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Achievement Outcomes of Sixth-Grade Students With a Military Parent
Deployed to a War Zone or a Military Parent Not Deployed Compared to
Same School Students Whose Parents Have No Military Affiliation

By

Robert L. Ingram III

A DISSERTATION

Presented to the Faculty of

The Graduate College of the University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Doctor of Education

In Educational Leadership

Under the Supervision of Dr. John W. Hill

Omaha, Nebraska

2014

Supervisory Committee:

Dr. Karen L. Hayes

Dr. Jeanne L. Surface

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Abstract

ACHIEVEMENT OUTCOMES OF SIXTH-GRADE STUDENTS WITH A MILITARY PARENT DEPLOYED TO A WAR ZONE OR A MILITARY PARENT NOT DEPLOYED COMPARED TO SAME SCHOOL STUDENTS WHOSE PARENTS HAVE NO MILITARY AFFILIATION

Robert L. Ingram, III

University of Nebraska

Advisor: Dr. John W. Hill

The need for accurate information about the achievement of students whose military parents are deployed to a war zone or whose military parents are eligible although not currently deployed to a war zone is important in order to ensure that we are providing for the educational wellbeing of these children as their parents defend our nations freedoms. The purpose of this posttest-only comparative efficacy study was to determine the achievement outcomes of sixth-grade students with a military parent deployed to a war zone ($n = 10$) or sixth-grade students with a military parent not deployed to a war zone ($n = 10$) compared to same school students whose parents have no military affiliation ($n = 10$). The study's dependent measures were Academic achievement as measured by end of sixth-grade (1) Nebraska State Accountability Assessment Test-Math, (2) Nebraska State Accountability Assessment Test-Reading, (3) Measure of Academic Performance-Math, (4) Measure of Academic Performance-Reading, (5) Research School District's Descriptive Writing Assessment for (a) Ideas and Content, (b) Organization, (c) Voice, (d) Word Choice, (e) Sentence Fluency, and (f) Conventions, and (6) Research School District's Essential Objectives for (a) Language, (b) Math, (c) Science, (d) Social Studies,

(e) Health, (f) Physical Education, and (g) Music. The overall pattern of end of sixth-grade statistical equipoise between group comparisons indicated that the goal of educational wellbeing for these students of military families, and control group students alike, was being met and was reflected in measured proficient and advanced level performance requiring students' day-to-day engagement at school and support at home.

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The writing of this dissertation has been one of the most significant academic challenges I have ever had to face. Without the support, patience and guidance of a truly dedicated team, this study would have not been completed. It is to the entire team that I wish to express my most sincere appreciation.

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I cannot express enough thanks to my committee for their continued support and encouragement. Dr. John W. Hill has been my committee chair, advisor, teacher, and friend at various periods of my life for over thirty years. Your wisdom, knowledge, and commitment to the highest standards inspired and motivated me. I'd also like to thank the members of the faculty who have served on my committee or offered assistance in addition to Dr. Hill. I appreciate the guidance that Dr. Karen Hayes, Dr. Jeanne Surface, Dr. Peter Smith, and Dr. Neal Grandgenett provided as I learned through this process.

I am extremely grateful to my parents for giving me life and for their push to complete a higher education degree, for their love, prayers, caring, and sacrifices shown in my preparation for my future. To our daughter Angelique, and our son, Lewis, I thank each of you for keeping me inspired to complete this study. Your love, understanding, prayers, and continued support made such a difference in my ability to concentrate and focus. Each of you picked up the slack for me during my time to work on this study and you will never know how much I appreciate and love you.

To my eight brothers and sisters, Lenora, Barbara, Kay, Roderick, Jacque, Elton, Larry, and William, I say thank you to each of you for encouraging me to be me as we grew up with the nine very diverse personalities we each developed. You always encouraged my love for learning and teaching and you have each been an inspiration to me as I have watched you find the vocation you have committed your life to. Elton, Larry, and William, I stand on your shoulders for going before me in all of life's journeys. I learned so much from observing each of you and I say to each of you that you may not know it, but you are heroes in my life. You paved the way for me, your fourth brother, always being the watchful older brothers and holding me accountable early in life. Thank you.

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CHAPTER ONE

Introduction

Military deployments change lives. Today in the news, it is easy to find stories about United States Military Service Members returning from deployment with injury or illness and in some unfortunate cases, one will find stories of Service Members not returning at all. But what about the children of these brave men and women who give their all to the United States? There are nearly 1.8 million military-connected children in this country. Of these children, 700,000 currently have at least one parent deployed to a war zone. The global War on Terror demands great sacrifices of its Service Members, and consequently, military-connected children often face complicated circumstances and losses that force them to adjust to a different life (Collins, 2007).

In the literature, deployment is often described as a cyclical process rather than a single event, consisting of stages including pre-deployment, deployment, post-deployment (returning home), and re-deployment. Research has shown that children are likely to face different stressors at various stages of this cycle (Fitzsimons & Krause-Parello, 2009; Pincus, House, Christensen, & Adler, 2001). For instance, at the pre-deployment stage children may anticipate parental separation and harbor concerns or anxiety about their parent's well being and return (Burrell, Adams, Durand, & Castro, 2006; Huebner, Mancini, Wilcox, Grass, & Grass, 2007; Kelley, Hock, Smith, Jarvis, Bonney, & Gaffney, 2001; McCarroll, Fan, Newby, & Ursano, 2008; Orthner, Den & Rose, 2005). During deployment children may experience changes to family roles and routines, including additional responsibilities for older children (Bowling & Sherman, 2008), which may take place in the context of the diminished capabilities of the at-home

parent who may also be experiencing stress (Mansfield, Kaufman, Marshall, Gaynes, Morrissey, & Engel, 2010; SteelFisher, Zaslavsky, & Blendon, 2008). Post-deployment, the child must reintegrate their parent back into the family unit; which may be difficult if some time has passed and the child has matured (Defense Department Advisory Committee, 2004). The possibility of redeployments can make the re-establishment of bonds even more challenging for the child. This conceptualization of deployment as a cycle and the stressors identified are highly relevant to the current and previous deployments to Iraq or Afghanistan (White, de Burgh, Fear, & Iversen, 2011).

Multiple and extended deployments and the high operational pace of the current conflicts are unparalleled for the U.S. military's all-volunteer force (Belasco, 2007; Bruner, 2006; Hosek, Kavanagh, & Miller, 2006). As a result, many youth from military families are experiencing significant periods of parental absence. In 2006, approximately 1.89 million children had one or both parents in the military; 1.17 million had parents in the Active Component and 713, 000 had parents in the Reserve Components (Department of Defense, 2006). While there are positive aspects of deployment, including increased camaraderie, sense of family pride and financial benefits associated with deployment, deployments can take a heavy toll on families concerned for the safety of their loved ones (Hosek et al., 2006; Tanielian & Jaycox, 2008). Arguably the most vulnerable family members are the children and youth left at home. While younger children may not fully comprehend why a parent must leave, older children and adolescents must cope with parental deployment during a critical and rapid stage of social and emotional development, which is challenging even in the most supportive and stable of environments (Huebner et al., 2005).

The potential impact of the threat of war on children's worldview, social map, and moral development remains uncharted territory. Research findings are mixed but, in a thorough review and synthesis of the literature, Jensen and Shaw (1996) suggested that massive exposure to war overwhelms the child's defenses. Moderate exposure probably leads to development of adaptive, self-protective strategies, but minimal exposure may not invoke self-protective mechanisms. Thus, an important area for research is the effect of minimal exposure to the threat of war, such as that experienced by children in U.S. military families (Ryan-Wenger, 2001). However, with multiple deployments to the Iraq and Afghanistan war theaters currently the rule rather than the exception, the concern today is for children of military families who may be overwhelmed from massive exposure to war.

Flake and colleagues (2009), in a study of 101 families living on a military base, reported that 32% of 5-12 year old children with a deployed parent had Pediatric Symptom Checklist scores in the "high risk" range for psychosomatic problems, approximately 2.5 times the national norm. In a study examining child and parent distress among 272, 6-12 year old children of active duty soldiers deployed to Operation Enduring Freedom/Operation Iraqi Freedom, both length of deployment and parental distress were associated with children's depression and externalizing symptoms (Lester et al., 2010). Similarly, Chartrand, Frank, White, and Shope's (2008) study of 169 families living on Marine bases revealed significantly poorer parent-reported adjustment among 3 to 5 year olds with a deployed parent, compared to peers without a deployed parent, controlling for caregiver's stress and depressive symptoms (Gewirtz, Erbes, Polusny, Forgatch, & DeGarmo, 2011).

War research has preliminarily shown that cognitive maturity and developmental growth influence how a child or adolescent responds to war (Atwood & Donnelly, 2002). From a developmental perspective, older children are more likely to feel equipped emotionally and cognitively to handle adverse events and crises than their younger counterparts (Dyregrov, Gjestad, & Raundalen, 2002; Ronen, Rahav, & Rosenbaum, 2003; Vogel & Vernberg, 1993). For example, younger children traditionally think concretely (Piaget, 1952) and therefore may struggle to understand and make meaning of a war (Ronen, et al., 2003). Reports have shown that children ages 7-11 tend to be prone to display fear, confusion, psychosomatic symptoms, problems at school, and anxiety in the aftermath of war (Joshi & O'Donnell, 2003). Younger children may have some difficulty in differentiating real versus imagined facts related to the war (Atwood & Donnelly, 2002). Adolescents, on the other hand, generally have the cognitive and emotional maturity to understand and handle adverse events, crises, and trauma (Davidson, White, Smith, & Poppen, 2001; Tedeschi & Calhoun, 1995). For example, when dealing with trauma, teenagers have deeper, more abstract concerns (i.e., moral, religious, and ethical thoughts), which can influence how they understand and react to war (Burnham & Hooper, 2008).

Life stressors faced by military families include frequent moves, the potential of being deployed into hostile environments, frequent periods of family separation, geographic isolation from extended-family support systems, low pay, young age as compared to general civilian population, and a high incidence of young children living in the home. Military children are resilient—that's what their principals and counselors repeatedly say. They are used to changing schools, enduring long separations from a

parent, and saying good-bye to old friends and making new ones. “What we hear from military families is that they don’t want their children to be treated as victims,” said Stephanie Surles, research and development officer for the Military Child Education Coalition. “They want them to be treated as children first” (Hardy, 2006).

Social issues of children with deployed parents is a concern when the length of deployment can stretch to several years as military parents face their third, fourth, or even fifth deployment to today’s war zones. Compare this to the time when two deployments to Vietnam were considered a lot. In addition, a strapped military has relied heavily on National Guard and reserve units, volunteers not accustomed to extended combat tours. Their children are referred to in the literature as “suddenly military children” (Hardy, 2006). In general, research on deployment and the mental health of children and adolescents indicates that while a parent’s deployment is clearly stressful, children and adolescents evidence a wide range of responses--often impacted by numerous contextual variables (Burnham & Hooper, 2008).

Boys seem to suffer more effects than girls and younger children overall are more susceptible to the effects of longer deployments (Johnson & Sherman, 2006). In addition to the age effects often evidenced among youth and often reported in the trauma and disaster-related literature, unique findings related to gender are reported, although the research remains equivocal (Ronen et al., 2003). For example, some studies have shown that girls have significantly higher fears than boys after trauma (Pfefferbaum et al., 1999; Pine & Cohen, 2002; Shaw, 2003). Other studies have found no gender differences (Rahav & Ronen, 1994). The gender effect that is sometimes found in studies could be because girls are more likely to report anxiety, fears, and depression than are boys (Vogel

& Vernberg, 1993). Shaw (2003) noted that this gender effect ought to be interpreted with caution: Even though girls may experience and report greater rates of symptomatology (e.g., symptoms of posttraumatic stress), boys are more likely to behaviorally act out their reaction to traumatic and adverse events (Burnham & Hooper, 2008). The concern today is to ensure that children of military families attend schools that take into consideration their parents' deployments while providing a safe, secure, and inviting environment with achievement as the primary focus.

