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The impact of low, moderate, and high military family mobility school district transfer rates on graduating senior high school dependents' achievement and school engagement

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THE IMPACT OF LOW, MODERATE, AND HIGH MILITARY FAMILY MOBILITY SCHOOL DISTRICT TRANSFER RATES ON GRADUATING SENIOR HIGH SCHOOL DEPENDENTS' ACHIEVEMENT AND SCHOOL ENGAGEMENT

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Abstract

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The results of this study suggest that there were no significant differences in the academic performance of military dependents' with low (n = 20), moderate (n = 20), and high (n = 20) mobility school district transfer rates compared to non-military control students (n = 20) before completing high school. The findings were not consistent with some past research on student mobility. The research school district takes the goal of the Interstate Compact, which is to replace the widely varying treatment of transitioning military students with a comprehensive approach that provides a uniform policy in every school district in every state, very seriously. The research school district most likely sees consistently strong academic performance for its mobile military children because of the positive, and welcoming well-organized, goal-linked, and sustainable home, school, and community partnership supporting military dependents success at school. The school district involved in this research is but one of many public school districts in the United States that borders a military installation, thereby serving a diverse, military and civilian, student population. Additional research on the effect of mobility and the academic achievement of students in such districts is needed to better understand the effects of mobility, as well as the factors that moderate that relationship. In doing so, an important

consideration is the possibility that school districts that serve a highly transient population become very adept at quickly and efficiently assessing and accommodating the learning needs of individual students. One would expect that in doing so, such school districts would effectively reduce or eliminate potentially negative effects of mobility.

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CHAPTER ONE

Introduction

We are a nation at war. The current conflict in Iraq and Afghanistan, though winding down, means that many military families remain on alert and are required to report to duty whenever ordered to do so. However, not just military personal are affected. Dependents are expected to continue their lives without disruption. Spouses are expected to go to work or stay home with children. Children are expected to go to school. All of this is easier said than done.

The Bellevue Public Schools serve the children of military families and perforce adopt programs to provide transition services to all new students of military families coming into the district so they may become members of the school community as quickly as possible while their parent or parents serve. Military children, like most children, are resilient (Hartman & Franke, 2003; Keller & Decoteau, 2000; Weber, 2005). Furthermore, some children of military personnel are exposed through travel to different cultures and have opportunities to expand their horizons in a global sense. Therefore, educating our military's children should be no more challenging than educating the rest of our nation's children. However, the children of today's mobile military families often miss out on the continuity and stability of educational opportunities offered to students who remain in one state and one school system.

The demands on military members and their families are not only increasing, but are becoming more complex. Military families sacrifice their personal comfort and experience tremendous upheaval when soldiers, sailors, airman, Marines, reservists, and National Guard members are called to serve our country here or abroad (Malmgren &

Gagnon, 2005; Pettit, 2004; Pittman & Bowen, 1994). Children are especially vulnerable when asked to move from one school district to another. Their unique developmental perspective and limited life experience put them at a heightened risk for emotional distress during this period (Scanlon & Devine, 2001; Schafft, 2006).

Schools can be one place where stability and normal routine can provide an anchor for children during the challenges of mobility and the resulting disruptions to daily life (Obradovic, Long, Cutuli, Chan, Hinz, Heistad, & Masten, 2009). The predictability of the classroom helps to cushion the impact of mobility that often includes changes in psychological equilibrium and disruption of individual behavior and coping skills (Finkel, Kelley, & Ashby, 2003; Malmgren & Gagnon, 2005; Tucker, Marx, & Long, 1998). Alternatively, the stresses that may result from mobility have the potential to affect an entire school community and may interfere with the ability of students and staff to focus on learning (Alexander, Entwisle, & Dauber, 1996; Hanushek, Kain, & Rivkin, 2004; Heinlein & Shinn, 2000).

About 17% of school-aged children in the U.S. relocate each year. Although many school-aged American children move, military children are especially likely to experience frequent relocation (Cozza, Chun & Polo, 2005; Keller, Schwartz, & Taylor, 2001; Weber, 2005). On average, military children are three times more likely to move than their civilian peers and will move six to nine times by the time they graduate from high school (Pettit, 2004). Furthermore, military families may have less influence over the locations to which they are assigned, and less notice of those locations, than their civilian counterparts. According to the 2006, Survey of Active Duty Spouses conducted by the Defense Manpower Data Center (DMDC), 22% of spouses reported that

differences in school curricula as a result of a permanent change of station (PCS) move cause a serious problem in their children's education. In addition, 17% of military spouses reported difficulties adjusting to a new school resulting in a serious problem. Other PCS-related educational problems that AD spouses identified include: (a) transfer to appropriate special education programs (Weber, 2005), (b) inclusion in appropriate gifted education classes (Smrekar & Owens, 2003), (c) immediate participation in English as a Second Language (ESL) placement (Temple & Reynolds, 1999), (d) identifying appropriately difficult high school coursework (Schafft, 2006), (e) untimely transfer of school records (Vernberg, Greenhoot, & Biggs, 2006), and (f) exclusion from extracurricular activities (Weber, 2005).

While moving can be difficult at any age, it tends to become more challenging as children enter high school (Obradovic et al., & Masten, 2009). The issues facing high school students transferring into a new school include incomplete records, credits not transferring, varying graduation requirements possibly resulting in delayed graduation, and lack of resources that students relied on at the last location, such as special education, gifted and talented classes, or speech therapy.

Extracurricular opportunities also can be impacted by PCS, such as when athletes arrive too late to try out for a varsity team. Opportunities to apply for certain scholarships may be affected. There can be administrative hurdles related to registering for school while a student is residing in temporary housing and lacks a permanent address. Sometimes students are forced to transfer during the school year. Finally, finding friends and fitting in at the new school is very important to students but can be challenging (South, Haynie, & Bose, 2007).

