1	.	.

Note. Dependent Variable: Resiliency Scale Question 2

Question Three. Ordinal regression was used to examine how each independent variable, SES, discipline, and military child status, was predictive of the answers to

question three of the resilience scale. These values are reported in table 17. The third question of the resiliency scale was "*When there is a great deal pressure being placed on me, I remain calm*". The odds of discipline level 1 (never) scoring high on the resiliency scale was three and half times that of discipline level 4 (almost always) and was not statistically significant (odds ratio of 3.694*, 95% CI [.407, 33.50]*) *Wald* $X^2(1) = 1.350, p = .245.$ The odds of discipline level 2 (almost never) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not statistically significant (odds ratio of *1.195, 95% CI [.570, 2.506]*) *Wald* $X^2(1) = .222, p = .637.$ The odds of discipline level 3 (about half time) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not statistically significant (odds ratio of *1.013, 95% CI [.479, 2.143]*) *Wald* $X^2(1) = .001, p = .972.$

The odds of SES 1(low SES) scoring higher on the resiliency scale was three and half times that of SES 3 (high SES) and was statistically significant (odds ratio of *3.796, 95% CI [1.439, 10.016]*) *Wald* $X^2(1) = 7.261, p = .007.$ The odds of SES 2 (median SES) scoring higher on the resiliency scale was five and half times that of SES 3 (high SES) and was statistically significant (odds ratio of *5.544, 95% CI [2.077, 14.797]*) *Wald* $X^2(1) = 11.691, p = .001.$

The odds of not being a military child and scoring higher on the resiliency scale was similar to being a military child and was not statistically significant (odds ratio of *.912, 95% CI [.573, 1.623]*) *Wald* $X^2(1) = .097, p = .755.$

Table 17
Resiliency Scale Question Three Compared with Independent Variables

Parameter	B	Std. Error	Wald Chi-Square	df	Sig.	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	Upper
Discipline								
Never	1.307	1.125	1.350	1	.245	3.694	.407	33.500
Almost never	.178	.3779	.222	1	.637	1.195	.570	2.506
About half time	.013	.3822	.001	1	.972	1.013	.479	2.143
Almost always (Baseline)	0[a]	.	.	.	.	1	.	.
Military child								
No	-.092	.2938	.097	1	.755	.912	.513	1.623
Yes (Baseline)	0[a]	.	.	.	.	1	.	.
SES								
Low SES	1.334	.4950	7.261	1	.007	3.796	1.439	10.016
Median SES	1.713	.5009	11.7	1	.001	5.544	2.077	14.797
High SES (Baseline)	0[a]	.	.	.	.	1	.	.

Note. Dependent Variable: Resiliency Scale Question 3

Question Four. Ordinal regression was used to examine how each independent variable, SES, discipline, and military child status, was predictive of the answers to question four of the resilience scale. These values are reported in table 18. The forth question of the resiliency scale was "*During stressful circumstances, I never experience anxiety*". The odds of discipline level 1 (never) scoring high on the resiliency scale was similar to discipline level 4 (almost always) and was not statistically significant (odds ratio of .921*, 95% CI [.113, 7.499]*) *Wald* $X^2(1) = .006$, $p = .938$. The odds of discipline level 2 (almost never) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not statistically significant (odds ratio of *.847, 95% CI [.418, 1.716]*) *Wald* $X^2(1) = .212$, $p = .645$. The odds of discipline level 3 (about half time) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not

statistically significant (odds ratio of *1.149, 95% CI [.565, 2.336]*) *Wald $X^2(1) = .147$, $p = .702$.*

The odds of SES 1(low SES) scoring higher on the resiliency scale was one and half times that of SES 3 (high SES) and was not statistically significant (odds ratio of *1.442, 95% CI [.650, 3.199]*) *Wald $X^2(1) = .811$, $p = .368$.* The odds of SES 2 (median SES) scoring higher on the resiliency scale was one and half times that of SES 3 (high SES) and was not statistically significant (odds ratio of *1.579, 95% CI [.704, 3.543]*) *Wald $X^2(1) = 1.229$, $p = .268$.*

The odds of not being a military child and scoring higher on the resiliency scale was similar to being a military child and was not statistically significant (odds ratio of *.830, 95% CI [.480, 1.434]*) *Wald $X^2(1) = .447$, $p = .504$.*

Table 18
Resiliency Scale Question Four Compared with Independent Variables

							95% Wald Confidence Interval for Exp(B)	
Parameter	B	Std. Error	Wald Chi-Square	df	Sig.	Exp(B)	Lower	Upper
Discipline								
Never	-.083	1.0702	.006	1	.938	.921	.113	7.499
Almost never	-.166	.3601	.212	1	.645	.847	.418	1.716
About half time	.139	.3621	.147	1	.702	1.149	.565	2.336
Almost always (Baseline)	0[a]	.	.	.	.	1	.	.
Military child								
No	-.187	.2792	.447	1	.504	.830	.480	1.434
Yes (Baseline)	0[a]	.	.	.	.	1	.	.
SES								
Low SES	.366	.4065	.811	1	.368	1.442	.650	3.199
Median SES	.457	.4123	1.299	1	.268	1.579	.704	3.543
High SES (Baseline)	0[a]	.	.	.	.	1	.	.

Note. Dependent Variable: Resiliency Scale Question 4

Question Five. Ordinal regression was used to examine how each independent variable, SES, discipline, and military child status, was predictive of the answers to question five of the resilience scale. These values are reported in table 19. The fifth question of the resiliency scale was "*when I have made a mistake during a stressful situation, I continue to like myself*". The odds of discipline level 1 (never) scoring high on the resiliency scale was three times as high as discipline level 4 (almost always) and was not statistically significant (odds ratio of 3.098*, 95% CI [.371, 25.879]*) *Wald* $X^2(1) = 1.090$, $p = .296$. The odds of discipline level 2 (almost never) scoring higher on the resiliency scale was almost one and half times higher than discipline level 4 (never) and was not statistically significant (odds ratio of *1.399, 95% CI [.677, 2.891]*) *Wald* $X^2(1) = .820$, $p = .365$. The odds of discipline level 3 (about half time) scoring higher on the resiliency scale was one and half times higher than discipline level 4 (never) and was not statistically significant (odds ratio of *1.427, 95% CI [.686, 2.967]*) *Wald* $X^2(1) = .907$, $p = .361$.

The odds of SES 1(low SES) scoring higher on the resiliency scale was two times higher than SES 3 (high SES) and was not statistically significant (odds ratio of *2.193, 95% CI [.948, 5.076]*) *Wald* $X^2(1) = 3.367$, $p = .066$. The odds of SES 2 (median SES) scoring higher on the resiliency scale was two times higher than SES 3 (high SES) and was not statistically significant (odds ratio of *2.075, 95% CI [.887, 4.852]*) *Wald* $X^2(1) = 2.833$, $p = .092$.