Purpose of Study

The purpose of this study was to determine the achievement outcomes of sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school students whose parents have no military affiliation.

Research Questions and Data Analysis

Overarching Posttest-Only Achievement NeSA-Math Research Question #1.

Do sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation have congruent or different end of sixth-grade NeSA-Math achievement percentile scores?

Analysis. Research Question #1 was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation end of sixth-grade NeSA-Math

achievement percentile scores. An F ratio was calculated and an alpha level of .05 was utilized to test the null hypothesis. Independent t tests were used for contrast analysis if a significant F ratio was observed. Means and standard deviations were displayed in tables.

Overarching Posttest-Only Achievement NeSA-Reading Research Question

#2. Do sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation have congruent or different end of sixth-grade NeSA-Reading achievement percentile scores?

Analysis. Research Question #2 was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation end of sixth-grade NeSA-Reading achievement percentile scores. An F ratio was calculated and an alpha level of .05 was utilized to test the null hypothesis. Independent t tests were used for contrast analysis if a significant F ratio was observed. Means and standard deviations were displayed in tables.

Overarching Posttest-Only Achievement MAP-Math Research Question #3.

Do sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation have congruent or different end of sixth-grade MAP-Math achievement RIT scores?

Analysis. Research Question #3 was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation end of sixth-grade MAP-Math achievement RIT scores. An F ratio was calculated and an alpha level of .05 was utilized to test the null hypothesis. Independent t tests were used for contrast analysis if a significant F ratio was observed. Means and standard deviations were displayed in tables.

Overarching Posttest-Only Achievement MAP-Reading Research Question #4. Do sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation have congruent or different end of sixth-grade MAP-Reading RIT percentile scores?

Analysis. Research Question #4 were analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation end of sixth-grade MAP-Reading achievement RIT scores. An F ratio was calculated and an alpha level of .05 was utilized to test the null hypothesis. Independent t tests were used for contrast analysis if a significant F ratio was observed. Means and standard deviations were displayed in tables.

Overarching Posttest-Only Achievement District Descriptive Writing

Research Question #5. Do sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation have congruent or different end of sixth-grade Research School District's Descriptive Writing Assessment 1-4 rubric scores for (a) Ideas and Content, (b) Organization, (c) Voice, (d) Word Choice, (e) Sentence Fluency, and (f) Conventions?

Analysis. Research Question #5 was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation end of sixth-grade Research School District's Descriptive Writing Assessment 1-4 rubric scores for (a) Ideas and Content, (b) Organization, (c) Voice, (d) Word Choice, (e) Sentence Fluency, and (f) Conventions. An F ratio was calculated and an alpha level of .05 was utilized to test the null hypothesis. Independent t tests were used for contrast analysis if a significant F ratio was observed. Means and standard deviations were displayed in tables.

Overarching Posttest-Only Achievement District Essential Objectives

Research Question #6. Do sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation have congruent or different end of sixth-grade Research School District's Essential Objectives

Proficient, Advanced, Progressing, and Beginning nomenclature for (a) Language, (b) Math, (c) Science, (d) Social Studies, (e) Health, (f) Physical Education, and (g) Music?

Analysis. Research Question #6 utilized a chi-square to determine sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation congruent or different end of sixth-grade Research School District's Essential Objectives Proficient, Advanced, Progressing, and Beginning nomenclature frequencies for (a) Language, (b) Math, (c) Science, (d) Social Studies, (e) Health, (f) Physical Education, and (g) Music. A .01 alpha level was employed to help control for Type 1 errors. Frequencies and percentages were displayed in tables.

Importance of the Study

This study has the potential to contribute to research, practice, and policy. It is of significant interest to teachers, school district administrators, school counselors, military policy makers, military families, base support personnel, community counselors, and government agencies.

Assumptions of the Study

This study has several strong features including: (a) all participants in the study were enrolled in the same elementary school for four consecutive school years, (b) all participants were assessed using required end of year administered district and norm-referenced standardized tests, (c) all participants had access to school support services, and (d) all subjects received academic support through a school-wide data-driven differentiated instruction program for each grade-level.

Delimitations of the Study

The study findings, results, and discussion were delimited to the selected sixth-grade students of one elementary school in a suburban school district who were in attendance at the research school during the first semester of the 2009/2010 school year through the second semester of the 2012/2013 school year. Study subjects had also completed third-grade through sixth-grade in the research school. Data for end of the year assessments were collected for the study. Study findings were limited to students participating in the sixth-grade curriculum.

Limitations of the Study

This comparative study was confined to sixth-grade students that had continuous enrollment in the research school for the last four years. These participants completed their grade three, four, five, and six grade educational program in the research school. Study participants in the first arm ($n = 10$) consists of students with a parent deployed to a war zone, study participants in the second arm ($n = 10$) consists of students with a parent in the military, not deployed to a war zone, and study participants in the third arm ($n = 10$) consists of students with parents not affiliated with the military. All groups completed end of the year Essential Objectives Assessments, District Writing Assessments, Measure of Academic Progress Testing in the areas of Reading and Math, and NeSA Reading and Math Tests. The small sample size may limit the utility and generalizability of the study results and conclusions.

Definition of Terms

Achievement. Achievement is the level of attainment or proficiency in relation to a standard measure of performance, or, of success in bringing about a desired end.

Adolescent. Adolescents are youth between the ages of 11-17.

Anger. Anger is a strong feeling of displeasure and belligerence aroused by a wrong.

Assessment. Assessment is the systematic collection, review, and use of information about educational program undertaken for the purpose of improving learning and development.

Attachment bond. Attachment bond is the close relationship the infant develops with the primary caregiver, usually his/her mother. This close relationship is where trust and security develop due to the nonverbal communication that develops between the child and caretaker. The caretaker takes cues from the child and meets the needs of the child, thereby helping the child form a secure sense of trust and security early in the child's development.

Boys & Girl Scouts. Boys and Girl scouts are organizations that seek to develop certain skills in its members as well as character, self-reliance, and usefulness to others.

Boys & Girls Club. Boys and Girls Clubs help boys and girls with an emphasis on at-risk youth build confidence, develop character, and acquire the skills to grow into productive civic-minded citizens.

Boys Town Parenting Class. Boys Town parenting classes are courses designed to teach parents skills they need to successfully raise their children. Personnel from Boys Town generally teach the classes in the school district.

Children. Children are youth between the ages of 7-10.

Community-based support. Community-based support would be the varied services families can access that are based in the community. Military families and non-military connected family use these services.

Data-driven. Data-driven means that progress in an activity is compelled by data, rather than by intuition or personal experiences.

Department of Defense. Department of Defense is the governmental agency established to manage the national security of the United States. The agency also regulates the administration of military branches of service (DOD, 2003).

Deployment separation. Deployment separation is the separation of a military service member from his or her family to accomplish a task or mission.

Deployment. Deployment is a temporary (3-15 month) movement of an individual or military unit away from his/her local worksite, resources, and family to accomplish a task or mission (Siegel & Davis, 2013).

Differentiated Instruction. Differentiated instruction is a method of teaching that involves matching learning styles with abilities. It is best accomplished through intentional grouping of children at similar academic levels to better facilitate the learning process.

Essential Learning Objectives. Essential Learning Objectives are required in each school district in the state of Nebraska. The school district is required to determine what is important for students to learn at each grade level and academic discipline. These essential learnings must be in direct compliance with, or exceed, current State of Nebraska academic standards. Derived directly from state standards, Essential Learning

Objectives are what Bellevue Public Schools calls the essential learning target for all students.

Family and Students Empowering Team. The F.A.S.E. Team is a group of counselors and social workers that work for Bellevue Public Schools in the capacity of liaison between families, schools, and community.

Key attachment figures. Key attachment figures are the primary caregivers that are the source of stress regulation and therefore, sense of security and safety for infants and youth.

Measure of Academic Performance Test. Measure of Academic Performance Test is a computerized, adaptive test which helps teachers, parents, and administrators improve learning for all students and make informed decisions to promote a child's academic growth. Bellevue Public Schools used this test in all elementary buildings to assess reading and math.

Military Student. A Military Student is a dependent child involved in the educational process belonging to any service member or military connected personnel. The definition of "military dependents" may vary in state residency policies. The DOD term in current use is "family members," which signifies immediate relatives, including spouses and children.

Military. Military is of or relating to soldiers, army, or war or relating to armed forces; especially: of or relating to ground or sometimes ground and air forces as opposed to naval forces.

Mobility. Mobility can be defined as the movement of individuals or families by choice or by force. The total number of times a student's nuclear family member has

relocated by choice or by force. Any child who enters or leaves school between the last Friday in September and the last day of school is counted in the mobility rate.

Non-compliance. Noncompliance is failure or refusal to comply.

Non-deploying parent. The non-deploying parent is the adult that remains home with the children to keep the structure and family schedules the same as much as possible in the absence of the military parent that has gone to serve our country.

Norm-referenced test. Norm-referenced tests are defined as tests that measure and compare an individual's performance to the performance of a similar group of students who take the same test. An example is the Measure of Academic Performance (MAP) Test.

Operation Enduring Freedom. Operation Enduring Freedom is the official name by the U.S. government for the war in Afghanistan.

Operation Iraqi Freedom. Operation Iraqi Freedom is the official name used by the U.S. government for the war in Iraq.

Operation New Dawn. Operation New Dawn is the U.S. armed forces' involvement in the Iraq War after August 2010.

Parenting. Parenting is the raising of a child.

Post Deployment. Post Deployment is the time the child must reintegrate their parent back into the family unit; which may be difficult if some time has passed and the child has matured (Department of Defense, 2004).

Post Traumatic Stress Disorder. Post Traumatic Stress Disorder is a debilitating disorder that occurs after experiencing or witnessing a traumatic event that involves either a real or perceived threat of injury or death.

Pre-deployment. Pre-deployment is characterized alternately by denial and anticipation of loss. Children may anticipate parental separation and harbor concerns or anxiety about their parents' well-being and return (Burrell et al., 2006; Huebner et al., 2007; Kelley, 2003; McCarroll et al., 2008; Orthner, Den, & Rose, 2005).

Re-deployment. Re-deployment means to move to another military assignment or combat zone.

Resilient. Resilient is tending to recover from or adjust easily to misfortune or change.

Suddenly Military. Suddenly military is the term used for children of National Guard members that can be called from civilian life to active military duty anytime, making their children suddenly military.

War on Terror. War on Terror (Also known as the Global War on Terrorism) is a term commonly applied to an international military campaign, which started as a result of the September 11 terrorist attacks on the United States.

War. War is an organized and often prolonged conflict that is carried out by states and/or non-state actors. It is characterized by extreme violence, social disruption and economic destruction.

Withdrawal. Withdrawal is removing, detaching, retreating from something or someone.

YMCA. Young Men's Christian Association is an organization that has a mission to develop character, skills, and a sense of serving others in its members.

Significance of the Study

This study has the potential to contribute to research, practice, and policy. It is of significant interest to educators seeking ways to help students from military families achieve up to their greatest ability levels even during times when they have a military parent deployed or not deployed to a war zone.