Several types of schooling options may be available to military families with school-aged children. These schooling options, which vary by location, include on-base public schools, off-base public schools, charter schools, DoD schools operated by the DoD Education Activity (DoDEA), private schools, home-schooling, and distance learning (Keller & Decoteau, 2000). According to the 2006 Survey of AD Spouses, 78% of military spouses had a child enrolled in a public school off base during the previous year, while 23% had a child enrolled in a DoD-run school.

Clearly, supporting students from military families requires a school district to be proactive and flexible in its educational programing in order to meet the diverse needs of children who have, in many cases, had very discontinuous educational experiences and have experienced the stress of a parent who may be called to a war zone on short notice.

Purpose of the Study

The purpose of this study is to determine the impact of low, moderate, and high military family mobility school district transfer rates, at a time of conflict with two nations on graduating senior high dependents' achievement, and school engagement.

Research Questions

The following research question will be used to analyze the ACT scores of military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school.

Overarching Posttest Only Achievement Research Question #1. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or

different ACT (a) English, (b) mathematics, (c) reading, and (d) science Norm Reference Test (NRT) Normal Curve Equivalent (NCE) scores?

Sub-Question 1a. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different ACT (a) English Norm Reference Test (NRT) Normal Curve Equivalent (NCE) scores?

Sub-Question 1b. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different ACT (b) mathematics Norm Reference Test (NRT) Normal Curve Equivalent (NCE) scores?

Sub-Question 1c. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different ACT (c) reading Norm Reference Test (NRT) Normal Curve Equivalent (NCE) scores?

Sub-Question 1d. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different ACT (d) science Norm Reference Test (NRT) Normal Curve Equivalent (NCE) scores?

The following research question will be used to analyze the Essential Objectives scores of military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school.

Overarching Posttest Only Achievement Research Question #2. Do military dependents' with low, moderate, and high mobility school district transfer rates compared

to non-military control students before completing high school have congruent or different Essential Objective (a) English, (b) math, (c) science, and (d) social studies proficiency level scores?

Sub-Question 2a. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different Essential Objective (a) English proficiency level scores?

Sub-Question 2b. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different Essential Objective (b) math proficiency level scores?

Sub-Question 2c. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different Essential Objective (c) science proficiency level scores?

Sub-Question 2d. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different Essential Objective (d) social studies proficiency level scores?

The following research question will be used to analyze the Grade Point Average scores of military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students control students before completing high school.

Overarching Posttest Only Achievement Research Question #3. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different final semester (a) English, (b) math, (c) science, and (d) social studies Grade Point Average scores?

Sub-Question 3a. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different final semester (a) English Grade Point Average scores?

Sub-Question 3b. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different final semester (b) math Grade Point Average scores?

Sub-Question 3c. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different final semester (c) science Grade Point Average scores?

Sub-Question 3d. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different final semester (d) social studies Grade Point Average scores?

The following research question will be used to analyze the school engagement participation frequencies of military dependents' with low, moderate, and high mobility

school district transfer rates compared to non-military control students before completing high school.

Overarching Posttest Only Engagement Research Question #4. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different 12th-grade (a) sports, (b) clubs, and (c) arts school engagement participation frequencies?

Sub-Question 4a. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different 12th-grade (a) sports school engagement participation frequencies?

Sub-Question 4b. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different 12th-grade (b) clubs school engagement participation frequencies?

Sub-Question 4c. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different 12th-grade (c) arts school engagement participation frequencies?

Assumptions

The study has several strong features including: (a) the school district has a long history of providing education for children of military families during both war and peacetime dating back to the 1960s, and (b) both research high schools are similar in

overall graduation rates, ACT scores, college acceptance record, ethnic diversity, economic diversity, and military family participation rates. Both school district research high schools are currently accredited by AdvancedEd and both schools have recognized athletic and arts programs.

Delimitations of the Study

This study was delimited to graduating senior high dependents' in a suburban school district who were in attendance from the fall of 2011 to the spring of 2012. Data on ACT college entrance exam scores, Essential Objectives proficiency levels, Grade Point Average scores, and school engagement participation frequencies was collected routinely throughout the school year included in the study. Study findings were delimited to the graduating senior high school military dependents.

Limitations of the Study

This exploratory study was confined to graduating senior high military dependents' ($N = 80$) to determine the impact of low, moderate, and high military family mobility school district transfer rates compared to non-military control students. Study participants in the first arm ($n = 20$) had low military family mobility school district rates. Study participants in the second arm ($n = 20$) had moderate family mobility school district transfer rates. Study participants in the third arm ($n = 20$) had high family mobility school district transfer rates. Study participants in the fourth study arm ($n = 20$) had no mobility transfer rates. The small number of study subjects could limit the utility and generalizability of the study results and findings.

Definitions of Terms

Academic achievement. Academic achievement refers to actions that have resulted in competent school performance where public standards of excellence are applicable.

Achievement tests. Achievement tests are an assessment that measures a student's acquired knowledge and skills in one or more content areas (e.g., reading, mathematics, or language).

Active duty. Active duty is full time duty in a military service without regard to duration or purpose.

Armed Forces of the United States. The armed forces of the United States is a collective phrase for all military components of the US. Army, Navy, Air Force, Marine Corps, and Coast Guard.

Base. A base is a locality from which military operations are projected or supported.

Department of Defense (DOD). The Department of Defense is a federal agency created by the National Security Act amendments of 1949, which is responsible for providing the military forces needed to deter war and protect American security.