The odds of not being a military child and scoring higher on the resiliency scale was one and half times higher than being a military child and was not statistically significant (odds ratio of *1.711, 95% CI [.980, 2.988]*) *Wald* $X^2(1) = 3.563$, $p = .059$.

Table 19
Resiliency Scale Question Five Compared with Independent Variables

Parameter	B	Std. Error	Wald Chi-Square	df	Sig.	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	Upper
Discipline								
Never	1.13	1.0830	1.090	1	.296	3.098	.371	25.879
Almost never	.335	.3705	.820	1	.365	1.399	.677	2.891
About half time	.356	.3734	.907	1	.341	1.427	.686	2.967
Almost always (Baseline)	0[a]	.	.	.	.	1	.	.
Military child								
No	.537	.2845	3.563	1	.059	1.711	.980	2.988
Yes (Baseline)	0[a]	.	.	.	.	1	.	.
SES								
Low SES	.785	.4280	3.367	1	.066	2.193	.948	5.076
Median SES	.730	.4335	2.833	1	.092	2.075	.887	4.852
High SES (Baseline)	0[a]	.	.	.	.	1	.	.

Note. Dependent Variable: Resiliency Scale Question 5

Question Six. Ordinal regression was used to examine how each independent variable, SES, discipline, and military child status, was predictive of the answers to question six of the resilience scale. These values are reported in table 20. The sixth question of the resiliency scale was "*when I need to stand up for myself, I can do so easily*". The odds of discipline level 1 (never) scoring high on the resiliency scale was half that of discipline level 4 (almost always) and was not statistically significant (odds ratio of .381*, 95% CI [.042, 3.489]*) *Wald* $X^2(1) = .730$, $p = .393$. The odds of discipline level 2 (almost never) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not statistically significant (odds ratio of .*825, 95% CI [.399, 1.709]*) *Wald* $X^2(1) = .268$, $p = .605$. The odds of discipline level 3 (about half time) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was

not statistically significant (odds ratio of *.882, 95% CI [.424, 1.837]*) *Wald $X^2(1)$ = .112, p = .738.*

The odds of SES 1(low SES) scoring higher on the resiliency scale was almost half that of SES 3 (high SES) and was not statistically significant (odds ratio of *.791, 95% CI [.349, 1.792]*) *Wald $X^2(1)$ = .315, p = .574.* The odds of SES 2 (median SES) scoring higher on the resiliency scale was similar to SES 3 (high SES) and was not statistically significant (odds ratio of *1.029, 95% CI [.449, 2.359]*) *Wald $X^2(1)$ = .005, p = .946.*

The odds of not being a military child and scoring higher on the resiliency scale was similar to being a military child and was not statistically significant (odds ratio of *1.132, 95% CI [.644, 1.988]*) *Wald $X^2(1)$ = .185, p = .667.*

Table 20
Resiliency Scale Question Six Compared with Independent Variables

							95% Wald Confidence Interval for Exp(B)	
Parameter	B	Std. Error	Wald Chi-Square	df	Sig.	Exp(B)	Lower	Upper
Discipline								
Never	-.966	1.1305	.730	1	.393	.381	.042	3.489
Almost never	-.192	.3714	.268	1	.605	.825	.399	1.709
About half time	-.125	.3740	.112	1	.738	.882	.424	1.837
Almost always (Baseline)	0[a]	.	.	.	.	1	.	.
Military child								
No	.124	.2874	.185	1	.667	1.132	.644	1.988
Yes (Baseline)	0[a]	.	.	.	.	1	.	.
SES								
Low SES	-.234	.4171	.315	1	.574	.791	.349	1.792
Median SES	.029	.4232	.005	1	.946	1.029	.449	2.359
High SES (Baseline)	0[a]	.	.	.	.	1	.	.

Note. Dependent Variable: Resiliency Scale Question 6

Question Seven. Ordinal regression was used to examine how each independent variable, SES, discipline, and military child status, was predictive of the answers to

question seven of the resilience scale. These values are reported in table 21. The seventh question of the resiliency scale was "*in really difficult situations, I feel able to respond in positive ways*". The odds of discipline level 1 (never) scoring high on the resiliency scale was half that of discipline level 4 (almost always) and was not statistically significant (odds ratio of .520*, 95% CI [.057, 4.743]*) *Wald* $X^2(1) = .337$, $p = .562$. The odds of discipline level 2 (almost never) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not statistically significant (odds ratio of *.887, 95% CI [.432, 1.823]*) *Wald* $X^2(1) = .106$, $p = .745$. The odds of discipline level 3 (about half time) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not statistically significant (odds ratio of *.840, 95% CI [.407, 1.737]*) *Wald* $X^2(1) = .220$, $p = .639$.

The odds of SES 1(low SES) scoring higher on the resiliency scale was similar to SES 3 (high SES) and was not statistically significant (odds ratio of *.836, 95% CI [.372, 1.881]*) *Wald* $X^2(1) = .187$, $p = .665$. The odds of SES 2 (median SES) scoring higher on the resiliency scale was similar to SES 3 (high SES) and was not statistically significant (odds ratio of *.949, 95% CI [.418, 2.156]*) *Wald* $X^2(1) = .016$, $p = .900$.

The odds of not being a military child and scoring higher on the resiliency scale was similar to being a military child and was not statistically significant (odds ratio of *.895, 95% CI [.511, 1.567]*) *Wald* $X^2(1) = .151$, $p = .698$.

Table 21
Resiliency Scale Question Seven Compared with Independent Variables

Parameter	B	Std. Error	Wald Chi-Square	df	Sig.	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	Upper
Discipline								
Never	-.655	1.128	.337	1	.562	.520	.057	4.743
Almost never	-.119	.3674	.106	1	.745	.887	.432	1.823
About half time	-.174	.3703	.220	1	.639	.840	.407	1.737
Almost always (Baseline)	0[a]	.	.	.	.	1	.	.
Military child								
No	-.111	.2860	.151	1	.698	.895	.511	1.567
Yes (Baseline)	0[a]	.	.	.	.	1	.	.
SES								
Low SES	-.179	.4137	.187	1	.665	.836	.372	1.881
Median SES	-.052	.4187	.016	1	.900	.949	.418	2.156
High SES (Baseline)	0[a]	.	.	.	.	1	.	.