Contribution to research. There is a great need to determine the achievement levels of younger children of parents both deployed to a war zone and not deployed to a war zone compared to control group students whose parents are not in the military to determine the impact of prolonged deployment on achievement. This study could also further inform the literature on young children's achievement when they have experienced continuous enrollment in a military community school, that has in place proactive support programs, during their parents deployment.

Contribution to practice. This study has the potential of contributing to educational practice by examining the achievement of children who have received support in school when their parents have been deployed to a war zone to determine the utility, effectiveness, and sustainability of these programs.

Contribution to policy. The results of this study could inform the research school district about future funding sources required to offset the elimination of the long standing financial Impact Aid that has been granted from the Federal Government to the school district to support the historically large military dependent population.

Organization of the Study

The literature review relevant to this study is presented in Chapter 2. This chapter reviews the achievement levels of younger children of parents both deployed to a war zone and not deployed to a war zone compared to control group students whose parents are not in the military to determine the impact of prolonged military parent deployment on achievement and related developmental issues. Chapter 3 describes the research design, methodology, and procedures used to gather and analyze the data of the study.

CHAPTER TWO

Literature Review

Resiliency and Children of Military Service Members

Resiliency can be defined as the capacity to spring back, rebound, successfully adapt in the face of adversity, and develop social and academic competence despite exposure to severe stress (Henderson & Milstein, 2003). In the strictest sense, resiliency research refers to a body of international cross-cultural, lifespan developmental studies that followed children born into seriously high-risk conditions such as families where parents were mentally ill, alcoholic, abusive, or criminal, or in communities that were poverty-stricken or war torn (Henderson & Milstein, 2003). The astounding finding from these long term studies was that at least 50%--and often closer to 70%--of youth growing up in these high-risk conditions did develop social competence despite exposure to severe stress and did overcome the odds to lead successful lives. Furthermore, these studies not only identified the characteristics of these resilient youth, several documented the characteristics of the environments--of the families, schools, and communities--that facilitated the manifestation of resilience (Bernard, 1991).

According to researchers, human beings are born with an innate self-righting ability, which can be helped by focusing on strengths that are extant even in times of severe stress (Henderson, 2007). This finding supports a major shift in thinking about human development from obsessing about problems and weaknesses to recognizing the power of the positive, that is, identifying and building individual and environmental strengths that help people overcome difficulties, achieve happiness, and attain life success (Henderson, 2007).

Research focused on children of parents serving in a war zone suggests that many dependent children exhibit remarkable resilience throughout the deployment cycle (Lester et al., 2010; Zeff, Lewis, & Hirsch, 1997), however, other studies found that some children of deployed parents demonstrate more anxiety, withdrawal, anger, noncompliance, or other emotional/behavior problems compared to children whose parents were not deploying (Flake et al., 2009; Kelley, 2003). Even with these conflicting findings it has been asserted that the impact on children of a military parent preparing to leave for a war zone may be mitigated by several factors including if a child has securely bonded to the deploying parent, if the deploying parent maintains relatively stable parenting practices, and if the overall family coping processes focus on individual and family strengths. Taken together when these conditions are present than children of a parent preparing to deploy to a war zone are more likely to cope adaptively and maintain their psychological wellbeing (Riggs & Riggs, 2011).

Bonding. We are all born with innate resiliency, with the capacity to develop the traits commonly found in resilient survivors; social competence (responsiveness, cultural flexibility, empathy, caring, communication skills, and a sense of humor); problem-solving (planning, help-seeking, critical and creative thinking); autonomy (sense of identity, self-efficacy, self-awareness, task-mastery, and adaptive distancing from negative messages and conditions); and a sense of purpose and belief in a bright future (goal direction, educational aspirations, optimism, faith, and spiritual connectedness) (Bernard, 1991). The major point here is that resilience is not a genetic trait that only a few *superkids* possess rather, it is our inborn capacity for self-righting (Werner & Smith, 1992) and for transformation and change (Lifton, 1993). Attachment theory and bonding

is often discussed in conjunction with resilience and similar concepts. Secure attachment with at least one adult is seen as one of the most common protective factors found in resilient children (Kim-Cohen, 2007). Although there is crossover between these theories, resilience differs in that it involves protective factors beyond the attachment relationship, such as those with the individual child, the family, and the wider community. A strong relationship with a key adult most certainly provides protection for the child from adversity but resilience theory suggests that there is a wide range of other factors that may also be involved. This may be particularly important if the child has experienced trauma related to the loss of the key attachment figure (Hunter, 2012).

Stable Parenting Practices. Resiliency research, supported by studies on child development, family dynamics, school effectiveness, community development, and ethnographic studies capturing the voices of youth themselves, clearly documents the characteristics of family, school, and community environments that elicit and foster the natural resiliency in children. These characteristics are termed protective factors, and appear to alter--or even reverse--potential negative outcomes and enable individuals to transform adversity and develop resilience despite risk. Protective factors moderate, buffer, insulate against, and thereby mitigate the impact of risk on adolescent behavior development (Henderson, 2007). Resilience plays a major factor in all phases of deployment. Wiens and Boss (2006) noted that most families of deployed service members *rise to the occasion* and adapt successfully to this stressful experience. Family readiness is considered to be a key factor in resilience, with family preparedness serving as a protective factor when military deployments to a war zone are announced. Spouses who function most effectively during this time are those who use active coping styles

(Jensen & Shaw, 1996), those who make meaning of the situation, those who receive community and social support (Wiens & Boss, 2006), those who accept the military life style, those who are optimistic and self reliant (Patterson & McCubbin, 1984), and those who adopt flexible gender roles (Kelley, 1994). However, despite the significant stressors, levels of psychopathology in military children have been found to be at or below those in the civilian population (Jensen, Xenakis, & Wolf, 1991; 1996) thus attesting to their resilience (Johnson, Sherman, Hoffman, James, Johnson, Lochman & Palomares, 2007).

Family Coping Processes. The literature suggests that engagement coping efforts, or efforts oriented toward the stressor or one's emotional reaction, are generally associated with reduced mental health problems, whereas disengagement coping efforts, or efforts oriented away from the stressor or one's emotional reaction, are typically associated with an increased frequency of mental health problems (Compass, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Coping efficacy, the belief that one can deal with the demands of and emotions caused by stressful situations, has also been shown to negatively relate to mental health problems (Sandler, Tein, Mehta, Wolchik, & Ayers, 2000). Identification of factors that affect the development of coping processes in childhood has implications for both developmental psychology and prevention science. An understanding of linkages between factors that are potentially modifiable and coping processes has particular significance for the design of interventions for at-risk populations that are exposed to elevated levels of stressors, such as children from divorced families, parentally bereaved children, and youth living in violent communities (Velez, Wolchik, Tein, & Sandler, 2011).

Emotional Issues and Needs Across the Developmental Spectrum

While individual children's emotional needs and issues can vary drastically, all children need to maintain their daily routines at home and school to help cushion the impact of deployment. Common emotions during deployment include confusion, sadness, anger, and fear. It is important to address these emotions with children and to provide them with reassurance and comfort (DOD, 2008). Several studies of children of deployed parents have indicated that deployment is associated with higher levels of internalizing behaviors (e.g., feeling sad, fearful, or over-controlled). Jensen and colleagues, 1991, studied children of U.S. Army officers and senior enlisted personnel and found that children with absent fathers had significantly higher levels of depressive symptoms and anxiety than those children whose fathers were present. Overall, length of absence but not total number of absences was correlated with child reported symptoms of depression and anxiety. Chandra and colleagues (2008) also examined internalizing behaviors (e.g., sadness) of children whose parents deployed to Operation Desert Storm and found that those with parents who deployed had higher levels of depression and anxiety than those whose parents were not deployed.

It should be recognized that children's responses to deployment are variable and depend on age and developmental stage, in addition to family and individual factors (Amen, Jellen, Merves, & Lee, 1988; Murray, 2002; Pincus, House, Christensen, & Adler, 2001; Stafford & Grady, 2003). In the pre-deployment phase infants, for example, have been observed to be fussy and change their eating habits. Preschoolers can be confused and saddened by pending changes in the family. School-aged children will also

be saddened, but may also become angry and experience anxiety. In addition to these mood states, adolescents may withdraw and deny feelings about the upcoming separation. In the deployment phase, preschoolers may display sadness, tantrums, changes in eating and elimination habits, and separation anxiety in regard to the remaining caretaker. School-aged children may experience more somatic complaints, changes in mood, and a decline in school performance. Adolescents may be angry, aloof, and apathetic; they may act out more or lose interest in their usual activities and experience school problems. Other adolescents may embrace the new independence and try to assume the role of the missing parent (Amen, Jellen, Merves, & Lee, 1988; Blount, Curry, & Lubin, 1992; Pincus et al., 2001; Stafford & Grady, 2003).

The post-deployment phase can lead to powerfully ambivalent emotions in both children and adolescents. High expectations and behavior changes in the returning service member contribute to the challenges of readjustment. Very young children may not recognize the service member and may be afraid of him or her. Preschoolers, while happy and excited, may be simultaneously excited and angry. They may act out their anger or may require unsustainable levels of attention. Adolescents may be defiant or disappointed by the difficulty the returning service member has acknowledging the changes the adolescent has gone through while the parent was deployed (Johnson et al., 2007).

Social Issues and Needs

Depending on age, a child may experience significant social issues and needs during a time of their parents deployment. While preschool and elementary aged children typically require increased attention from parents and school, social interaction with peers

can often take on increased value with adolescents. Although school and family must still play a significant role in their lives, it is important for adolescents to spend time with peers. Conversations and/or news coverage about war or deployment issues should be monitored for age-appropriateness (DOD, 2008). In a focus group of adolescents whose parents were deployed to Iraq (Operation Iraqi Freedom, Operation New Dawn) and Afghanistan (Operation Enduring Freedom), there were reported changes in relationship with the deployed parent, concern and anxiety about the deployed parent's well-being, and worse performance in school, yet increases in responsibility and maturity in caring for younger siblings (Siegel & Davis, 2013).

Mobility

Mobility is defined as the movement of individuals or families by choice or by force. That definition includes the number of times a student or the student's nuclear family member has relocated by choice or by force (NDE, 2010). Military personnel, as they transition both in and out of the home, not only influence the lives of the service member, but their families as well. These transitions shape the dynamics that determine the success of adults and children alike. A continuing aspect of military life for soldiers and their families has been frequent moves from one duty station to another. Military children move an average of once every three years during their school career. Some students adjust quickly and successfully while other children have more difficulty that can lead to serious consequences, depending on the nature and level of support provided to the child. The literature points to a variety of consequences for students who change schools. Moving is a stressful event for children that require them to adapt to new

physical and cultural surroundings and breaks the patterns the child is accustomed to, particularly relationships with friends, neighbors, and teachers.

For many, geographic mobility is the most stressful aspect of growing up in a military family. Specifically, adolescents report as stressful the loss of old friendships, forging new friendships, and getting adjusted after a move. However, many adolescents perceived that frequent relocation resulted in a broader perspective toward people and cultures. Similarly, Leitzel, Jeffreys Van Belle & O'Brien (1997) found many adolescents reported leaving friends, changing schools, and navigating new surroundings as stressful, but the ability to start over and recreate their lives at a new location was perceived as positive. In addition, Marchant and Medway (1987) found the more moves military children had experienced, the higher their participation in social activities. Thus, moving may promote the child's learning to adjust to new situations (Kelley, 2003).