Dependent. Dependent refers to a child or other individual who requires the help of family (i.e. usually parents) for the basic necessities (e.g., food, clothing, and shelter).

DoDDX. DoDDX is an acronym for Department of Defense Dependent Schools. These schools serve the overseas installations.

DoDEA. DoDEA is an acronym for Department of Defense Education Activity.

Dependent student. Dependent student refers to a student in a Department of Defense school for children of active duty military personnel.

Deployment. Deployment is an assignment of military personnel to temporary tours of duty. Can be weeks, months, or years of separation.

Essential Objectives. Essential Objectives are CRT assessments developed by the Bellevue Public Schools. These assessments have been submitted to the state and have been deemed as, meeting or exceeding state protocols.

Mission. Mission refers to a duty assigned to an individual or unit.

Mobile student. A mobile student is a student who moves from one school to another during school grades Pre-K through 12.

Mobility. Mobility refers to a quality or capability of military forces which permits them to move from place to place while retaining the ability to fulfill their primary mission.

Mobilization. Mobilization is the assembling of forces in preparation for deployment.

NCO. NCO is a noncommissioned officer with a ranking of sergeant or above.

Non-mobile student. A non-mobile is a student who has not changed location of schools during the Pre-K through 12-grade levels.

Norm-referenced tests (NRTs). Norm-referenced tests are test that compare an individual's performance to the performance of his or her peers.

PCS. PCS is an acronym for permanent change of station**.**

Percentile. Percentile is one of the 99 point scores that divide a ranked distribution into groups.

Permanent change of station (PCS). Permanent change of station refers to complete change of location, job position, family, and household.

Privatization. Privatization refers to when a contractor takes over the operation of a particular area such as housing or transportation.

Rank. Rank refers to grade or official standing of commissioned and non-commissioned officers.

Rapid deployment. Rapid deployment is an Air Force term used when a unit may deploy within 12-18 hours after notification. Most of that time is spent on duty or in crew preparation, not with the member's family.

Sponsor. A sponsor is a military person who helps service members assigned to a new duty station.

Strategic mobility. Strategic mobility refers to the capability to deploy and sustain military forces worldwide in support of national strategy.

Student stability. Student stability is the idea that students remain at the same school for a number of years.

Total Force. Total force refers to all components of the armed forces including active duty, guard, and reserves.

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 decrease the impact of mobility on military dependent children.

Contribution to research. The results of this study, may inform theoretical and practical literature on the achievement and school engagement impact of military family mobility on their students' high school graduation rates.

Contribution to practice. Based on the outcomes of this study the district may decide to explore different programs or methods to meet the needs of those students who move into the school district as a military family dependent.

Contribution to policy. School policy will be impacted by this study if results show that mobility has or does not have an impact on achievement and school engagement. Furthermore, the results could support policy discussions of the most appropriate ways to proactively plan to serve the children of families who defend our nation.

Organization of the Study

The literature review relevant to this study is presented in Chapter 2. This chapter reviews literature regarding military family mobility including a review of research based studies as well as the effect of military family mobility on student measured achievement and school engagement. Chapter 3 describes the research design, methodology, independent and dependent variables, and procedures that will be used to gather and analyze the data of this study. This includes a detailed synthesis of the participants, a comprehensive list of the independent variables, dependent variables and dependent measures, and the data analysis procedure used to statistically determine rejection of the null hypotheses for each research question. Chapter 4 reports the research results and findings—including data analysis, tables, and descriptive statistics. Chapter 5 provides conclusions and a discussion of the research findings.

CHAPTER TWO

Review of the Literature

History of Mobility in the United States

The problem of student mobility is not unique to any school or area, nor is it a new phenomenon. People across the United States are on the move and have been since the time people left Europe to come to the New World. From the original colonists moving in different directions, 13 colonies were formed. From settlements along the Atlantic to the Mississippi River to the Rocky Mountains to the Pacific Ocean, pioneers moved in search of a better life. This trend has continued throughout the history of the United States. In earlier days, entire families and even extended families moved to new areas to settle. Some moved into total wilderness areas to carve out a town or a community. Other settlers moved to towns already established where they set up their households. If not for this migratory spirit, the United States might still be 13 colonies instead of stretching from ocean to ocean.

Today American society is still on the move. As reported by the U.S. Census Bureau in 2004 between March of 2003 and March of 2004, over 43 million Americans, approximately 16.5% of the population, changed residences. This statistic could be broken down into 24 million of the movers moved to a new residence within the same county, 8.6 million moved between counties in the same state, and the remaining 10.4 million changed states (U.S. Census Bureau, 2004). Additional, 28 million Americans who moved were families that were in housing that were being rented and they tended to remain in the same residence for an average of only 2.1 years (U.S. Census Bureau, 2004). When educators examine these figures it is evident that there would be an

extensive amount of school mobility as a result of high transience rate in the United States (Weber, 2005).

Mobility is not a new issue confronting educators, but the faces of students experiencing high mobility have been changing. The focus of early educational research was the upwardly mobile student. From the 1880's through the 1950's, mobility was often seen as the result of a job promotion, with significant exceptions during the times of war or the Great Depression of the 1930's (Keller et al., 2001).

Since the 1970's, however, there has been a shifting focus, with downwardly mobile populations receiving greater attention. Poverty factors and increases in the number of children in low socioeconomic status (SES) families have changed the context for looking at mobility and education (Schafft, 2006). Other factors that can influence multiple moves from children include having a parent in the military, corporate downsizing, sporadic employment opportunities, and changes in family structures and support (Vernberg et al., 2006).