Note. Dependent Variable: Resiliency Scale Question 7

Question Eight. Ordinal regression was used to examine how each independent variable, SES, discipline, and military child status, was predictive of the answers to question eight of the resilience scale. These values are reported in table 22. The eighth question of the resiliency scale was "*I experience peacefulness, free of thoughts and worries when I need to relax during stressful times*". The odds of discipline level 1 (never) scoring high on the resiliency scale was similar to discipline level 4 (almost always) and was not statistically significant (odds ratio of 1.261*, 95% CI [.155, 10.225]*) *Wald* $X^2(1) = .047$, $p = .828$. The odds of discipline level 2 (almost never) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not statistically significant (odds ratio of *1.215, 95% CI [.600, 2.460]*) *Wald* $X^2(1) = .292$, $p = .589$. The odds of discipline level 3 (about half time) scoring higher on the resiliency scale was

similar to discipline level 4 (never) and was not statistically significant (odds ratio of *.888, 95% CI [.436, 1.809]*) *Wald* $X^2(1) = .106$, $p = .744$.

The odds of SES 1(low SES) scoring higher on the resiliency scale was similar to SES 3 (high SES) and was not statistically significant (odds ratio of *.915, 95% CI [.414, 2.024]*) *Wald* $X^2(1) = .048$, $p = .827$. The odds of SES 2 (median SES) scoring higher on the resiliency scale was almost one and half times higher than SES 3 (high SES) and was not statistically significant (odds ratio of *1.303, 95% CI [.583, 2.913]*) *Wald* $X^2(1) = .416$, $p = .519$.

The odds of not being a military child and scoring higher on the resiliency scale was similar to being a military child and was not statistically significant (odds ratio of *.860, 95% CI [.497, 1.486]*) *Wald* $X^2(1) = .293$, $p = .588$.

Table 22
Resiliency Scale Question Eight Compared with Independent Variables

							95% Wald Confidence Interval for Exp(B)	
Parameter	B	Std. Error	Wald Chi-Square	df	Sig.	Exp(B)	Lower	Upper
Discipline								
Never	.232	1.0679	.047	1	.828	1.261	.155	10.225
Almost never	.194	.360	.292	1	.589	1.215	.600	2.460
About half time	-.118	.3628	.106	1	.744	.888	.436	1.809
Almost always (Baseline)	0[a]	.	.	.	.	1	.	.
Military child								
No	-.151	.2792	.293	1	.588	.860	.497	1.486
Yes (Baseline)	0[a]	.	.	.	.	1	.	.
SES								
Low SES	-.089	.4049	.048	1	.827	.915	.414	2.024
Median SES	.265	.4104	.416	1	.519	1.303	.583	2.913
High SES (Baseline)	0[a]	.	.	.	.	1	.	.

Note. Dependent Variable: Resiliency Scale Question 8

Question Nine. Ordinal regression was used to examine how each independent variable, SES, discipline, and military child status, was predictive of the answers to question nine of the resilience scale. These values are reported in table 23. The ninth question of the resiliency scale was "*I remain calm, even when I am in a frightening situation*". The odds of discipline level 1 (never) scoring high on the resiliency scale was half that of discipline level 4 (almost always) and was not statistically significant (odds ratio of .476*, 95% CI [.051, 4.469]*) *Wald* $X^2(1) = .422$, $p = .516$. The odds of discipline level 2 (almost never) scoring higher on the resiliency scale was similar to discipline level 4 (never) and was not statistically significant (odds ratio of *1.220, 95% CI [.594, 2.505]*) *Wald* $X^2(1) = .293$, $p = .588$. The odds of discipline level 3 (about half time) scoring higher on the resiliency scale was almost one and half times higher than discipline level 4 (never) and was not statistically significant (odds ratio of *1.302, 95% CI [.631, 2.686]*) *Wald* $X^2(1) = .508$, $p = .476$.

The odds of SES 1(low SES) scoring higher on the resiliency scale was almost half that of SES 3 (high SES) and was not statistically significant (odds ratio of *.691, 95% CI [.308, 1.550]*) *Wald* $X^2(1) = .805$, $p = .369$. The odds of SES 2 (median SES) scoring higher on the resiliency scale was similar to SES 3 (high SES) and was not statistically significant (odds ratio of *.987, 95% CI [.436, 2.236]*) *Wald* $X^2(1) = .001$, $p = .975$.

The odds of not being a military child and scoring higher on the resiliency scale was one and half times higher than being a military child and was not statistically significant (odds ratio of *1.570, 95% CI [.898, 2.745]*) *Wald* $X^2(1) = 2.509$, $p = .113$.

Table 23
Resiliency Scale Question Nine Compared with Independent Variables

Parameter	B	Std. Error	Wald Chi-Square	df	Sig.	Exp(B)	95% Wald Confidence Interval for Exp(B) Lower	Upper
Discipline								
Never	-.742	1.1427	.422	1	.516	.476	.051	4.469
Almost never	.199	.3671	.293	1	.588	1.220	.594	2.505
About half time	.264	.3697	.508	1	.476	1.302	.631	2.686
Almost always (Baseline)	0[a]	.	.	.	.	1	.	.
Military child								
No	.451	.2849	2.509	1	.113	1.570	.898	2.745
Yes (Baseline)	0[a]	.	.	.	.	1	.	.
SES								
Low SES	-.370	.4125	.805	1	.369	.691	.308	1.550
Median SES	-.013	.4172	.001	1	.975	.987	.436	2.236
High SES (Baseline)	0[a]	.	.	.	.	1	.	.

Note. Dependent Variable: Resiliency Scale Question 9

Summary

The data for all variables followed a normal distribution but was not representative of the population as demonstrated with the chi-squared test. The Mann Whitney U and Kruskal-Wallis H showed the data was similar across all groups of dependent and independent variables. The four assumptions of ordinal regression were met for all variables. Ordinal regression was carried out using the GENLIN function in SPSS. The independent variables did not statistically significantly predict the dependent variable. The potential moderating variables of PTSD, TBI, gender, years of service, rank, number of deployments and age, did not have a moderating or covariate relationship with the independent or dependent variables. In comparing the dependent variables to each independent variable category, some relationships were present. There was a statistically significant relationship between the dependent variable and the HDS individual question

two in the “almost always” category $p = .032$, question three in the “almost never” $p = .015$ and “about half time” $p = .012$ categories, and question four in the “never’ $p = .028$ with a large difference in odds ratio between values. Family size and income showed a large difference in odds ratios, but not a statistically significant level. In comparing each individual resilience item to the independent variables statistically significant results were present, specifically in statement three where SES was predictive of high resilience with a statistically significant result median SES $p = .001$, and low SES $p = .007$. The remaining resilience statements did show differences in odds ratios between variables, but not at a statistically significant level. These differences as well as the limitations of this data will be covered at length in the discussion in the following chapter.