The Negative Impact of Moving on Children and Adolescents

According to Ingersoll, Scamman and Eckerling (1989) the most negative effects of geographic mobility were found at earlier grade levels. Their study indicated that mobile students in first through sixth grade showed greater negative impact on achievement as measured by the Iowa Test of Basic Skills when compared to older children and children who did not move. Erikson's theory of personality development recognizes that elementary school children are at a stage where they are broadening their social environment to include school (Weiten, 2004). Children who are able to function in this less nurturing environment will gain a sense of competence (Weiten, 2004). Consequently, younger children who are starting to feel secure in their expanded social

environment and that social environment changes radically can be extremely vulnerable to the effects of moving.

Further research demonstrated how another consequence of frequent moves is behavior problems. Children exhibit more behavioral or emotional problems when the mother is having difficulty managing daily activities, is not involved in social activities, and has a low sense of personal independence (Hunter & Plag; McCubbin & Dahl, 1976). Children do best when mothers express a positive attitude about the separation, and have internal coping skills to deal with the separation, are satisfied with the marriage before the separation, and have internal coping skills to deal with the separation (Hunter, 1981).

Furthermore, several studies showed that children that move frequently suffer academically. Children who move often find that curriculums vary substantially from school to school (U.S Government Accountability Office, 1994). Moreover, other researchers found that the difference in curriculums can make it difficult to correctly place a new student based on academic and social skills (Benson, Haycraft, Steyaert, & Weigel, 1979). Elementary school children who change schools frequently do not perform as well on achievement tests (Ingersoll et al., 1989; Mantizicopoulos & Knutson, 2000). According to the U.S General Accounting Office (1994) 41% of third- graders who moved frequently were below grade level in reading compared to 26% of third- graders who had never changed schools. The same study reported that 33% of frequent movers were below grade level in math compared with 17% who had never changed schools. Moreover, in a related study students who moved two or three times prior to third-grade scored lower on achievement test in third-grade and were less likely to be at grade level on achievement test in sixth-grade (Heinlein & Shinn, 2000).

One of the theories used commonly in the literature to explain the link between mobility and poor educational outcomes is Coleman's (1988) social capital theory. Closely related to the economic concepts of human and financial capital, social capital represents the relationship between the parents and the child and the network of relationships between parents, friends, and community members that may provide support to the family (Coleman, 1988). According to the theory, moving harms children's achievement because social ties are broken, thereby disrupting the exchange of social capital in the network. A number of controlled studies have drawn on Coleman's theory to explain how mobility, social capital, and achievement may be related (Hagan, MacMillan, & Wheaton, 1996; Pribesh & Downey, 1999; South, Haynie, & Bose, 2007; Tucker, Marx, & Long, 1998). Because Coleman proposed a variety of indicators of social capital, each study uses a different measure of social capital (Gruman et al., 2008).

In their study of mobility and high school dropout rates, Hagan et al. (1996) focused on the quality of the child's relationship with their parents and the father's level of participation in the family. They determined that "mother's support and father's participation are important sources of social capital that can mitigate the disruptive effects of family migration" (p. 381). In an attempt to broaden the definition to include social ties outside the family, Pribesh and Downey (1999) used three different measures of social capital, including participation in high school extracurricular activities, the frequency with which students discuss course planning with peers or parents, and the amount of contact parents have with other parents and school personnel. Finally, South et al. (2007) examined parent-child social ties, as well as other factors that might explain the higher drop out rates among mobile high school students, including psychological

well-being (e.g., depression, self-esteem), school engagement, and peer friendships. They determined that for adolescents, lower levels of peer network structure, measured by a student's place in a peer network and the density of the structure, provided the best explanation of movers' higher dropout rates. This body of research has expanded our understanding of student mobility in a number of ways. First of all, most of these authors attended to both risk and protective factors in testing the impact of mobility. The typical approach has been to focus on how the severing of ties to family and routines may negatively impact students (Gruman et al., 2008).

Beneficial Results of Military Separations on Family Dynamics

Although absentee parents negatively impact families, benefits are realized as well. The Military Family Research Institute (MFRI) at Purdue University has released scientific evidence compiled at the request of the Office of the Military Community to examine both civilian and military settings that may provide insight about individual and family resilience in spite of deployments. Resilience according to the MFRI is defined as a phenomenon or process reflecting positive adaptation to a significant adversity or trauma. This resilience is a construct subsuming two distinct dimensions. The first dimension is significant adversity. Secondly, is the factor of positive adaptation. Researchers and scientist, MacDermid, Samper, Schwartz, Nishida, & Nyaronga, (2008) declare that one cannot be deemed resilient in the absence of a significant stressor(s). This research confirms Huebner & Mancini (2005) qualitative research findings of adjustment among adolescents in military families where these adolescents were able to adjust and demonstrate resilience because of their personal coping skills being complemented by family and community support.

Many parents worry about the negative impact of deployments on children. However, deployments offer many positive growth opportunities. Several studies have shown that despite the distress during separation children may also experience significant developmental gain. Some positive aspects of separation for children may include fostered maturity where military children encounter more situations and have broader and more varied experiences than children from non-military families that induces growth. Military children may also learn more about the world and how to function within a global community at an earlier age by taking on additional responsibilities in a parent's absence that provides them with a chance to develop new skills and develop hidden interests and abilities. Moreover, children of military families are more likely to be independent, more resourceful, and self-starters and be better prepared for the inevitable separations of life. Finally, military families make emotional adjustments during a separation, which often leads them to discover new sources of strength and support among themselves as a family unit.

CHAPTER THREE

Methodology

The purpose of this study was to determine the achievement outcomes of sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school students whose parents have no military affiliation.

Participants

Students who participated in this study attended the same elementary for four consecutive school years third-grade through sixth-grade, August 2009 through May 2013, across all parent conditions, a military parent deployed to a war zone or a military parent not deployed to a war zone or parents with no military affiliation.

Number of participants. The maximum accrual for this study will be $N = 30$. Study participants will consist of sixth-grade students with a military parent deployed to a war zone $n = 10$ (33%) or sixth-grade students with a military parent not deployed to a war zone $n = 10$ (33%) compared to same school control group students whose parents have no military affiliation $n = 10$ (33%). All study subjects attended the same elementary school and completed the same academic program.

Gender of participants. The gender of the sixth-grade students with a military parent deployed to a war zone $n = 10$ (33%) was girls $n = 4$ (40%) and boys $n = 6$ (60%). The gender of the sixth-grade students with a military parent not deployed to a war zone $n = 10$ (33%) was girls $n = 5$ (50%) and boys $n = 5$ (50%). Finally, The gender of the sixth-grade control group students whose parents have no military affiliation $n = 10$ (33%) was girls $n = 4$ (40%) and boys $n = 6$ (60%). The gender of the study participants

was congruent with the research school districts gender demographics for students completing the sixth-grade academic program.

Age range of participants. The age range of the students in the three parent condition groups was nine years to 12 years of age. All students completed four consecutive years in the research elementary school's academic program. The age range of the study participants was congruent with the research school districts age-range demographics for students in the third-grade through sixth-grade.

Racial and ethnic origin of participants. The ethnic origin of sixth-grade students with a military parent deployed to a war zone $n = 10$ (33%) was Caucasian, $n = 10$ (100%). The ethnic origin of sixth-grade students with a military parent not deployed to a war zone $n = 10$ (33%) was Caucasian, $n = 10$ (100%). The ethnic origin of control group sixth-grade students whose parents have no military affiliation $n = 10$ (33%) was Caucasian, $n = 8$ (80%), African American $n = 1$ (10%), and Asian, $n = 1$ (10%). The racial and ethnic origin of the study participants is congruent with the research school districts racial and ethnic origin demographics for students completing sixth-grade in the research elementary school.

Inclusion criteria of participants. Study participants consisted of sixth-grade students who completed regular academic coursework third-grade through sixth-grade in the research elementary school with a military parent deployed to a war zone or a military parent not deployed to a war zone or parents with no military affiliation. Students qualifying for and receiving special education services were not included in the research sample unit of analysis because these students also were receiving additional interventions required to meet the goals of their Individual Educational Plans.

Method of participant identification. All students who had a military parent who was deployed to a war zone or a military parent who was not deployed to a war zone formed two naturally formed groups that included all students whose parents had these conditions. A group of same school control group students with parents with no military affiliation was randomly selected to match the number of students in the groups with military parents. No individual identifiers were attached to the achievement data of the 30 participating students in the three groups or their parents.

Description of Procedures

Research design. The posttest-only, two independent variable with a control group comparative efficacy study design is displayed in the following notation.

Group 1 $X_1 Y_1 O_1$

Group 2 $X_1 Y_2 O_1$

Group 3 $X_1 --- O_1$

Group 1 = study participants #1. Naturally formed group of sixth-grade ($n = 10$) students.

Group 2 = study participants #2. Naturally formed group of sixth-grade ($n = 10$) students.

Group 3 = study participants #3. Randomly assigned sixth-grade ($n = 10$) students.

$X_1 =$ study constant. All students who participated in this study attended the same elementary completing the same academic program for four consecutive school years third-grade through sixth-grade, August 2009 through May 2013, across all parent conditions, a military parent deployed to a war zone or a military parent not deployed to a

war zone or parents with no military affiliation. Students also completed all sixth-grade year-end assessments.

Y₁ = Study independent variable, parent military deployment, condition #1. Sixth-grade students with a military parent deployed to a war zone.

Y₂ = Study independent variable, parent military deployment, condition #2. Sixth-grade students with a military parent not deployed to a war zone.

= **Study control group.** The control group consists of sixth-grade students with parents who are not serving in the military.

O₁ = study posttest dependent measures. Academic achievement as measured by end of sixth-grade (1) NeSA-Math, (2) NeSA-Reading, (3) MAP-Math, (4) MAP-Reading, (5) Research School District's Descriptive Writing Assessment, (5) Research School District's Essential Objectives for (a) Language, (b) Math, (c) Science, (d) Social Studies, (e) Health, (f) Physical Education, and (g) Music.

Independent Variable Conditions

The study had one independent variable with two conditions and a control group. Independent variable condition number one was sixth-grade students with a military parent deployed to a war zone. Independent variable condition number two was sixth-grade students with a military parent not deployed to a war zone. The study control group was sixth-grade students with parents not serving in the military.

Description of Independent Variable

Research suggests that many children exhibit remarkable resilience throughout the deployment cycle (Lester et al., 2010; Zeff et al., 1997). At the same time, other findings indicate that some children of deployed parents demonstrate more anxiety,

withdrawal, anger, noncompliance, or other emotional/behavior problems than children whose parents are not deployed (Flake et al., 2009; Kelley et al., 2003). Individual differences in children's responses to deployment separation will be related to development level, their attachment bonds with the deploying and non-deploying parents, and the overall psychological and behavioral functioning of the at-home parent. If deploying parents, whether mothers or fathers, have acted as key attachment figures for their children, their departure represents a significant loss that will lead to grief responses (Riggs & Riggs, 2011).

There are many school-military-community support systems available for youth with parents deployed to a war zone. They include school-based group counseling for deployment groups, brief individual visits to the school counselor, referral to our school district's FASE (Family and Students Empowerment) Team which can include school and or home visits to address the needs of the child and/ or the non-deployed parent, referral to community-based counseling, Boystown Parenting Class offered in the school district at no expense to the family, teachers who are sensitive to the child's needs, structure in the school day, reinforcement of safety and security, referral for base support like a child centered deployment group, individual therapy, summer camp through the school district and/ or the base Boy & Girl Scouts, YMCA, and the Boys & Girls Clubs.