Educators recognize the importance of students remaining in a constant learning environment in order to learn the skills necessary today to succeed in society. In the annual report to Congress, Condition of Education Report 1995 from the National Center for Education Statistics, it was reported that 31% of the eighth grade class of 1988 changed schools two or more times after entering first grade (Shinseki, 2000). Upon closer examination of the study, the data showed that white students were less likely to move than black or Asian children were. When both a mother and father were present students were less likely to have changed schools two or more times between first and the middle of eighth grade then were students who lived with other types of families.

Additional, students in low-income families, families that have an income under $10,000 were more likely to change schools two or more times after entering first grade then families who income was $20,000 or more a year (Shinseki, 2000).

Effects of Mobility on Academic Performance

The General Accounting Office conducted a study in response to questions asked by Representative Marcy Kaptur about children who change schools frequently. The GAO determined that one in six third-grade students have attended at least three different schools since the beginning of first grade (Pittman & Bowen, 1994). The GAO defined mobility by looking at the number of times a student changed schools during the 1990-91 school year. Approximately 15,000 third-grade students and their parents, teachers, and school principals completed questionnaires. The study determined that of the nation's third-grade students who changed schools frequently, about 17%, 41% were below grade level in reading and 33% were below grade level in math. Additional findings of the GAO were that inner city and low-income children were much more likely to change school frequently. Students who change schools frequently were more likely to repeat a grade than children who did not change schools frequently. Third grade students who change schools frequently are more likely than those who have never changed schools to be below grade level in reading and more likely to repeat a grade, regardless of income. The students were also more likely to have behavior problems and 10% of students that change frequently are reported to have nutritional problems (Bradshaw, Sudhinaraset, Mmari & Blum, 2010; Pittman & Bowen, 1994).

Studies on multiple school transfers or student mobility and the impact on students have varying findings and multiple implications to education. Prevailing

thought on the subject showed that most researchers have determined a negative relationship between student mobility and the student (Bradshaw et al., 2010; Hango, 2006; Hartman & Franke, 2003; Isernhagen & Bulkin, 2011; Temple & Reynolds, 1999; Weber, 2005). A factor in adjusting to school moves is the reason for the school moves. Students that transfer schools because their family had to move as a result of loss of housing and other household considerations such as divorce and financial difficulties had poorer academic performance than children who were transferring school because they were leaving a school in a violent neighborhood to go to a new neighborhood because of increasing socioeconomic status (Hanushek et al., 2004).

Kariuki and Nash studied the relationship between multiple school transfers during elementary school and student academic achievement. Participating in the study were 105 sixth-grade students enrolled in a northeast Tennessee middle school. Four groups of students were identified: (1) 30 students randomly selected from the group of students who had transferred one time or not at all during elementary school years; (2) 30 students randomly selected from those who had moved twice; (3) 17 students who had moved 3 times; and (4) 28 students who had moved more than 3 times. Academic achievement was determined by using the results from the Terra Nova Achievement test in language, reading, mathematics, and overall composite. The results indicated that there was a significant relationship between school mobility and academic achievement Kariuki & Nash, 1998). Furthermore, the results of the study also demonstrated that there was a significant difference in the test scores of students that had transferred zero or one time and students that transferred two or more times. There was no significant difference in the test scores between students that had transferred two times and three

moves or more than three moves indicating that only after the one move does academic achievement begin to be impacted negatively (Kariuki & Nash, 1998).

Another study looked at the relationship between mobility and academic achievement, classroom adjustment, and socioeconomic status. The study examined data collected from 1,007 sixth-grade students in Larimer County, Colorado during the 1977-78 school year (Keller, Schwartz, &Taylor, 2001). The study used the students' records to determine data related to achievement, socioeconomic status and a classroom behavior inventory to measure adjustment. When determining mobility the researchers found that only 20% of the sixth grade students in the study had been in the same school since kindergarten. Students who had a higher rate of mobility were determined to have lower achievement score on the Reading Subtest of the Stanford Achievement Test (Keller et al., 2001).

A similar study was conducted in Texas by the Texas Education Agency to clarify the relationship between mobility and student achievement and district performance (Temple & Reynolds, 1999). The study determined the amount of mobility in the schools and districts, from what socioeconomic class they were from, and the relationship between mobility and academic achievement. Mobility was defined as changes from school to school during the year and between school years. Mobility that was calculated within the school year was tabulated every six weeks and mobility between school years was calculated once a year. Because mobility during the year was calculated once every six weeks the greatest number of times a student was recorded to change schools in this study was six times a year even if they changed schools more than six times (Temple & Reynolds, 1999). Academic achievement was measured using the reading and

mathematics scores of the Texas Assessment of Academic Skills (TASS). The research found that mobility rates were higher for economically disadvantaged children (Temple & Reynolds, 1999). Early elementary grades (preK-3) were more likely to move then those enrolled in upper elementary grades and one out of six changed schools at least once during the 1994-95 school year in Texas public schools. When examining the relationship between mobility and academic performance the researchers determined that the mobile student scored lower on mathematics and reading tests than stable student with score ranging anywhere from 11 to 21 points lower (Temple & Reynolds, 1999). Furthermore, students that moved intra-district score three to six points lower than students that were moving inter-district. The researchers concluded that it would be beneficial to students if the districts worked together to keep children in the same school throughout the year.

A study by Audette, Algozzine, and Warden in 1993 on mobility and student achievement was conducted in 72 elementary schools in the southwest where third grade students were evaluated by their achievement scores on the California Achievement Test. Mobility was calculated by the ratio of students entering and leaving the school to the total number of students enrolled during the year. This study compared entire schools to one another based on their calculated mobility. The 11 schools that were determined to have the highest mobility had lower scores on the California Achievement then the schools that did not have high rates of mobility. Differences in scores ranged from 25.3 percentage points in mathematics to 30.7 percentage points on the total battery score when compared to schools with low mobility and ranged from 14 to 17 percentile points lower than the other schools in the districts (Audette, Algozzine, & Warden, 1993).