Chapter 5: Discussion, Conclusion, and Recommendations

Introduction

My purpose in this study was to measure the association between the resilience level of an adult army veteran and specific ACEs of parental discipline style, SES, and growing up as a military child. A questionnaire that consisted of demographic questions, the Resiliency Scale (RS) (Siu), and the Harsh Discipline Scale (HDS) (Simons) was completed by 184 army veterans using a survey link that was shared via social media and distribution of flyers throughout veteran organizations in Kentucky and Maryland. The independent variables of SES, parental discipline style, and being a military child were compared with the dependent variable of resilience using ordinal regression. The analysis showed no statistically significant associations between the variables. There were slight differences in odds ratios, however they were not statistically significant. I ran separate regression analysis for each question that made up the independent variables comparing them with the resilience variable individually to determine if one or more aspects of SES, discipline, or military child had more of an association with resilience than other aspects of those variables. There were statistically significant results found with two of the HDS questions when compared with resilience. I also ran separate regression analysis between the independent variables and each Likert statement from the RS that made up the resilience variable to determine if the variables had an association individually with one or more aspect of resilience. There were statistically significant results found between the independent variables and RS statement three. In this chapter I will cover the interpretation of the findings in detail, limitations of the study, recommendations, implications, and conclusion of the study.

Interpretations of the Findings

I used normality tests on all variables before hypothesis testing to determine if the data fit normal distributions. Chi-squared tests showed statistical significance between all variables indicating that the population of the sample was not similar to the population. However, Mann-Whitney, Wilcoxon Rank Sum, and Kruskal-Wallis showed that the data did follow a normal distribution pattern within the sample as all tests reported no statistically significant values. The differences in the chi-squared test results will be further discussed in the limitations section of this chapter.

I conducted hypothesis testing using ordinal logistic regression as previously described. There was no statistically significant association between the dependent variable of resilience, and the independent variables of SES, discipline, and military child status. There were a few differences in odds ratios. Participants who were in the discipline category of almost never, were two times (OR = 1.926) more likely to score higher on resilience than those in the almost always. Participants who reported not being a military child were almost one and half times (OR = 1.373) more likely to score higher on resilience than those who grew up as a military child and those participants who fell into the median SES category were one and half times more likely to score higher on resilience than those who fell into the high SES category. When PTSD, and TBI were added to the model to determine if there was a covariate, or moderating relationship, the results did not change, and there were still no statistically significant relationships. The remainder of the variables, age, years of service, deployments, rank, and gender were added to the model, again with no statistically significant associations, and no moderating changes to the original model.

HSD Individual Questions Association with Resilience

I further assessed the data using ordinal regression comparing the association between resilience and the individual questions from the HDS that formed the discipline variable. Question one of the HDS asked how often a mother or father yelled at the participant. There were no statistically significant results for this question and the odds ratios for each choice were similar. The results for this question indicate that there was no difference in resilience between those who were yelled at a lot a child and those who were not.

Question two asked about how often a mother or father spanked or slapped a participant. This question did have statistically significant results for the Almost Always category and the odds ratios for each category were significantly different. A participant answering almost always to this question was 12 times *(OR = 12.001)* more likely to score higher on resilience than a participant who answered always with a statistical significance of $p = .032$. However, the confidence interval for this category was very large *(CI [1.235, 116.637])* making the effect of this result smaller. The results of this question indicate that those who were spanked or slapped as a child had a higher resilience than those who were not.

Question three asked about how often a participant was hit with a belt or paddle. There were statistically significant results for this question in the almost never and about half time categories. Those who answered almost never had a lower odds *(OR = .215)* of scoring high on resilience than those who answered always with a statistically significant result $p = .015$ and a small confidence interval *(CI [.063, .741])* indicating this significance is reliable. Those who answered about half time also were more likely to score low on resilience *(OR = .273)* compared with those who answered always with a

statistically significant result, $p = .015$, and a small confidence interval *(CI [.099, .747]).* The results for this question indicate that those veterans that were hit using a belt or paddle half of the time that they were punished were less resilient than those who were always hit with a belt or paddle. It is important to note that all answer categories for this question showed a negative relationship with resilience.

Question four asked how often a participant was kicked or locked out of the house by a parent. There was a statistically significant result in the never category for this question. Those who reported they had never been kicked or locked out of the house were three times more likely *(OR = 2.939)* to score high on resiliency than those who reported always with a statistically significant result, $p = .028$, and a small confidence interval *(CI [1.123, 7.692])* indicating that this significance is reliable. The results from this question indicate that being kicked out of the house has a negative effect on resilience.

The four questions of HSD averaged together did not show a statistically significant association with resilience level in adult veterans. In examining the results of each individual question using the framework of Dienstbier's theory of mental toughness, the results of the spanking question do fit with the hypothesis that some discipline in the form of spanking can help children develop more resilience as adults (Dienstbier, 2015). The literature discussed in chapter two showed mixed results for this topic, and many of the studies included spanking in with a physical abuse variable instead of analyzing it separately. More evident in the HDS question three, being hit with an object, which could be considered a form of physical abuse, produced much lower resiliency scores than the question on being spanked or slapped without an object. The results for these two

questions show that further study on spanking and slapping, as a separate variable from physical abuse needs to be undertaken by resiliency researchers.

SES Individual Questions Association with Resilience

I used ordinal regression to measure the association between each individual SES question and resilience with no statically significant results in the four categories of family size, fathers' education, mothers' education, or family income. There were some interesting differences in odds ratios that will be discussed.

The family size categories of 3 or less, 3 to 4. 5 to 6, or 6 or more showed no difference in how they scored on resilience, and there was no statistical significance in any of the results. There was a slightly negative association between those who reported being a family size of 3 to 4 members and resilience. Otherwise this variable had no association with how a participant scored on resiliency.

Fathers' education level did show some differences in odds between categories. Participants who reported having a father who received a high school diploma or equivalent were two and half times *(OR = 2.625)* more likely to score higher on resilience than those who had a master's degree or higher, and those who reported a father having an undergraduate degree were one and half times *(OR = 1.504)* more likely to score higher on resilience than those with a masters or higher. While not statistically significant, the results from this question might indicate that a higher education level of a father could lead to higher resilience.

Mothers' education level also showed a difference in odds ratios and an interesting negative association between mother's education and resilience. Participants who reported their mother had a high school diploma or undergraduate degree were more

likely to score lower on resilience than those who had a mother with a master's degree, and those who had a mother who did not graduate high school. The results from this question would lead a researcher to believe that having a mother with a high education could lead to less resilience as an adult.