Dependent Measures

The study's dependent measures are Academic achievement as measured by end of sixth-grade (1) NeSA-Math, (2) NeSA-Reading, (3) MAP-Math, (4) MAP-Reading, (5) Research School District's Descriptive Writing Assessment for (a) Ideas and Content, (b) Organization, (c) Voice, (d) Word Choice, (e) Sentence Fluency, and (f) Conventions,

and (6) Research School District's Essential Objectives for (a) Language, (b) Math, (c) Science, (d) Social Studies, (e) Health, (f) Physical Education, and (g) Music.

Research Questions and Data Analysis

Overarching Posttest-Only Achievement NeSA-Math Research Question #1.

Do sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation have congruent or different end of sixth-grade NeSA-Math achievement percentile scores?

Analysis. Research Question #1 was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation end of sixth-grade NeSA-Math achievement percentile scores. An F ratio was calculated and an alpha level of .05 was utilized to test the null hypothesis. Independent t tests were used for contrast analysis if a significant F ratio was observed. Means and standard deviations were displayed in tables.

Overarching Posttest-Only Achievement NeSA-Reading Research Question

#2. Do sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation have congruent or different end of sixth-grade NeSA-Reading achievement percentile scores?

Analysis. Research Question #2 was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation end of sixth-grade NeSA-Reading achievement percentile scores. An F ratio was calculated and an alpha level of .05 was utilized to test the null hypothesis. Independent t tests were used for contrast analysis if a significant F ratio was observed. Means and standard deviations were displayed in tables.

Overarching Posttest-Only Achievement MAP-Math Research Question #3.

Do sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation have congruent or different end of sixth-grade MAP-Math achievement RIT scores?

Analysis. Research Question #3 was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation end of sixth-grade MAP-Math achievement RIT scores. An F ratio was calculated and an alpha level of .05 was utilized to test the null hypothesis. Independent t tests were used for contrast analysis if a significant F ratio was observed. Means and standard deviations were displayed in tables.

Overarching Posttest-Only Achievement MAP-Reading Research Question

#4. Do sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation have congruent or different end of sixth-grade MAP-Reading RIT percentile scores?

Analysis. Research Question #4 was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference between students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation end of sixth-grade MAP-Reading achievement RIT scores. An F ratio was calculated and an alpha level of .05 was utilized to test the null hypothesis. Independent t tests were used for contrast analysis if a significant F ratio was observed. Means and standard deviations were displayed in tables.

Overarching Posttest-Only Achievement District Descriptive Writing

Research Question #5. Do sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation have congruent or different end of sixth-grade Research School District's Descriptive Writing Assessment 1-4 rubric scores for (a) Ideas and Content, (b) Organization, (c) Voice, (d) Word Choice, (e) Sentence Fluency, and (f) Conventions?

Analysis. Research Question #5 was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect congruence or difference

between students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation end of sixth-grade Research School District's Descriptive Writing Assessment 1-4 rubric scores for (a) Ideas and Content, (b) Organization, (c) Voice, (d) Word Choice, (e) Sentence Fluency, and (f) Conventions. An F ratio will be calculated and an alpha level of .05 will be utilized to test the null hypothesis. Independent t tests were used for contrast analysis if a significant F ratio was observed. Means and standard deviations were displayed in tables.

Overarching Posttest-Only Achievement District Essential Objectives

Research Question #6. Do sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation have congruent or different end of sixth-grade Research School District's Essential Objectives Proficient, Advanced, Progressing, and Beginning nomenclature for (a) Language, (b) Math, (c) Science, (d) Social Studies, (e) Health, (f) Physical Education, and (g) Music?

Analysis. Research Question #6 utilized a chi-square to determine sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school control group students whose parents have no military affiliation congruent or different end of sixth-grade Research School District's Essential Objectives Proficient, Advanced, Progressing, and Beginning nomenclature frequencies for (a) Language, (b) Math, (c) Science, (d) Social Studies, (e) Health, (f) Physical Education, and (g) Music. A .01 alpha level was

employed to help control for Type 1 errors. Frequencies and percentages were displayed in tables.

Data Collection Procedures

All student behavior and achievement data was retrospective, archival, and routinely collected school information. Permission to conduct the research was obtained from the school district and the appropriate school research personnel. Academic data was collected for students in two naturally formed groups of 20 students and one control group of 10 students. Non-coded numbers were used to display de-identified behavior and achievement data. Aggregated data was reported with means and standard deviations for research questions one through five and frequencies and percentages for research question six.

Performance site. This research was conducted in the public school setting through normal educational and assessment practices. The study procedures did not interfere with the normal educational and assessment practices of the public school and did not involve coercion or discomfort of any kind. Data was stored on spreadsheets and computer flash drives for statistical analysis in the office of the primary researcher and the dissertation chair. Data and computer files were kept in locked file cabinets. No individual identifiers were attached to the data.

Institutional Review Board (IRB) for the protection of Human Subjects

Approval Category. The exemption categories for this study were provided under 45CFR.10 (b) categories 1 and 4. The research will be conducted using routinely collected archival data. A letter of support from the district will be provided for IRB review.

CHAPTER FOUR

Results

Purpose of the Study

The purpose of this study was to determine the achievement outcomes of sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school students whose parents have no military affiliation.

Independent Variable Conditions

The study had one independent variable with two conditions and a control group. Independent variable condition number one was sixth-grade students with a military parent deployed to a war zone. Independent variable condition number two was sixth-grade students with a military parent not deployed to a war zone. The Study control group was sixth-grade students with parents not serving in the military.

Dependent Measures

The study's dependent measures were Academic achievement as measured by end of sixth-grade (1) NeSA-Math, (2) NeSA-Reading, (3) MAP-Math, (4) MAP-Reading, (5) Research School District's Descriptive Writing Assessment for (a) Ideas and Content, (b) Organization, (c) Voice, (d) Word Choice, (e) Sentence Fluency, and (f) Conventions, and (6) Research School District's Essential Objectives for (a) Language, (b) Math, (c) Science, (d) Social Studies, (e) Health, (f) Physical Education, and (g) Music.

Table 1 displays demographic information of individual sixth-grade students with a military parent deployed to a war zone. Table 2 displays demographic information of individual sixth-grade students with a military parent not deployed to a war zone.

Demographic information of individual sixth-grade control group students whose parents have no military affiliation were displayed in Table 3.

Table 1

Demographic Information of Individual Sixth-Grade Students With a Military Parent Deployed to a War Zone

Student Number	Gender	Ethnicity	Free and Reduced Price Lunch Participation	Special Education Verification
1.	Male	White (Not Hispanic)	No	No
2.	Male	White (Not Hispanic)	No	No
3.	Female	White (Not Hispanic)	No	No
4.	Male	White (Not Hispanic)	No	No
5.	Female	White (Not Hispanic)	No	No
6.	Male	White (Not Hispanic)	No	No
7.	Female	White (Not Hispanic)	No	No
8.	Male	White (Not Hispanic)	No	Yes ¹
9.	Female	White (Not Hispanic)	No	No
10.	Male	White (Not Hispanic)	No	No

¹Verified High Functioning Autism Spectrum Disorder

Table 2

Demographic Information of Individual Sixth-Grade Students With a Military Parent Not Deployed to a War Zone

Student Number	Gender	Ethnicity	Free and Reduced Price Lunch Participation	Special Education Verification
1.	Male	White (Not Hispanic)	No	No
2.	Male	White (Not Hispanic)	No	No
3.	Male	White (Not Hispanic)	No	No
4.	Male	White (Not Hispanic)	No	No
5.	Male	White (Not Hispanic)	No	No
6.	Female	White (Not Hispanic)	No	No
7.	Female	White (Not Hispanic)	No	No
8.	Female	White (Not Hispanic)	No	No
9.	Female	White (Not Hispanic)	No	No
10.	Female	White (Not Hispanic)	No	No

Table 3

Demographic Information of Individual Sixth-Grade Control Group Students Whose Parents Have No Military Affiliation

Student Number	Gender	Ethnicity	Free and Reduced Price Lunch Participation	Special Education Verification
1.	Female	White (Not Hispanic)	No	No
2.	Female	White (Not Hispanic)	No	No
3.	Male	White (Not Hispanic)	No	No
4.	Male	White (Not Hispanic)	No	No
5.	Male	White (Not Hispanic)	No	No
6.	Male	Asian	No	No
7.	Male	African American	Yes	No
8.	Female	White (Not Hispanic)	No	No
9.	Female	White (Not Hispanic)	No	No
10.	Male	White (Not Hispanic)	No	No

Research Question #1 Results

Table 4 displays analysis of variance of students with a military parent deployed to a war zone, students with a military parent not deployed to a war zone, and same school control group students whose parents have no military affiliation end of sixth-grade NeSA-math achievement percentile scores.

As seen in Table 4 the null hypothesis was not rejected for posttest end of sixth-grade NeSA-math achievement percentile scores for students with a military parent deployed to a war zone ($M = 84.40, SD = 10.13$), students with a military parent not deployed to a war zone ($M = 71.30, SD = 15.80$), and students whose parents have no military affiliation ($M = 80.90, SD = 10.43$) where the overall main effect of posttest end of sixth-grade NeSA-math achievement percentile scores was not statistically significant, ($F(2, 27) = 2.99, p = 0.067$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 4

Analysis of Variance of Students With a Military Parent Deployed to a War Zone, Students With a Military Parent Not Deployed to a War Zone, and Same School Control Group Students Whose Parents Have No Military Affiliation End of Sixth-Grade NeSA-Math Achievement Percentile Scores

Source of Variation	Sum of Squares	Mean Square	<i>df</i>	<i>F</i>	<i>p</i>
Between Groups	920.06	460.03	2	2.99	0.067 [†]
Error	4153.40	143.82	27		

Groups	Mean	(<i>SD</i>)	NeSA-Math Mean Score Proficiency Rating
\bar{A}	84.92	(10.13)	Exceeds Standards
\bar{B}	71.30	(15.80)	Meets Standards
\bar{C}	80.90	(10.43)	Exceeds Standards

Note. A = Students with a military parent deployed to a war zone; B = Students with a military parent not deployed to a war zone; C = Same school control group students whose parents have no military affiliation.

[†]*ns.*

Research Question #2 Results

Table 5 displays analysis of variance of students with a military parent deployed to a war zone, students with a military parent not deployed to a war zone, and same school control group students whose parents have no military affiliation end of sixth-grade NeSA-reading achievement percentile scores.

As seen in Table 5 the null hypothesis was not rejected for posttest end of sixth-grade NeSA-reading achievement percentile scores for students with a military parent deployed to a war zone ($M = 83.30$, $SD = 11.82$), students with a military parent not deployed to a war zone ($M = 76.20$, $SD = 9.35$), and students whose parents have no military affiliation ($M = 81.00$, $SD = 16.41$) where the overall main effect of posttest end of sixth-grade NeSA-reading achievement percentile scores was not statistically significant, ($F(2, 27) = 0.79$, $p = 0.464$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 5

Analysis of Variance of Students With a Military Parent Deployed to a War Zone, Students With a Military Parent Not Deployed to a War Zone, and Same School Control Group Students Whose Parents Have No Military Affiliation End of Sixth-Grade NeSA-Reading Achievement Percentile Scores

Source of Variation	Sum of Squares	Mean Square	<i>df</i>	<i>F</i>	<i>p</i>
Between Groups	262.46	131.23	2	0.79	0.464 [†]
Error	4471.70	165.61	27		

Groups	Mean	(<i>SD</i>)	NeSA-Reading Mean Score Proficiency Rating
\bar{A}	83.33	(11.82)	Exceeds Standards
\bar{B}	76.20	(9.35)	Exceeds Standards
\bar{C}	81.00	(16.41)	Exceeds Standards

Note. A = Students with a military parent deployed to a war zone; B = Students with a military parent not deployed to a war zone; C = Same school control group students whose parents have no military affiliation.