All of this research indicated that frequent moves in a student's educational career have an impact on academic performance. Some show a significant correlation between mobility and reading, some between mobility and math, and some between mobility and language. While all agree that mobility affects the student, there has been no research that determines mobility to be the causal factor. Many other factors would need to be considered over a longer period of time to determine causality.

Contrary to studies that showed a relationship between mobility and negative academic achievement, there were several studies that do not show mobility to have a negative relationship with academic achievement (Cozza et al., 2005; Hanushek et al., 2004; Isernhagen & Bulkin, 2011; Scanlon & Devine, 2001). A study investigated the influence of mobility on military families. The researchers examined how distance, recency, and location of the move affected the children. The study was conducted with 40 families from Fort Jackson Army Base (Heinlein & Shinn, 2000). Children in the study showed that moves positively impacted academic achievement. Students in the military who frequently moved were shown to participate in more activities and organizations that positively impacted school achievement (Finkel et al., 2003). It should be noted that another factor that may contribute to lack of negative results from mobility was that the curriculum was relatively standard from one base to another so children did not have to adjust to a new curriculum in addition to a residential move as non-military children did (Heinlein &Shinn, 2000).

Effects of Mobility on Others

Many Studies show that mobility has a direct impact on those students who transferred from one school to another. Additionally, mobility has an impact on the

classrooms and schools involved. The students in the classroom of the mobile student are also affected by the influx of new students (Malmgren & Gagnon, 2005). Teachers must review records, evaluate, and at times, re-teach students who may not be on the same level as students who have been in the classroom from the first day of school. Overall, mobility results in a broad range of issues from student learning, classroom management, and classroom instruction.

As the influx and exit of students is charted over time, the composition of the classrooms changed continuously. The constant movement places significant constraints on the instructional approaches of teachers and long-term planning becomes more difficult (Smrekar & Owens, 2003). Many students from whom a particular unit was planned move away. Other students may move into the classroom setting in the middle of the unit and not have been exposed to all of the skills. This makes assessment of the unit more difficult.

Classrooms in highly mobile areas focus more on the average student than the specific needs of the students in the classroom (Hanusket et al., 2004). Teachers report less collaboration with their peers, less collective focus on student learning, and a lower orientation to innovation in instruction (Isernhagen & Bulkin, 2011).

Beyond the regular classroom, increased review by teachers affected curriculum planning for the entire school. When comparing stable and highly mobile schools in curricular pacing, highly mobile fifth-grade classrooms had lost a year of instruction. It was also emphasized that this "flattening" of curricular pacing limits the amount of materials to which all students are exposed too, not just mobile students (Isernhagen & Bulkin, 2011).

Mobile students also take the time of the office staff in constantly requesting records. In some cases, a student's records may not have arrived at the previous schools before the student moved again (Hango, 2006). Without transfer records, placement in certain classes may or may not be appropriate.

Interstate Compact on Educational Opportunities for Military Children

The mobile military lifestyle creates tough challenges for children who attend, on average, six to nine different school systems from kindergarten to twelfth-grade. In addition, these children often endure anxiety of parental separation during deployments. To help alleviate some of these concerns, states can participate in the Interstate Compact on Educational Opportunities for Military Children which provides a vehicle for states to follow common guidelines in handling issues that impact children of military families as they transition between schools (Arflack, 2010). These issues include class placement, records transfer, immunization requirements, course placement, graduation requirements, exit testing, and extra-curricular opportunities, among others.

The Department of Defense, in collaboration with the Council of State Governments' (CSG) National Center for Interstate Compacts developed the Interstate Compact to address the educational transition issues of children of military families. A variety of Federal, state and local officials as well as national stakeholder organizations representing education groups and military families were also included in the creation of the proposed interstate agreement. The goal of the Interstate Compact is to replace the widely varying treatment of transitioning military students with a comprehensive approach that provides a uniform policy in every school district in every state that chooses to join (Arflack, 2010). The Interstate Compact addresses the key issues

encountered by military families in four broad categories: eligibility, enrollment, placement, and graduation. The Interstate Compact establishes a commission of member states to oversee the implementation of the compact and provide for education, administration, limited rulemaking, and enforcement. The research school district is a member of the Interstate Compact.

The men and women who serve in our Nation's Armed Forces place a high value on education and the availability of quality educational opportunities for their children as a key quality of life measure for many military members. While some active duty military families are stationed in overseas locations, the majority live on or near a military installation in the U.S. Approximately 60% of the children of military families in the U.S. are school age and the majority of them, nearly 80%, attend public schools throughout the nation (Arflack, 2010). Additionally, there are 625,000 children of National Guard and 705,000 children of Reserve Members and the majority of them are also attending public schools. Children in military families face unique challenges that are unparalleled in the general student population. Additionally, one of the greatest difficulties military children will face is being apart from one or both parents who have been deployed to war zones. These challenges can result in military children suffering in areas of school performance and educational attainment.