Income level was reported in four categories of less than $15,000, $15,000 – $45,000, $45,000 - $65,000, and greater than $65,000. There was a negative association between all levels of income and resilience indicating that higher income may lead to increased resilience as an adult.

The SES variable and each individual question that made up the SES variable did not have a statistically significant association with resilience. While odds ratios for education levels in both parents showed differences between values, with no statistical significance these variables still cannot be associated with resilience. Contrary to the literature on SES presented in chapter 2, this research showed no associations between SES level and resilience in veterans.

Association of Independent Variables with Individual RS Questions

I used ordinal regression to measure the association between the independent variables and each individual question on the RS to determine if one aspect of resiliency was more associated to the independent variable than others. Of the nine statements on the scale, only statement three had significant results. The odds ratios between the independent variables for each of the nine RS statements did vary consistently.

Question one was about feeling capable over overcoming current or future problems. There was no statically significant association between this question and the independent variables. The discipline variable showed that those who averaged never

were less likely to score high on this question compared with those who had an average of almost always. The military child variable showed that those who reported that they were not military children were one and half times *(OR = 1.648)* more likely to score high on this question compared to those who reported they grew up as military child. The SES variable showed that those participants in the low or median SES scored lower on this question than those who fell into the high SES category.

Question two was about having a high capacity for facing adversity. There was no statically significant association between this question and the independent variables. The discipline variable showed no difference in odds between the categories and how they scored on this question. The military child variable, as with question one, showed that those who reported they were not military children were one and half times *(OR = 1.413)* more likely to report higher scores on this question than those who reported growing up as a military child. The SES variable also showed similar distribution as with question one in that low and median SES participants scored lower on this question than those in the high SES category.

Question three was about remaining calm under pressure. This question did have a statistically significant association with the SES variable, and a large difference in odds between the discipline categories. The discipline variable showed that those who fell into the never category were almost four times *(OR = 3.694)* more likely to score high on this question than those who fell into the almost always category. The military child variable showed no difference between odds, however there was a slight negative association between not being a military child and scoring high on this question. The SES variables showed that those who fell into the median SES were five and half times *(OR = 5.544)*

more likely to score high on this question than those in the high SES, and those in the low SES were almost four times *(OR = 3.796)* more likely to score high, than those in the high SES category with a statistical significance in both categories, $p = .007$, and $p = .001$.

Question four was about experiencing anxiety under stressful situations. There were no statistically significant results for this question. The discipline variable showed no difference between odds of each category and how they scored on this question, however the never, and almost never categories did show a slight negative association with scoring high on this question. The military child variable had a slight difference in odds, with those who answered that were not a military child scoring lower on this question than those who reported growing up as a military child. The SES variable showed that those in the low and median SES categories were one and half times *(OR = 1.442, and 1.579)* more likely to score high on his question than those in the high SES category.

Question five was about continuing to like oneself after making a mistake. There were no statistically significant results for this question. The discipline variable showed that those who fell into the never category were three times *(OR = 3.098)* more likely to score high on this question compared with those who were in the almost always category. Those who fell into the about half time category were one and half times *(OR = 1.427)* more likely to score high on this question than those in the almost always category. The military child variable showed that those who reported not being a military child were almost two times *(OR = 1.711)* more likely to score high on this question than those who grew up as a military child. The SES variables showed that those who fell into the low

and median SES categories were two times *(OR = 2.193 and 2.075)* more likely to score high on this question than those who reported high SES.

Question six was about being able to stand up for oneself easily. There were no statistically significant results for this question. The discipline variable showed that those who fell into the never category was half as likely *(OR = .393)* to score high on this question than those who were in the almost always category. The almost never and about half time categories were also negatively associated with scoring high in this question compared with almost always. There was only a slight difference in odds between military child and not military child. The SES variables showed that those in the low SES category were less likely to score high on this question than those in the high or median SES categories.

Question seven was about responding to difficult situations in positive ways. There were no statistically significant results for this question. The discipline variable showed that those who fell into the never category was half as likely *(OR = .520)* to score high on this question as those in the almost always category. The almost never and about half time categories also had slight negative associations with scoring high in this question. There was a small difference in odds for the military child variable with not being a military child showing a slight negative association with scoring high on this question. There was a small difference in odds for the SES variables with a slight negative association between low and median SES and scoring high on this question.

Question eight was about being able to relax during stressful times. There were no statistically significant results for this question. The odds ratios for the discipline variable were only slightly different. The military child variable showed only a small difference in

odds and a slight negative association between not being a military child and answering high on this question. The SES variable showed that those who fell into the median SES category were almost one and half times more likely to score high on this question than those in the high SES category.

Question nine was about remaining calm in a frightening situation. There were no statistically significant results for this question. Those who fell into the discipline category of never were half as likely *(OR = .476)* to score high on this question as those who were in the almost always category. Those who were in the about half time were almost one and half times *(OR = 1.302)* more likely to score high than those in the almost always category. Those who reported not being a military child were one and half times *(OR = 1.570)* more likely to score high on this question than those who reported growing up as a military child. Those who fell into the low SES category was half as likely *(OR = .691)* to score high as those who fell into the high SES category.

Interpretations

There were no statistically significant associations between the independent variables and dependent variable, which agreed with some of the literature, but not all. Using Dienstbier's theory of mental toughness (Dienstbier, 2015), I expected to see those who were mildly disciplined, grew up in middle class, and was a military child, would be more resilient than the other categories. Without a statistical significance, the null hypothesis for all three research questions cannot be rejected. While there was no significant association, the differences in odds ratios for the independent variables still need to be discussed, as the differences could inform future research on this topic.

Discipline and Resilience. The discipline variable was an average of the four HDS questions a previously discussed. More than half of the participants fell into the almost never, or about half time categories. In the regression analysis the odds of scoring higher on resilience was almost two times higher in the never category versus the almost always category. This would indicate that those who were not disciplined harshly were more resilient than those who were. The other discipline categories showed no difference in odds with the reference value. This result does not validate Dienstbier's theory of mental toughness as his theory would indicate a median amount of harshness would produce more resilient individuals. These results, however, are not reliable as there was no statistical significance and the confidence interval was very wide for the category of never.

While the overall variable of discipline did not have a statistically significant relationship with resilience, it is important to discuss the statistical significance found in the individual HDS regression, as they appear to support some of the literature discussed in chapter two, and Dienstbier's theory of mental toughness. The statistically significant results on questions two and three of the harsh discipline scale could be interpreted using Dienstbier's theory showing that there may be a fine line between spanking or slapping and physical abuse in the context of ACEs (Dienstbier & Zillig, 2016). It appears that those who were regularly disciplined as a child with a spanking or slap were more resilient than those who were never spanked, and those who were disciplined by parents who hit them with a paddle or belt were much less resilient overall. This result falls in line with the literature review where it was shown that those studies that included spanking as a physical abuse showed a negative association with resilience (Tallieu &

Brownridge, 2013), while those studies that explored spanking separately from physical abuse showed a positive association (Merrick et al., 2017).