[†]*ns.*

Research Question #3 Results

Table 6 displays analysis of variance of students with a military parent deployed to a war zone, students with a military parent not deployed to a war zone, and same school control group students whose parents have no military affiliation end of sixth-grade MAP-math achievement percentile scores.

As seen in Table 6 the null hypothesis was rejected for posttest end of sixth-grade MAP-math achievement percentile scores for students with a military parent deployed to a war zone ($M = 82.00$, $SD = 12.78$), students with a military parent not deployed to a war zone ($M = 64.00$, $SD = 13.66$), and students whose parents have no military affiliation ($M = 74.40$, $SD = 13.12$) where the overall main effect of posttest end of sixth-grade MAP-math achievement percentile scores was statistically significant, ($F(2, 27) = 4.69$, $p = 0.017$). Because a significant main effect was found *post hoc* Tukey HSD Test for contrast analyses were conducted. Statistical significance ($p < .05$) was found for one comparison the posttest end of sixth-grade MAP-math achievement percentile scores for students with a military parent deployed to a war zone ($M = 82.00$, $SD = 12.78$) compared to students with a military parent not deployed to a war zone ($M = 64.00$, $SD = 13.66$).

Table 6

Analysis of Variance of Students With a Military Parent Deployed to a War Zone, Students With a Military Parent Not Deployed to a War Zone, and Same School Control Group Students Whose Parents Have No Military Affiliation End of Sixth-Grade MAP Math Achievement Percentile Scores

Source of Variation	Sum of Squares	Mean Square	<i>df</i>	<i>F</i>	<i>p</i>
Between Groups	1633.06	816.53	2	4.69	0.017*
Error	4700.40	174.08	27		

Groups	Mean	(<i>SD</i>)	MAP Math Mean Percentile Score Conversion
\bar{A}	82.00	(12.78)	Upper Stanine (6) of the Average Range
\bar{B}	64.00	(13.66)	Upper Stanine (6) of the Average Range
\bar{C}	74.40	(13.12)	Upper Stanine (6) of the Average Range

Note. A = Students with a military parent deployed to a war zone; B = Students with a military parent not deployed to a war zone; C = Same school control group students whose parents have no military affiliation.

* $p < .05$.

Post Hoc Tukey's HSD Test Contrast Analysis

\bar{A} vs. \bar{B} = $p < .05$.

\bar{A} vs. \bar{C} = *ns*.

\bar{B} vs. C = *ns*.

Research Question #4 Results

Table 7 displays analysis of variance of students with a military parent deployed to a war zone, students with a military parent not deployed to a war zone, and same school control group students whose parents have no military affiliation end of sixth-grade MAP-reading achievement percentile scores.

As seen in Table 7 the null hypothesis was not rejected for posttest end of sixth-grade MAP-reading achievement percentile scores for students with a military parent deployed to a war zone ($M = 69.50, SD = 14.67$), students with a military parent not deployed to a war zone ($M = 79.40, SD = 13.72$), and students whose parents have no military affiliation ($M = 67.40, SD = 20.18$) where the overall main effect of posttest end of sixth-grade MAP-reading achievement percentile scores was not statistically significant, ($F(2, 27) = 0.05, p = 0.951$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 7

Analysis of Variance of Students With a Military Parent Deployed to a War Zone, Students With a Military Parent Not Deployed to a War Zone, and Same School Control Group Students Whose Parents Have No Military Affiliation End of Sixth-Grade MAP Reading Achievement Percentile Scores

Source of Variation	Sum of Squares	Mean Square	<i>df</i>	<i>F</i>	<i>p</i>
Between Groups	28.06	14.03	2	0.05	0.951 [†]
Error	7299.30	270.34	27		

Groups	Mean	(<i>SD</i>)	MAP Reading Mean Percentile Score Conversion
\bar{A}	69.50	(14.67)	Upper Stanine (6) of the Average Range
\bar{B}	69.40	(13.72)	Upper Stanine (6) of the Average Range
\bar{C}	67.40	(20.18)	Upper Stanine (6) of the Average Range

Note. A = Students with a military parent deployed to a war zone; B = Students with a military parent not deployed to a war zone; C = Same school control group students whose parents have no military affiliation.

[†]*ns.*

Research Question #5 Results

Table 8 displays analysis of variance of students with a military parent deployed to a war zone, students with a military parent not deployed to a war zone, and same school control group students whose parents have no military affiliation end of sixth-grade District Writing Performance Level scores.

As seen in Table 8 the null hypothesis was not rejected for posttest end of sixth-grade District Writing Performance Level, Ideas and Content scores for students with a military parent deployed to a war zone ($M = 3.40$, $SD = 0.45$), students with a military parent not deployed to a war zone ($M = 3.25$, $SD = 0.67$), and students whose parents have no military affiliation ($M = 2.70$, $SD = 1.11$) where the overall main effect of posttest end of sixth-grade District Writing Performance Level, Ideas and Content scores was not statistically significant, ($F(2, 27) = 2.14$, $p = 0.137$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Also as seen in Table 8 the null hypothesis was not rejected for posttest end of sixth-grade District Writing Performance Level, Voice scores for students with a military parent deployed to a war zone ($M = 3.30$, $SD = 0.63$), students with a military parent not deployed to a war zone ($M = 3.35$, $SD = 0.81$), and students whose parents have no military affiliation ($M = 3.15$, $SD = 0.94$) where the overall main effect of posttest end of sixth-grade District Writing Performance Level, Voice scores was not statistically significant, ($F(2, 27) = 0.17$, $p = 0.844$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

As found in Table 8 the null hypothesis was not rejected for posttest end of sixth-grade District Writing Performance Level, Word Choice scores for students with a

military parent deployed to a war zone ($M = 3.25$, $SD = 0.82$), students with a military parent not deployed to a war zone ($M = 3.25$, $SD = 0.88$), and students whose parents have no military affiliation ($M = 2.75$, $SD = 0.79$) where the overall main effect of posttest end of sixth-grade District Writing Performance Level, Word Choice scores was not statistically significant, ($F(2, 27) = 1.09$, $p = 0.350$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

As seen in Table 8 the null hypothesis was not rejected for posttest end of sixth-grade District Writing Performance Level, Organization scores for students with a military parent deployed to a war zone ($M = 3.15$, $SD = 0.81$), students with a military parent not deployed to a war zone ($M = 3.05$, $SD = 0.76$), and students whose parents have no military affiliation ($M = 2.80$, $SD = 1.00$) where the overall main effect of posttest end of sixth-grade District Writing Performance Level, Organization scores was not statistically significant, ($F(2, 27) = 0.43$, $p = 0.654$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Also as seen in Table 8 the null hypothesis was not rejected for posttest end of sixth-grade District Writing Performance Level, Sentence Fluency scores for students with a military parent deployed to a war zone ($M = 3.15$, $SD = 0.62$), students with a military parent not deployed to a war zone ($M = 3.10$, $SD = 0.73$), and students whose parents have no military affiliation ($M = 2.90$, $SD = 0.90$) where the overall main effect of posttest end of sixth-grade District Writing Performance Level, Sentence Fluency scores was not statistically significant, ($F(2, 27) = 0.30$, $p = 0.743$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

As found in Table 8 the null hypothesis was not rejected for posttest end of sixth-grade District Writing Performance Level, Conventions scores for students with a military parent deployed to a war zone ($M = 3.15, SD = 0.57$), students with a military parent not deployed to a war zone ($M = 3.30, SD = 0.75$), and students whose parents have no military affiliation ($M = 3.00, SD = 0.91$) where the overall main effect of posttest end of sixth-grade District Writing Performance Level, Conventions scores was not statistically significant, ($F(2, 27) = 0.46, p = 0.636$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 8

Analysis of Variance of Students With a Military Parent Deployed to a War Zone, Students With a Military Parent Not Deployed to a War Zone, and Same School Control Group Students Whose Parents Have No Military Affiliation End of Sixth-Grade District Writing Performance Level Scores

Source of Writing Trait Variation	Mean (SD)	df	F	p
Ideas and Content				
Students with a deployed parent	3.40 (0.45)			
Students with not deployed parent	3.25 (0.67)			
Students in the control group	2.70 (1.11)			
Analysis		29	2.14	0.137 [†]
Voice				
Students with a deployed parent	3.30 (0.63)			
Students with not deployed parent	3.35 (0.81)			
Students in the control group	3.15 (0.94)			
Analysis		29	0.17	0.844 [†]
Word Choice				
Students with a deployed parent	3.20 (0.82)			
Students with not deployed parent	3.25 (0.88)			
Students in the control group	2.75 (0.79)			
Analysis		29	1.09	0.350 [†]
Organization				
Students with a deployed parent	3.15 (0.81)			
Students with not deployed parent	3.05 (0.76)			
Students in the control group	2.80 (1.00)			
Analysis		29	0.43	0.654 [†]
Sentence Fluency				
Students with a deployed parent	3.15 (0.62)			
Students with not deployed parent	3.10 (0.73)			
Students in the control group	2.90 (0.90)			
Analysis		29	0.30	0.743 [†]
Conventions				
Students with a deployed parent	3.15 (0.57)			
Students with not deployed parent	3.30 (0.753)			
Students in the control group	3.00 (0.91)			
Analysis		29	0.46	0.636 [†]

Note. Beginning Level Cut Score = 1.00; Progressing Level Cut Score = 2.00; Proficient Level Cut Score = 3.00; Advanced Level Cut Score = 4.00.

[†]*ns.*

Research Question #6 Results

Table 9 displays analysis of variance of students with a military parent deployed to a war zone, students with a military parent not deployed to a war zone, and same school control group students whose parents have no military affiliation end of sixth-grade District Essential Objectives Performance Level scores.