Offutt Air Force Base

In the current study children of military families serving all branches of the armed services assigned to Offutt Air Force Base, now a unified military command, are enrolled in the Bellevue Public School system. Currently, 1,664 (32%) of all elementary students, 422 (28%) of all middle school students, and 832 (26%) of all senior high school students

have parents serving in the military at Offutt Air Force Base or deployed to Iraq or Afghanistan. Offutt's great heritage began with the construction of Fort Crook between 1894 and 1896, some 10 miles south of Omaha and two miles west of the Missouri River. The new Fort's namesake was Major General George Crook, a renowned Indian fighter and Civil War hero (Offutt Air Force Base 55th Wing, 1998). Many of the original structures built on the post before are still used today. On June 20, 1896, the 22nd Infantry assumed command of Fort Crook. Other US Army Infantry units shared command of the fort as each rotated tours in Cuba, the Philippines, and the Texas-Mexican border. The 61st Balloon Company became the first air unit to command the post on September 10, 1918. In the spring of 1921, a field was built suitable for frequent takeoffs, landings, and refueling of military and government aircraft on cross-county flights (Offutt Air Force Base 55th Wing, 1998). On May 10, 1924 Fort Crook flying field was designated Offutt Field honoring First Lieutenant Jarvis J. Offutt who was Omaha's first air casualty during World War I (Offutt Air Force Base 55th Wing, 1998).

In late 1940, the Army Air Corps chose Offutt Field as the site for a new bomber plant. The plant's construction included two mile-long concrete runways, six large hangers and a huge 1.2 million square foot aircraft assembly building (Offutt Air Force Base 55th Wing, 1998). The Glenn L. Martin Company plant reached full-scale production in June 1942. A total of 531, B-29 and 1,585, B-26 bomber aircraft were built by the end of World War II. These aircrafts included the "Enola Gay" and Bock's Car" the B-29's that dropped the atomic bombs at Hiroshima and Nagasaki, Japan. Production ended on September 18, 1945 (Offutt Air Force Base 55th Wing, 1998).

In June 1946, the Army Air Force designated Fort Crook and the Martin-Nebraska facilities as Offutt Field. On January 13, 1948, Offutt Field transferred to the new Department of the Air Force and became Offutt Air Force Base (Offutt Air Force Base 55th Wing, 1998). Eleven months later Offutt gained international prominence and a place in history, at one minute past midnight on November 9, 1948 Offutt became the host base for Headquarters, Strategic Air Command (SAC). With the end of the Cold War, the military underwent drastic changes and reorganization in the early 1990's. Strategic Air Command disestablished on June 1, 1992, and the U.S. Strategic Command, a unified command was activated (Offutt Air Force Base 55th Wing, 1998). With the historic change, the operational control of Offutt became the responsibility of the Air Combat Command, another one of the Air Force's new commands.

The former Army outpost, once, hard-pressed to support a few hundred soldiers, near the turn of the century now has the resources and facilities to accommodate a combined military and civilian work force of some 12,000, while supporting nearly 20,000 dependents (Offutt Air Force Base 55th Wing, 1998). Offutt AFB has undergone many changes but continues to be vital to the United States military.

Children Have a Potential (CHAP) School. CHAP School was named with the permission of the United States military. The Children Have a Potential (CHAP) organization was organized by military families to promote programs and schools for military dependent children with physical and mental disabilities. CHAP started as the Offutt Opportunity School in 1963, which was taken over by Bellevue Public Schools in 1968. In 1972 the program was housed in a new 12,800 square foot facility, CHAP School.

All these events made the Bellevue/Offutt Community a national leader in the education of children with special needs. When the Individuals with Disabilities Education ACT (IDEA) passed congress in 1975, Bellevue already had programs required for students with special needs. Subsequent amendments to IDEA placed most students with special needs in existing schools to be served in the least restrictive environment with other students. CHAP School is now named the CHAP Center. The mission of CHAP continues because Children Have a Potential. With the integration of both regular and early childhood special education students, the CHAP Center has welcomed home a group of students with special needs, grades K-12, who had been served by contracting agencies outside of Bellevue.

Impact Aid

Due to the significant percentage of children receiving their education at military instillations Congress in 1950 passed into law PL 874 (National Association of Federally Impacted Schools, 2004) that provided a new federal program, Impact Aid, designed to provide for the education of military children. Impact Aid is an in-lieu-of-tax program to local school districts as a result of the presence of a military installation. Impact Aid is the only federal education program where the funds are sent directly to the school district. The funds go directly into the school district's general fund for operations such as purchase of textbooks, computers, utilities, and payment of staff salaries (National Association of Federally Impacted Schools, 2004).

Impact Aid eligibility. In order to be eligible for Section 8003 of the impact Aid program, a school district must have at least 400 federal students in their Average Daily Attendance or at least 3% of all children in the school district's ADA must be federally

connected (National Association of Federally Impacted Schools, 2004). School districts must conduct a first count student survey each year to indentify the number of federally connected students. School districts must then submit an application directly to the U.S. Department of Education by January 31st containing the results of the first count student survey.

Impact Aid philosophy. A large federal installation, while adding a great deal to the economic growth of a state, has a tremendous impact upon a local community. It means a great deal of property and activity is removed from the local tax rolls which support public education. Therefore, the federal government acts as the local taxpayer through funding the Impact Aid program (National Association of Federally Impacted Schools, 2004). In a typical community, school taxes come from two sources: (1) the taxation on the property of private individuals (homes, autos, boats, and other personal property) and (2) the taxation of real or personal property used for business purposes (National Association of Federally Impacted Schools, 2004). Studies have indicated that normally half of the taxes come from private property and half from business property.

Bellevue Public Schools involvement in Impact Aid. Because the Bellevue district was a recipient of federal funds under PL 874**,** the state of Nebraska tried in the late 1960's to reduce the district's receipts via the Nebraska School Foundation and Equalization Act, more commonly known as state aid. The State contended that it had the right to cut Bellevue's state aid receipts to offset the district's receipts from the federal government. In 1968, Bellevue sued the state, seeking a temporary injunction that would prevent the State from disbursing equalization payments to public school districts

in the state. If the money due to Bellevue had been distributed among other districts, there would have been no recourse for the district to recover its share.