Exploring how this variable related to each individual resilience question produced interesting results, none at a significant level, but still important to note in the context of the theory and research questions. Participants who scored in the never category had lower odds for resilience statements about overcoming difficulties, standing up for oneself, responding in positive ways, and reaming calm during a frightening situation. There was no difference in odds for statements dealing with adversity and experiencing anxiety during stress. Odds were higher for scoring high on statements remaining calm during stress, still liking oneself after making a mistake, and being able to relax during stressful circumstances. Overall, for the never category the difference in odds ratio appears to indicate that those who received little to no discipline as a child were less able to deal with difficulties in that they scored low on overcoming them or responding in positive way, but were better equip at remaining calm, having confidence, and being able to relax during stress.

Participants in the almost never category had lower resilience scores in dealing with anxiety, standing up for oneself, and responding to stress in positive ways, but had higher scores in all other resilience categories at a very consistent level across the remaining 6 statements. This would seem to indicate that children who were disciplined at a consistent, yet low level developed more resilience than those who were never, or rarely disciplined; however, like the never category, they still did not develop the skills of being able to stand up for themselves or respond to stress in positive ways.

The final category of about half time showed that participants who scored in this category had lower resilience scores in facing adversity, standing up for oneself, responding in positive ways, and relaxing during stress. They had higher scores in overcoming difficulties, remaining calm under pressure, dealing with anxiety, and remaining calm under frightening circumstances. These results indicate that those who had an average amount and consistent discipline as a child still had difficulties dealing with adversity, and responding to difficult circumstances, but were better able to overcome the difficulties, and remain calm through all circumstances.

The difference in odds ratios for the four discipline categories showed that participants who received consistent, but less discipline seem to fair the best overall in scoring high on resilience. This would fit with Dienstbier's theory in looking at discipline in the context of an ACE. Resilience scores in dealing with anxiety and having positive ways to respond to stress were consistently low among all discipline categories potentially indicating that the participants in this study were less resilient in these categories regardless of discipline level received as a child. The fact that none of these results were statistically significant, however, indicate that discipline in general has no associations with resilience. This would refute most of the literature in the review on how spanking, and physical abuse are related to mental health. Most of the review indicated that there was a negative association between harsh discipline and mental health in the general population (Gershoff & Grogan-Kaylor, 2016). This study did not show that association within our sample of a veteran population.

SES and Resilience. The SES variable was an average of the answers from four demographic questions as previously discussed. Almost half, 45% of participants fell into

the low SES category. Regression analysis did not show statistically significant association; however, odds ratios did show that those in the median SES category were more likely to score higher on resilience than those in the high category, or low category. This result falls in line with Dienstbier's theory. It would be expected that those in the low SES category would face a great a month of adversity, with no time for recovery, and those in the high SES category would face much adversity. Those in the median category would face a reasonable amount of adversity, with recovery time and support allowing them to build resilience according to the concept of the theory.

Regression analysis of the SES variable with each individual resilience statement showed interesting trends and a statistically significant result in statement three. The low SES and median SES categories showed consistently lower odds in facing difficulties, facing adversity, responding positively, and remaining calm, while scoring high in resilience on dealing with pressure, experiencing anxiety, and exuding high confidence as compared with those who fell into the high SES category. As with the results previously discussed with the SES variable, these independent results show that those participants who grew up in median SES households are generally more resilient than those who were part of low or high SES households, and with statistically significant results in being better able to remain calm under pressure. This result does not agree with the reviewed literature which indicated that children from lower SES households had more mental health issues as adults than children from higher SES households (Andersson & Vaughan, 2017). However, as stated in the literature review, there was a large gap in research with median SES households and how they are related to resilience. This

research showed there may be a fine line between median SES, and low SES as they relate to resilience.

Military Child Status and Resilience. The military child variable was examined through regression analysis and showed no statistically significant associations with resilience, however the odds ratio indicated that participants who did not grow up as military children, were more likely to score higher on resilience than those children who did *(OR = 1.373)*. Regression analysis of military child status for each individual resilience statement showed interesting results in odds. Participants who indicated they were not a military child had slightly lower odds of having high resilience in dealing with pressure, having positive ways to respond to stress, and relaxing when stressed. They had a lower odds of scoring high on resilience when dealing with anxiety. Non-military children had a higher odds of resilience score in facing difficulties, facing adversity, confidence, and remaining calm in frightening situations. These results could indicate that military children do not develop healthy resilience compared with their civilian counterparts. This result is difficult to interpret in the context of Dienstbier's theory. Military children face a multitude of adversities from deployments, divorce, lower income, death of parent, and constantly moving, however they have an extensive support network with the military community and medical services (Cederbaum, Gilreath, Benbenishty, Astor, Pineda, Depedro, et al., 2014). In applying Dienstbier's theory, as long as the military child had time to recover between adverse events, they should be more resilient. The results of this study show the opposite. The results do match up with the literature previously reviewed showing that military children are less resilient than their civilian counterparts (Alfano et al., 2016).

Summary

The mostly lack of statistical significance in this study shows that there may not be a strong association between these particular ACEs and resilience. Previous literature reviewed on these topics was mixed and inconclusive. Overall in interpreting the odds ratios without regard to statistical significance, it would seem that most of Dienstbier's theory of mental toughness holds true in that participants who fell into a median SES category, and had a low level of harsh discipline were more resilient than those who were in a low or high SES, and those who were never harshly disciplined, or who were always harshly disciplined. The results of this study could have been greatly impacted by the limitations that will be discussed in the next section of this chapter. Considering the fact that there were no statistically significant associations between the variables, the null hypothesis for all three research questions is not rejected, and the alternative hypothesis for all three research questions is rejected.

Limitations of the Study

There were many limitations with the data collection and analysis of this study. First the fact that this study was only for army veterans means that the data cannot be applied to the general population and may not be applicable to other military services.

Secondly the chi-squared analysis indicated that the data did not fit the population. This was expected as the distribution of army members is not similar to the general population in that there are three times as many males than females in the army, and 79% of army service members report being the child of a veteran (U.S. Department of Defense, 2013).

Thirdly, there are very few veterans in the age category of 18 – 24 years old, as most soldiers complete at least six years of service before leaving (U.S. Department of Defense, 2013). Joining the army at 18 and completing six years of service would make 24 the least possible age for a typical veteran.