As seen in Table 9 the null hypothesis was not rejected for posttest end of sixth-grade District Essential Objectives Performance Level, Language scores for students with a military parent deployed to a war zone ($M = 36.20$, $SD = 2.86$), students with a military parent not deployed to a war zone ($M = 35.40$, $SD = 3.04$), and students whose parents have no military affiliation ($M = 35.20$, $SD = 1.11$) where the overall main effect of posttest end of sixth-grade District Essential Objectives Performance Level, Language scores was not statistically significant, ($F(2, 12) = 0.12$, $p = 0.887$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Also as seen in Table 9 the null hypothesis was not rejected for posttest end of sixth-grade District Essential Objectives Performance Level, Math scores for students with a military parent deployed to a war zone ($M = 37.00$, $SD = 2.44$), students with a military parent not deployed to a war zone ($M = 35.75$, $SD = 1.70$), and students whose parents have no military affiliation ($M = 37.25$, $SD = 1.25$) where the overall main effect of posttest end of sixth-grade District Essential Objectives Performance Level, Math scores was not statistically significant, ($F(2, 9) = 0.74$, $p = 0.504$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

As found in Table 9 the null hypothesis was not rejected for posttest end of sixth-grade District Essential Objectives Performance Level, Science scores for students with a

military parent deployed to a war zone ($M = 37.50$, $SD = 2.08$), students with a military parent not deployed to a war zone ($M = 36.50$, $SD = 1.29$), and students whose parents have no military affiliation ($M = 37.25$, $SD = 2.21$) where the overall main effect of posttest end of sixth-grade District Essential Objectives Performance Level, Science scores was not statistically significant, ($F(2, 9) = 0.30$, $p = 0.747$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

As seen in Table 9 the null hypothesis was not rejected for posttest end of sixth-grade District Essential Objectives Performance Level, Social Studies scores for students with a military parent deployed to a war zone ($M = 39.60$, $SD = 0.54$), students with a military parent not deployed to a war zone ($M = 38.40$, $SD = 1.51$), and students whose parents have no military affiliation ($M = 37.80$, $SD = 1.78$) where the overall main effect of posttest end of sixth-grade District Essential Objectives Performance Level, Social Studies scores was not statistically significant, ($F(2, 12) = 2.17$, $p = 0.156$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

As found in Table 9 the null hypothesis was not rejected for posttest end of sixth-grade District Essential Objectives Performance Level, Physical Education scores for students with a military parent deployed to a war zone ($M = 38.00$, $SD = 1.73$), students with a military parent not deployed to a war zone ($M = 38.33$, $SD = 0.57$), and students whose parents have no military affiliation ($M = 36.33$, $SD = 0.57$) where the overall main effect of posttest end of sixth-grade District Essential Objectives Performance Level, Physical Education scores was not statistically significant, ($F(2, 6) = 2.82$, $p = 0.136$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Also as seen in Table 9 the null hypothesis was not rejected for posttest end of sixth-grade District Essential Objectives Performance Level, Music scores for students with a military parent deployed to a war zone ($M = 39.00$, $SD = 0.00$), students with a military parent not deployed to a war zone ($M = 37.00$, $SD = 1.73$), and students whose parents have no military affiliation ($M = 39.33$, $SD = 0.57$) where the overall main effect of posttest end of sixth-grade District Essential Objectives Performance Level, Math scores was not statistically significant, ($F(2, 6) = 4.30$, $p = 0.069$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 9

Analysis of Variance of Students With a Military Parent Deployed to a War Zone, Students With a Military Parent Not Deployed to a War Zone, and Same School Control Group Students Whose Parents Have No Military Affiliation End of Sixth-Grade District Essential Objectives Performance Level Scores

Source of Essential Objective Variation	Mean (SD)	df	F	p
Language				
Students with a deployed parent	36.20 (2.86)			
Students with not deployed parent	35.40 (3.04)			
Students in the control group	35.20 (1.11)			
Analysis		14	0.12	0.887 [†]
Math				
Students with a deployed parent	37.00 (2.44)			
Students with not deployed parent	35.75 (1.70)			
Students in the control group	37.25 (1.25)			
Analysis		11	0.74	0.504 [†]
Science				
Students with a deployed parent	37.50 (2.08)			
Students with not deployed parent	36.50 (1.29)			
Students in the control group	37.25 (2.21)			
Analysis		11	0.30	0.747 [†]
Social Studies				
Students with a deployed parent	39.60 (0.54)			
Students with not deployed parent	38.40 (1.51)			
Students in the control group	37.80 (1.78)			
Analysis		14	2.17	0.156 [†]
Physical Education				
Students with a deployed parent	38.00 (1.73)			
Students with not deployed parent	38.33 (0.57)			
Students in the control group	36.33 (0.57)			
Analysis		8	2.82	0.136 [†]
Music				
Students with a deployed parent	39.00 (0.00)			
Students with not deployed parent	37.00 (1.73)			
Students in the control group	39.33 (0.57)			
Analysis		8	4.30	0.069 [†]

Note. Beginning Level Cut Score = 1.00; Progressing Level Cut Score = 2.00; Proficient Level Cut Score = 3.00; Advanced Level Cut Score = 4.00.

[†]*ns.*

CHAPTER FIVE

Conclusions and Discussion

The need for accurate information about the achievement of students whose military parents are deployed to a war zone or whose military parents are eligible although not currently deployed to a war zone is important in order to ensure that we are providing for the educational wellbeing of these children as their parents defend our nations freedoms. The purpose of this posttest-only comparative efficacy study was to determine the achievement outcomes of sixth-grade students with a military parent deployed to a war zone or sixth-grade students with a military parent not deployed to a war zone compared to same school students whose parents have no military affiliation.

The study's dependent measures were Academic achievement as measured by end of sixth-grade (1) NeSA-Math, (2) NeSA-Reading, (3) MAP-Math, (4) MAP-Reading, (5) Research School District's Descriptive Writing Assessment for (a) Ideas and Content, (b) Organization, (c) Voice, (d) Word Choice, (e) Sentence Fluency, and (f) Conventions, and (6) Research School District's Essential Objectives for (a) Language, (b) Math, (c) Science, (d) Social Studies, (e) Health, (f) Physical Education, and (g) Music.

All study data were retrospective and archival and collected for determining the educational wellbeing of children whose military parents are deployed to a war zone or whose military parents are eligible although not currently deployed to a war zone.

Conclusions

The following conclusions may be drawn from the study for each of the six research questions.

Research Question #1 Conclusions

Research Question #1 analyzed students with a military parent deployed to a war zone, students with a military parent not deployed to a war zone, and same school control group students whose parents have no military affiliation end of sixth-grade NeSA-math achievement percentile scores. The null hypothesis for the first research question was not rejected for posttest end of sixth-grade NeSA-math achievement percentile scores for students with a military parent deployed to a war zone ($M = 84.92$, $SD = 10.13$), students with a military parent not deployed to a war zone ($M = 71.30$, $SD = 15.80$), and students whose parents have no military affiliation ($M = 80.90$, $SD = 10.43$) where the overall main effect of posttest end of sixth-grade NeSA-math achievement percentile scores was not statistically significant, ($F(2, 27) = 2.99$, $p = 0.067$).

Students' congruent and not statistically different posttest end of sixth-grade NeSA-math achievement percentile scores indicated measured achievement exceeding the math proficiency rating for students with a military parent deployed to a war zone (84.92) and control group students whose parents have no military affiliation (80.90). End of sixth-grade NeSA-math achievement percentile scores for students with a military parent not deployed to a war zone (71.30) indicated measured achievement meeting the math proficiency rating. To further contextualize the mean percentile rank scores students with a military parent deployed to a war zone mean percentile rank score of 84.92 was congruent with a standard score of 115 and a stanine score of 7 the lowest

stanine in the above average range and students with a military parent not deployed to a war zone a mean percentile rank score of 71.30 was congruent with a standard score of 108 and a stanine score of 6 the highest stanine in the average range. Control group students whose parents have no military affiliation mean percentile rank score of 80.90 was congruent with a standard score of 112 and a stanine score of 6 the highest stanine in average range.

Overall, end of sixth-grade NeSA-math achievement percentile rank scores indicates that the goal of educational wellbeing for these students of military families and control group students is being met and is reflected in measured math proficiency requiring students day-to-day engagement at school and support at home.

Research Question #2 Conclusions

Research Question #2 analyzed students with a military parent deployed to a war zone, students with a military parent not deployed to a war zone, and same school control group students whose parents have no military affiliation end of sixth-grade NeSA-reading achievement percentile scores. The null hypothesis for the second research question was not rejected for posttest end of sixth-grade NeSA-reading achievement percentile scores for students with a military parent deployed to a war zone ($M = 83.30$, $SD = 11.82$), students with a military parent not deployed to a war zone ($M = 76.20$, $SD = 9.35$), and students whose parents have no military affiliation ($M = 81.00$, $SD = 16.41$) where the overall main effect of posttest end of sixth-grade NeSA-reading achievement percentile scores was not statistically significant, ($F(2, 27) = 0.79$, $p = 0.464$).

Students' congruent and not statistically different posttest end of sixth-grade NeSA-reading achievement percentile scores indicated measured achievement exceeding

the reading proficiency rating for students with a military parent deployed to a war zone (83.30), students with a military parent not deployed to a war zone (76.20), and control group students whose parents have no military affiliation (81.00). To further contextualize the mean percentile rank scores students with a military parent deployed to a war zone mean percentile rank score of 83.30 was congruent with a standard score of 114 and a stanine score of 7 the lowest stanine in the above average range and students with a military parent not deployed to a war zone mean percentile rank score of 76.20 was congruent with a standard score of 110 and a stanine score of 6 the highest stanine in the average range. Control group students whose parents have no military affiliation mean percentile rank score of 81.00 was congruent with a standard score of 113 and a stanine score of 6 the highest stanine in average range.

Overall, end of sixth-grade NeSA-reading achievement percentile rank scores indicates that the goal of educational wellbeing for these students of military families and control group students is being met and is reflected in measured reading proficiency requiring students day-to-day engagement at school and support at home.

Research Question #3 Conclusions

Research Question #3 analyzed students with a military parent deployed to a war zone, students with a military parent not deployed to a war zone, and same school control group students whose parents have no military affiliation end of sixth-grade MAP Math achievement percentile scores. The null hypothesis for the third research question was rejected for posttest end of sixth-grade MAP Math achievement percentile scores for students with a military parent deployed to a war zone ($M = 82.00$, $SD = 12.78$), students with a military parent not deployed to a war zone ($M = 64.00$, $SD = 13.66$), and students

whose parents have no military affiliation ($M = 74.40$, $SD = 13.12$) where the overall main effect of posttest end of sixth-grade MAP Math achievement percentile scores was statistically significant, ($F(2, 27) = 4.69$, $p = 0.017$). Statistical significance ($p < .05$) was found for one comparison the posttest end of sixth-grade MAP-math achievement percentile scores for students with a military parent deployed to a war zone ($M = 82.00$, $SD = 12.78$) compared to students with a military parent not deployed to a war zone ($M = 64.00$, $SD = 13.66$).

Students' statistically different posttest end of sixth-grade MAP Math achievement percentile scores indicated measured achievement within the average range for students with a military parent deployed to a war zone (82.00), students with a military parent not deployed to a war zone (64.00), and control group students whose parents have no military affiliation (74.40). To further contextualize the mean percentile rank scores students with a military parent deployed to a war zone mean percentile rank score of 82.00 was congruent with a standard score of 113 and a stanine score of 6 the highest stanine in the average range and students with a military parent not deployed to a war zone mean percentile rank score of 64.20 was congruent with a standard score of 105 and a stanine score of 6 the highest stanine in the average range. Control group students whose parents have no military affiliation mean percentile rank score of 74.40 was congruent with a standard score of 109 and a stanine score of 6 the highest stanine in average range.

Overall, end of sixth-grade MAP Math achievement percentile rank scores indicates that the goal of educational wellbeing for these students of military families and

control group students is being met and is reflected in measured average range math performance requiring students day-to-day engagement at school and support at home.

Research Question #4 Conclusions

Research Question #4 analyzed students with a military parent deployed to a war zone, students with a military parent not deployed to a war zone, and same school control group students whose parents have no military affiliation end of sixth-grade MAP Reading achievement percentile scores. The null hypothesis for the fourth research question was not rejected for posttest end of sixth-grade MAP Reading achievement percentile scores for students with a military parent deployed to a war zone ($M = 69.50$, $SD = 14.67$), students with a military parent not deployed to a war zone ($M = 69.40$, $SD = 13.72$), and students whose parents have no military affiliation ($M = 67.40$, $SD = 20.18$) where the overall main effect of posttest end of sixth-grade MAP Reading achievement percentile scores was not statistically significant, ($F(2, 27) = 0.05$, $p = 0.951$).

Students' congruent and not statistically different posttest end of sixth-grade MAP Reading achievement percentile scores indicated measured achievement within the average range for students with a military parent deployed to a war zone (69.50), students with a military parent not deployed to a war zone (69.40), and control group students whose parents have no military affiliation (67.40). To further contextualize the mean percentile rank scores students with a military parent deployed to a war zone mean percentile rank score of 69.50 was congruent with a standard score of 107 and a stanine score of 6 the highest stanine in the average range and students with a military parent not deployed to a war zone mean percentile rank score of 69.40 was congruent with a standard score of 107 and a stanine score of 6 the highest stanine in the average range.