In a subsequent lawsuit (Triplett v. Tiemann, 1969) the Bellevue district had its day in court, and on November 19, 1968, U.S. District Judge Richard Robinson issued an order restraining the state from disbursing state aid payments until such time that a three-judge panel could meet and determine what amount Bellevue should receive. The victory for Bellevue was a major one; it insured, by legal precedent, that the state of Nebraska could not deduct Bellevue's entitlement under state aid on the basis that Bellevue also received funds under PL 874.

Since its passage the impact aid bill had never been fully funded, however, in 1970 the appropriation fell far short of the dollars needed to fund the program. That crisis year was also the date when the Bellevue School District began to play a leadership role among the school districts around the nation that are highly dependent on impact aid.

In the wake of the 1970 crisis, the Bellevue district called a meeting of the nation's most highly impacted schools and developed a plan for a united front to avoid future disasters such as the insufficient funding of 1970. As a result of the meeting, the severely impacted districts developed an organization to deal with their mutual needs and concerns. These highly impacted districts had been dues-paying members of the National Association of Federally Impacted Schools, but felt that the national association was committed to keeping all impacted districts secure under the impact aid umbrella rather than fighting for those districts whose very survival depends upon the federal government. The Bellevue district continued to support the national association, while also building a second organization for the most highly impacted districts.

Prior to 1970, Bellevue school superintendents had made comparatively few efforts on behalf of national issues because the impact aid bill was invariably funded in full. Since 1970, however, impact aid issues have required constant monitoring, frequent lobbying trips to brief Nebraska's Congressional delegation, the preparation and delivery of testimony for Congressional committees on education, the publication of an impact aid newsletter. The Bellevue district's staff studies each year's evolvement of the impact aid package including the administration's budget proposal, the House's and Senate's versions of the budget, the committee hearings in both houses, the mark-up of legislation, and the legal phrasing of amendments, authorization, and appropriations.

The impact aid strategy for the Bellevue district included political maneuvering at the state level as well. Because of its extremely low tax base, Bellevue had always promoted an equitable state aid formula, one that would provide an equalization factor for those districts that had little taxable personal property. In addition to the work on the state aid formula, Bellevue also worked on other modifications in the Nebraska state statutes. Through intervention of the Bellevue district, the law was changed to allow school districts to conduct school for fewer than the 175 required days, yet not lose state aid. The Bellevue district then modified its professional contracts to allow cancellation of contractual obligations if funds should become insufficient. The district also received authority to operate a separate school for Offutt Air Force Base if the federal government failed to meet its obligation to the district. All these measures have prevented further crises of the magnitude of the 1970 school closing.

Throughout the years, the Bellevue district remains a leader among impacted schools throughout the nation. The Bellevue district continues to fight for funding at

both the state and federal level, enduring many attempts at both levels for the funding to be reduced. Without the appropriate funding, the Bellevue Public Schools would not be able to provide a quality education for the many students who have moved so often with their military families--particularly during a time of war--but who come to school every day prepared to participate and achieve.

CHAPTER THREE

Methodology

The purpose of this study was to determine the impact of low, moderate, and high military family mobility school district transfer rates, at a time of conflict with two nations on graduating senior high dependents' achievement, and school engagement.

Participants

Number of participants. The total accrual for this study were $N = 80$. Students had transfer rates ranging from a low of one to two to a high of five or more transfers during their formative school years, kindergarten through 12th-grade. All study students were military dependents having at least one parent serving in the military and eligible for deployment to a war theatre. In the proposed study with an $n = 20$ in all three research arms and the control group arm, a set Alpha = .05 would give us a Power of .80 or 80% probability of rejecting a false null hypothesis thus not committing a Type I error with a corresponding Effect Size of 1.00 (Lipsey, 1990).

Gender of participants. The gender of the selected participants were congruent with enrollment patterns in the participating schools where females represent 47% and males represent 53% of the total enrollment.

Age range of participants. The age range of study participants were from 17 to 19 years. All participants completed the 12th-grade. The age range of the study participants is congruent with the research school districts age range demographics for 12th-grade students.

Racial and ethnic origin of participants. The current enrollment shows 80% White, not Hispanic; 10% Black, not Hispanic; 6% Hispanic; 3% Asian/Pacific Islanders;

and 1% American Indian/Alaskan Native. The racial and ethnic origin ratio were congruent with enrollment patterns in the participating schools.

Inclusion criteria of participants. Graduating senior high military dependents' from the participating schools completing all of the dependent achievement measures including the ACT were eligible to participate in the study.

Method of participant identification. No individual identifiers were attached to the achievement or engagement data of the randomly selected groups selected for data analysis.

Description of Procedures

Research design. The comparative efficacy posttest only experimental control group study design is displayed in the following notation:

Randomly Selected Group 1	X_1 Y_1 O_1
Randomly Selected Group 2	X_1 Y_2 O_1
Randomly Selected Group 3	X_1 Y_3 O_1
Randomly Selected Control Group 4	X_1 --- O_1

Group 1 = study participants #1. Randomly selected high school dependents of military families (n = 20).

Group 2 = study participants #2. Randomly selected high school dependents of military families (n = 20).

Group 3 = study participants #3. Randomly selected high school dependents of military families (n = 20).

Group 4 = study participants #4. Randomly selected non-military control of high school students who were not military dependents (n = 20).

X_1 = study constant. All study participants completed the 12th-grade and graduated from one of the research school district's two high schools.

Y_1 = study independent variable, transfer, condition #1. Low mobility school transfer students who were military dependents who moved one or two times before completing 12th-grade and graduating from the Bellevue Public Schools.