A forth limitation is related to how the data was distributed. The demographic analysis in this population indicated that the majority of the participants had lower than average resilience scores and had low SES values. It is possible that the description of the study as wanting to decrease depression and suicide, caused those veterans that are struggling with depression to be more likely to participate than veterans who do not have these struggles.

A fifth limitation is recall bias. Several questions in the demographic section of the survey and all of the questions on the HDS required people to remember things about their childhood. They may not have remembered correctly, or guessed on some answers.

A sixth limitation is incomplete survey answers. While this limitation was mediated by removing those surveys with unanswered questions, I noted that some of the questions that were skipped were multiple choice that did not give the option of answering "unknown". For example, if a participant did not know their father or mother, they would not have been able to answer the education question because there was no choice for unknown, or not applicable. Adding this option could have led to more complete surveys for data analysis.

The final limitation for this research is the use of Likert scales and ordinal data. The quantitative nature of this study required the use of ordinal data, which is considered categorical and interpretive. The use of this type of data means that while correlational

relationships can be observed between variables, a causal relationship between variables cannot be proven.

Recommendations

There are many avenues for future research that this study has identified. Future research in this topic could address the limitations listed by increasing the sample size and study area to make the population better distributed. The current research had a majority of enlisted members, with a lower than average resilience level. A population that includes a better distribution of ranks, and resilience level could show stronger associations or produce statistically significant results. A study that involves all veterans regardless of service could be beneficial and could help with generalizing the results. Further research into discipline as it relates to just spanking or slapping compared to physical abuse would also be beneficial as current literature seems to lump these factors together, while this study showed there may be a significant difference between the two and how they relate to resilience. A longitudinal study that starts with military children answering questions about their current life situations and resilience, then follows these children into adulthood to measure resilience could produce very reliable results related to associations between specific ACEs and resilience. Future studies focusing specifically on adults who were military children could help to find what aspects of ACEs are more associated with resilience and what programs offered for military children work to increase resilience and decrease mental health issues. Future research into this topic should focus on specific ACEs and eliminate the confounding or moderating effects from grouping all ACEs into one study to gain a better understanding of how adversities are overcome, which adversities help children develop relevant life skills, and which

adversities truly are detrimental to adult mental health. Further research should also use Dienstbier's theory as a framework to better understand how resilience is developed.

Implications

Social Change Implications

The positive social change that I hoped to reach was to identify potential specific factors that help veterans develop resiliency to act as a protection against mental health issues and suicide. Understanding how certain ACEs affect the development of resilience can help public health and military officials develop better educational and prevention programs for at risk veterans. The fact that there were no statistically significant associations between the main independent and dependent variables does not lessen the potential social implications of this research. I did discover significant associations with specific discipline measures, and in SES levels. Future research into these specific variables could help produce relevant resilience training for military members and veterans, and special programs for military children that are designed to help them develop resilience skills. Parenting classes on how different discipline styles affect childhood mental health could be better tailored to parents in the military community. While not statistically significant, it is worth mentioning that overall participants who reported they were not military children did have a higher odds of scoring high on resilience than participants who grew up as military children. This would indicate that more programs aimed at military children's mental health need to be developed and implemented to teach these children how to face adversity, and develop the skills needed to bounce back. Ultimately, more research is needed to further develop prevention programs aimed at the military family, members, and veterans. Once programs for this

population are shown to produce valuable results, they can then potentially by tailored for the civilian community. The social change implications are limitless in the area of mental health once an understanding of what really helps people develops resilience is achieved.

Theoretical Implications

Theoretical implications of this research showed that there may be some merit in Dienstbier's theory of mental toughness (Dienstbier, 2015), however more research using this theory as a framework is needed. Exploring how minor ACEs effect resilience in veterans produced inconclusive results, but some aspects of the theory were evident in the associations between median SES and resilience, and spanking or slapping and resilience. This theory needs further research to truly understand how mental toughness can be gained by experiencing adversities in childhood.

Conclusion

My purpose for this research was to explore how resilience in veterans is related to the specific ACEs of SES, parental discipline style, and being a military child. The three research questions specially asked how each ACE was associated with adult resilience level using Dienstbier's theory of mental toughness, which posits that children who face minor adversities will have higher resilience as adults. The results of this study did not show an association between the specific ACEs and resilience, but when further explored, did show some statistical significance within SES levels on a specific resilience question, and with specific discipline style of spanking and resilience. Participants who indicated they grew up in a median to low SES home were much more likely to indicate that they could remain calm and respond positively to extreme pressure. Throughout the rest of the analysis the median and low SES participants consistently scored higher on resilience

than those in the high SES category however without statistical significance. This data could potentially show how the struggles in a middle-class household could be just enough for a child to gain the skills to be more resilient as adults, without causing detrimental effects to their mental health. The results of the individual analysis of the HDS showed that those participants who were spanked or slapped regularly were more resilient than those who were not and were more resilient than those who were hit with objects such as a belt or paddle. This result could potentially show that there is a balance in the area of discipline where an open hand spanking could help a child develop resilience, while using an object to hit the child could be detrimental to their mental health, as those who indicated they had been regularly hit with objects had extremely decreased resilience scores. Overall it appears that veterans who grew up in middle class households, with parents who were not military service members, and who received average discipline as described by the HDS were more resilient than those who were raised in high class households, were military children, and/or were disciplined harshly. However, without statistical significance these associations are merely correlational based on odds ratios and should not be used to conclude any casual association without further research, and addressing the limitations discussed previously.

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Appendix A: Recruitment Flyer

Walden University

Measuring the effect of childhood adversity on resiliency level of Army Veterans

Volunteers Wanted for a Research Study

The purpose of this study is to explore how specific adverse childhood events affect resiliency levels in adult veterans. This study will look at parental discipline style, socioeconomic status and whether being a child of veteran/military member had an effect of resiliency levels of adult veterans. The results of this study will be used to determine how to better understand what effects resiliency in Army soldiers and veterans with an overall reach of stopping veteran suicide.

Eligibility Criteria:

- **Retired or discharged from the Army**

The benefits of this study will be to have a better understanding of how resiliency is developed or learned throughout a soldier's childhood so that better prevention and intervention strategies can be developed in Army and in civilian public health institutions. Childhood adversities have long been connected to adult mental health and wellbeing, but specific adversities as related to veterans have not been previously explored.

If you agree to be in this study, you will be asked to fill out an online survey that contains open ended questions, and statements that ask you to choose a level of agreement or disagreement. The survey should take no more than 15 minutes to complete.