Control group students whose parents have no military affiliation mean percentile rank score of 67.40 was congruent with a standard score of 106 and a stanine score of 6 the highest stanine in average range.

Overall, end of sixth-grade MAP Reading achievement percentile rank scores indicates that the goal of educational wellbeing for these students of military families and control group students is being met and is reflected in measured reading performance requiring students day-to-day engagement at school and support at home.

Research Question #5 Conclusions

Research Question #5 analyzed students with a military parent deployed to a war zone, students with a military parent not deployed to a war zone, and same school control group students whose parents have no military affiliation end of sixth-grade District Writing Performance Level scores. The null hypothesis was not rejected for posttest end of sixth-grade District Writing Performance Level, Ideas and Content scores for students with a military parent deployed to a war zone ($M = 3.40$, $SD = 0.45$), students with a military parent not deployed to a war zone ($M = 3.25$, $SD = 0.67$), and students whose parents have no military affiliation ($M = 2.70$, $SD = 1.11$) where the overall main effect of posttest end of sixth-grade District Writing Performance Level, Ideas and Content scores was not statistically significant, ($F(2, 27) = 2.14$, $p = 0.137$). Further, the null hypothesis was not rejected for posttest end of sixth-grade District Writing Performance Level, Voice scores for students with a military parent deployed to a war zone ($M = 3.30$, $SD = 0.63$), students with a military parent not deployed to a war zone ($M = 3.35$, $SD = 0.81$), and students whose parents have no military affiliation ($M = 3.15$, $SD = 0.94$) where the overall main effect of posttest end of sixth-grade District Writing Performance

Level, Voice scores was not statistically significant, ($F(2, 27) = 0.17, p = 0.844$). Also the null hypothesis was not rejected for posttest end of sixth-grade District Writing Performance Level, Word Choice scores for students with a military parent deployed to a war zone ($M = 3.25, SD = 0.82$), students with a military parent not deployed to a war zone ($M = 3.25, SD = 0.88$), and students whose parents have no military affiliation ($M = 2.75, SD = 0.79$) where the overall main effect of posttest end of sixth-grade District Writing Performance Level, Word Choice scores was not statistically significant, ($F(2, 27) = 1.09, p = 0.350$). The null hypothesis was also not rejected for posttest end of sixth-grade District Writing Performance Level, Organization scores for students with a military parent deployed to a war zone ($M = 3.15, SD = 0.81$), students with a military parent not deployed to a war zone ($M = 3.05, SD = 0.76$), and students whose parents have no military affiliation ($M = 2.80, SD = 1.00$) where the overall main effect of posttest end of sixth-grade District Writing Performance Level, Organization scores was not statistically significant, ($F(2, 27) = 0.43, p = 0.654$). The null hypothesis was not rejected for posttest end of sixth-grade District Writing Performance Level, Sentence Fluency scores for students with a military parent deployed to a war zone ($M = 3.15, SD = 0.62$), students with a military parent not deployed to a war zone ($M = 3.10, SD = 0.73$), and students whose parents have no military affiliation ($M = 2.90, SD = 0.90$) where the overall main effect of posttest end of sixth-grade District Writing Performance Level, Sentence Fluency scores was not statistically significant, ($F(2, 27) = 0.30, p = 0.743$). Finally, the null hypothesis was not rejected for posttest end of sixth-grade District Writing Performance Level, Conventions scores for students with a military parent deployed to a war zone ($M = 3.15, SD = 0.57$), students with a military parent not

deployed to a war zone ($M = 3.30$, $SD = 0.75$), and students whose parents have no military affiliation ($M = 3.00$, $SD = 0.91$) where the overall main effect of posttest end of sixth-grade District Writing Performance Level, Conventions scores was not statistically significant, ($F(2, 27) = 0.46$, $p = 0.636$).

Students' congruent and not statistically different posttest end of sixth-grade District Writing Performance Level scores indicated measured achievement at the proficient level cut score for students with a military parent deployed to a war zone with mean scores for: Ideas and Content (3.40), Voice (3.30), Word Choice (3.20), Organization (3.15), Sentence Fluency (3.15), and Conventions (3.15).

Posttest end of sixth-grade District Writing Performance Level scores indicated measured achievement at the proficient level cut score for students with a military parent not deployed to a war zone with mean scores for: Ideas and Content (3.25), Voice (3.35), Word Choice (3.25), Organization (3.05), Sentence Fluency (3.10), and Conventions (3.30).

Posttest end of sixth-grade District Writing Performance Level scores indicated measured achievement at the progressing and proficient level cut score for control group students whose parents have no military affiliation with mean scores for: Ideas and Content (2.70), Voice (3.15), Word Choice (2.75), Organization (2.80), Sentence Fluency (2.90), and Conventions (3.00).

Overall, end of sixth-grade District Writing Performance Level scores indicates that the goal of educational wellbeing for these students of military families and control group students is being met and is reflected in measured district writing performance requiring students day-to-day engagement at school and support at home.

Research Question #6 Conclusions

Research Question #6 analyzed students with a military parent deployed to a war zone, students with a military parent not deployed to a war zone, and same school control group students whose parents have no military affiliation end of sixth-grade District Essential Objectives Level scores. The null hypothesis was not rejected for posttest end of sixth-grade District Essential Objectives Level, Language scores for students with a military parent deployed to a war zone ($M = 36.20$, $SD = 2.86$), students with a military parent not deployed to a war zone ($M = 35.40$, $SD = 3.04$), and students whose parents have no military affiliation ($M = 35.20$, $SD = 1.11$) where the overall main effect of posttest end of sixth-grade District Essential Objectives Level, Language scores was not statistically significant, ($F(2, 12) = 0.12$, $p = 0.887$). Further the null hypothesis was not rejected for posttest end of sixth-grade District Essential Objectives Level, Math scores for students with a military parent deployed to a war zone ($M = 37.00$, $SD = 2.44$), students with a military parent not deployed to a war zone ($M = 35.75$, $SD = 1.70$), and students whose parents have no military affiliation ($M = 37.25$, $SD = 1.25$) where the overall main effect of posttest end of sixth-grade District Essential Objectives Level, Math scores was not statistically significant, ($F(2, 9) = 0.74$, $p = 0.504$). Moreover, the null hypothesis was not rejected for posttest end of sixth-grade District Essential Objectives Level, Science scores for students with a military parent deployed to a war zone ($M = 37.50$, $SD = 2.08$), students with a military parent not deployed to a war zone ($M = 36.50$, $SD = 1.29$), and students whose parents have no military affiliation ($M = 37.25$, $SD = 2.21$) where the overall main effect of posttest end of sixth-grade District

Essential Objectives Level, Science scores was not statistically significant, ($F(2, 9) = 0.30, p = 0.747$). The null hypothesis was also not rejected for posttest end of sixth-grade District Essential Objectives Level, Social Studies scores for students with a military parent deployed to a war zone ($M = 39.60, SD = 0.54$), students with a military parent not deployed to a war zone ($M = 38.40, SD = 1.51$), and students whose parents have no military affiliation ($M = 37.80, SD = 1.78$) where the overall main effect of posttest end of sixth-grade District Essential Objectives Level, Social Studies scores was not statistically significant, ($F(2, 12) = 2.17, p = 0.156$). Also the null hypothesis was not rejected for posttest end of sixth-grade District Essential Objectives Level, Physical Education scores for students with a military parent deployed to a war zone ($M = 38.00, SD = 1.73$), students with a military parent not deployed to a war zone ($M = 38.33, SD = 0.57$), and students whose parents have no military affiliation ($M = 36.33, SD = 0.57$) where the overall main effect of posttest end of sixth-grade District Essential Objectives Level, Physical Education scores was not statistically significant, ($F(2, 6) = 2.82, p = 0.136$). Finally, the null hypothesis was not rejected for posttest end of sixth-grade District Essential Objectives Level, Music scores for students with a military parent deployed to a war zone ($M = 39.00, SD = 0.00$), students with a military parent not deployed to a war zone ($M = 37.00, SD = 1.73$), and students whose parents have no military affiliation ($M = 39.33, SD = 0.57$) where the overall main effect of posttest end of sixth-grade District Essential Objectives Level, Music scores was not statistically significant, ($F(2, 6) = 4.30, p = 0.069$).

Students' congruent and not statistically different posttest end of sixth-grade District Essential Objectives Level scores indicated measured achievement at the

proficient level cut score for students with a military parent deployed to a war zone with mean scores for: Language (36.20), Math (37.00), Science (37.50), Social Studies (39.60), Physical Education (38.00), and Music (39.00).

Students' congruent and not statistically different posttest end of sixth-grade District Essential Objectives Level scores indicated measured achievement at the proficient level cut score for students with a military parent not deployed to a war zone with mean scores for: Language (35.40), Math (35.75), Science (36.50), Social Studies (38.40), Physical Education (38.33), and Music (37.00).

Students' congruent and not statistically different posttest end of sixth-grade District Essential Objectives Level scores indicated measured achievement at the proficient level cut score for control group students whose parents have no military affiliation with mean scores for: Language (35.20), Math (37.25), Science (37.25), Social Studies (37.80), Physical Education (36.33), and Music (39.33).

Overall, end of sixth-grade District Essential Objectives Level scores indicates that the goal of educational wellbeing for these students of military families and control group students is being met and is reflected in measured district Essential Objectives performance requiring students' day-to-day engagement at school and support at home.

Discussion

Implications for practice. Some military families may require more assistance in addressing their children's needs, via school programming, mental health services, or resources that can be given in the home. Given that child difficulties are greater for families that experience longer periods of parental absence in the previous years, these families may benefit from targeted support to deal with these stressors at later points in

the deployment, not simply during the initial stages. In addition, families in which caretakers are struggling with their own mental health may need more support for both the caregiver and child. Although these programs are being developed and implemented, we have few empirical data on program effectiveness. Girls and older youth are confronting more difficulties with deployment and reintegration; thus, they may require more assistance (Chandra et al., 2008).

Implications for policy. Study findings provide insight into how military children are faring and can inform future program and policy development. At the same time however, we know that dozens if not hundreds of programs are already being implemented across the defense and civilian sectors to support military families in coping with deployment. Just as there had been no studies to date that examine the health, functioning, and well-being of military children during an extended era of conflict, there are also no studies that systematically assess the programs in place to support them. Given the high interest and previous investments in these programs, it will be important to ask questions about whether they should be continued and/or how might they be improved. Findings also suggest that these programs be examined to assess not only how they align with the deployment and reintegration continuum but also how their content matches what we know about needs. Understanding program efficacy and effectiveness will also require more rigorous methodologies to assess the program's impact on child and caregiver outcomes (Chandra, 2008).

Implications for further research. Longitudinal research would provide useful information about the effect of different stages of the deployment cycle, children of different ages and the impact of certain confounding variables (e.g. prior family

relationships, existing child behavioral issues). Longitudinal research may also give greater insight into protective factors, such as the role of resilience in some military families, which other work has identified as an important but understudied area of research (White et al., 2011). The school district involved in this research is but one of many public schools districts in the United States that borders a military installation, thereby serving a diverse, military and civilian, student population. The students of the military families in this study with clearly measured success were in attendance during a time when the school district was receiving Impact Aid and therefore, it is not clear if the study could be replicated during an extended period without these funds. This funding source was the vehicle used to actually build and staff the school where the research occurred over time (General Accounting Office, 2011).

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