If you are interested in this study or have questions about this study please contact the researcher below:

Stephanie Rausch, doctoral student at Walden University

Phone: [redacted]

Email: [redacted]

Appendix B: Consent Form

CONSENT FORM

You are invited to take part in a research study about how specific adverse childhood events are related to resiliency level of adult veterans. The researcher is inviting all retired and discharged Army veterans to be in the study. You indicated your interest in this study by emailing me from the information provided on the flyer you found at a number of veteran organizations. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Stephanie Rausch, who is a doctoral student at Walden University.

Background Information:
The purpose of this study is to explore how specific adverse childhood events are related to resiliency levels in adult veterans. This study will look at parental discipline style, socioeconomic status and whether being a child of veteran/military member has any relationship with the resiliency levels of adult veterans. The results of this study will be used to determine how to better understand what relationship certain adverse events have on resiliency in Army soldiers and veterans with an overall reach of stopping veteran suicide.

Procedures:
If you agree to be in this study, you will be asked to:

• Fill out an online survey that contains open ended questions, and statements that ask you to choose a level of agreement or disagreement.

This survey should take approximately 15 minutes to complete.
Results when available can be viewed at: https://sites.google.com/view/aces-and-veteran-resilience

Here are some sample questions:

• When you did something wrong, how often did your mom or dad spank or slap you?

• Do you have a parent that served in the military or was a veteran at any time between when you were born and your 18th birthday.

• When I have made a mistake during a stressful situation, I continue to like myself.

• How many times were you deployed during your service?

• Have you ever been diagnosed with PTSD?

• Have you ever been diagnosed with TBI?

Voluntary Nature of the Study:
This study is voluntary. You are free to accept or turn down the invitation. No one at any veterans organization will treat you differently if you decide not to be in the study. If you decide to be in the study now, you can still change your mind later. You may stop at any time.

Risks and Benefits of Being in the Study:
Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as stress or becoming upset. Being in this study would not pose risk to your safety or wellbeing. If the nature or question of this study trigger distress or depression you may contact 1-800-273-8255, text 838255, or chat online at www.veteranscrisisline.net.

The benefits of this study will be to have a better understanding of how resiliency is developed or learned throughout a soldiers childhood so that better prevention and intervention strategies can be developed in Army and in civilian public health institutions.

Privacy:
Reports coming out of this study will not share the identities of individual participants. Details that might identify participants, such as the location of the study, also will not be shared. Even the researcher will not know who you are.
The researcher will not use your personal information for any purpose outside of this research project. Data will be kept secure by password protection. Personally identifiable information such as names, address, or birthdate are not being collected in this study. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions:
If you have questions please email stephanie.rausch@waldenu.edu. If you want to talk privately about your rights as a participant you may contact the Research Participant Advocate at my university at 612-312-1210. Walden university's approval number for this study is 07-26-18-0148735 and it will expire July 25th, 2019.

Obtaining your Consent:
By completing the 25 questions and submitting the survey you are agreeing to give your consent as a participant for this study.

Appendix C: Sample Complete Survey

Childhood Adversity and Army Veterans

Demographic Questions

* 1. What is your age?

- ○ 18 to 24
- ○ 25 to 34
- ○ 35 to 44
- ○ 45 to 54
- ○ 55 to 64
- ○ 65 to 74
- ○ 75 or older

* 2. What is your gender?

- ○ Female
- ◉ Male
- ○ Other

* 3. How many years did you serve in the Army active duty or in reserve status?

[ ]

* 4. What was your rank at retirement or discharge?

* 5. How many times were you deployed?

* 6. Have you ever been diagnosed with PTSD?

- Yes
- No

* 7. Have you ever been diagnosed with TBI?

- Yes
- No

Family Demographics when you were a child

The following questions pertain to your childhood (before the age of 18).

* 8. What was your family size (i.e. count yourself, both parents if they were living with you, and number of siblings)

- 3 or less
- 3-4 members
- 5-6 members
- More than 6

* 9. What is the highest level of school or degree your father completed?

- Less than High School Graduate

- High School Graduate or Equivalent
- Undergraduate Degree (Bachelors)
- Master's Degree or Higher

* 10. What is the highest level of school or degree your mother completed?

- Less than High School Graduate
- High School Graduate or Equivalent
- Undergraduate Degree (Bachelors)
- Master's Degree or Higher

* 11. What was your annual household income? (The best estimate you can remember)

- Less than $15,000
- $15,000 to $45,000
- $45,000 to $65,000
- Over $65,000

* 12. Was either parent in the military service or a veteran of the military service?

- Father
- Mother
- Both

None

Harsh Discipline Scale

In the following 4 questions, please choose the best response that matches your parent's discipline style while you were a child.

* 13. When you did something wrong, how often did your mom(dad) lose her/his temper and yell at you?

Always

Almost Always

About Half the Time

Almost Never

Never

* 14. When you did something wrong, how often did your mom(dad) spank or slap you?

Always

Almost Always

About Half the Time

Almost Never

Never

* 15. When punishing you did your mom(dad) ever hit you with a belt, paddle or something else?

Always

- Almost Always
- About Half the Time
- Almost Never
- Never

* 16. When you did something wrong how often did your mom(dad) tell you to get out or lock you out of the house?

- Always
- Almost Always
- About Half the Time
- Almost Never
- Never

Resiliency Scale

In the following 9 questions please choose the best response to describe your current feelings.

* 17. I feel capable of overcoming my present or any future difficulties and problems I might face such as resolving dilemmas or making difficult decisions.

- Strongly agree
- Agree
- Somewhat Agree
- Somewhat Disagree

- Disagree
- Strongly Disagree

* 18. I have a high capacity for facing adversity.

- Strongly agree
- Agree
- Somewhat Agree
- Somewhat Disagree
- Disagree
- Strongly Disagree

* 19. When there is a great deal pressure being placed on me, I remain calm.

- Strongly agree
- Agree
- Somewhat Agree
- Somewhat Disagree
- Disagree
- Strongly Disagree

* 20. During stressful circumstances, I never experience anxiety.

- Strongly agree
- Agree
- Somewhat Agree
- Somewhat Disagree
- Disagree
- Strongly Disagree

* 21. When I have made a mistake during a stressful situation, I continue to like myself.

- Strongly agree
- Agree
- Somewhat Agree
- Somewhat Disagree
- Disagree
- Strongly Disagree

* 22. When I need to stand up for myself, I can do it easily.

- Strongly agree
- Agree
- Somewhat Agree
- Somewhat Disagree

Disagree

Strongly Disagree

* 23. In really difficult situations, I feel able to respond in positive ways.

Strongly agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

* 24. I experience peacefulness, free of thoughts and worries, when I need to relax during stressful times.

Strongly agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

* 25. I remain calm, even when I am in a frightening situation.

- Strongly agree
- Agree
- Somewhat Agree
- Somewhat Disagree
- Disagree
- Strongly Disagree