Y_2 = study independent variable, transfer, condition #2. Moderate mobility school transfer students who were military dependents who moved three or four times before completing 12th-grade and graduating from the Bellevue Public Schools.

Y_3 = study independent variable, transfer, condition #3. High mobility school transfer students who were military dependents who moved five or more times before completing 12th-grade and graduating from the Bellevue Public Schools.

O_1 = study posttest only dependent measures. (1) Achievement as measured by the ACT college entrance exam scores for: (a) English, (b) mathematics, (c) reading, (d) science, and (e) composite scores. (2) Achievement as measured by the research school districts Essential Objectives for proficiency levels in: (a) English, (b) math, (c) science, and (d) social studies scores. (3) Achievement as measured by the research school districts final semester 12-grade, Grade Point Average scores for: (a) English, (b) math, (c) science, and (d) social studies. (4) School engagement as measured by student 12th-grade participation frequencies in: (a) Co-curricular activities: (*i*) DECA, (*ii*) FBLA, (*iii*) band, (*iv*) JROTC, (*v*) yearbook and newspaper, (*vi*) debate, (*vii*) forensics, (*viii*) academic decathlon and (b) Extracurricular activities: (*i*) basketball, (*ii*) football, (*iii*) volleyball, (*iv*) cross country, (*v*) wrestling, (*vi*) swimming, (*vii*) soccer, (*viii*) baseball, (*ix*) softball, (*x*) track, (*xi*) art club, (*xii*) congressional award club, (*xiii*) diversity club,

(*xiv*) Drama club, (*xv*) national honor society, (*xvi*) service club, (*xvii*) student council, (*xviii*) world language club.

Implementation of the Independent Variables

This exploratory study was confined to graduating senior high dependents' (N = 60) to determine the impact of low, moderate, and high military family mobility school district transfer rates compared to non-military control students. Study participants in the first arm (n = 20) had low military family mobility school district rates. Study participants in the second arm (n = 20) had moderate family mobility school district transfer rates. Study participants in the third arm (n = 20) had high family mobility school district transfer rates. Control students had no mobility and completed kindergarten through 12th-grade within the research school district. The small number of study subjects could limit the utility and generalizability of the study results and findings.

Dependent Measures

The study's four posttest only dependent variables were (1) Achievement as measured by the ACT college entrance exam scores, (2) Achievement as measured by the research school districts Essential Objectives for proficiency levels, (3) Achievement as measured by the research school districts final semester 12th-grade, Grade Point Average scores, and (4) School engagement as measured by student 12th-grade participation frequencies in (a) co-curricular and (b) extracurricular activities.

Research Questions and Data Analysis

The following research question were used to analyze the ACT scores of military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school.

Overarching Posttest Only Achievement Research Question #1. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different ACT (a) English, (b) mathematics, (c) reading, and (d) science Norm Reference Test (NRT) Normal Curve Equivalent (NCE) scores?

Sub-Question 1a. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different ACT (a) English Norm Reference Test (NRT) Normal Curve Equivalent (NCE) scores?

Sub-Question 1b. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different ACT (b) mathematics Norm Reference Test (NRT) Normal Curve Equivalent (NCE) scores?

Sub-Question 1c. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different ACT (c) reading Norm Reference Test (NRT) Normal Curve Equivalent (NCE) scores?

Sub-Question 1d. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different ACT (d) science Norm Reference Test (NRT) Normal Curve Equivalent (NCE) scores?

Analysis. Research Sub-Questions #1a, 1b, 1c, and 1d were analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect

between the ACT subtest scores for military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school. An *F* ratio was calculated. If a statistically significant main effect were observed *post hoc* contrast analysis would be conducted utilizing independent *t* tests. Because multiple statistical tests were conducted, a one-tailed .05 alpha level was employed to help control for Type I errors. Means and standard deviations were displayed on tables.

The following research question were used to analyze the Essential Objectives scores of military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school.

Overarching Posttest Only Achievement Research Question #2. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different Essential Objective (a) English, (b) math, (c) science, and (d) social studies proficiency level scores?

Sub-Question 2a. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different Essential Objective (a) English proficiency level scores?

Sub-Question 2b. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different Essential Objective (b) math proficiency level scores?

Sub-Question 2c. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different Essential Objective (c) science proficiency level scores?

Sub-Question 2d. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different Essential Objective (d) social studies proficiency level scores?

Analysis. Research Sub-Questions #2a, 2b, 2c, and 2d were analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect between the Essential Objective subtest scores for military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school. An *F* ratio was calculated. If a statistically significant main effect were observed *post hoc* contrast analysis would have be conducted utilizing independent *t* tests. Because multiple statistical tests were conducted, a one-tailed .05 alpha level was employed to help control for Type I errors. Means and standard deviations were displayed on tables.

The following research question was used to analyze the Grade Point Average scores of military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school.

Overarching Posttest Only Achievement Research Question #3. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or

different final semester (a) English, (b) math, (c) science, and (d) social studies Grade Point Average scores?

Sub-Question 3a. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different final semester (a) English Grade Point Average scores?

Sub-Question 3b. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different final semester (b) math Grade Point Average scores?

Sub-Question 3c. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different final semester (c) science Grade Point Average scores?

Sub-Question 3d. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different final semester (d) social studies Grade Point Average scores?

Analysis. Research Sub-Questions #3a, 3b, 3c, and 3d was analyzed using a single classification Analysis of Variance (ANOVA) to determine the main effect between the final semester Grade Point Average scores for military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school. An *F* ratio was calculated. If a

statistically significant main effect were observed *post hoc* contrast analysis would have be conducted utilizing independent *t* tests. Because multiple statistical tests were conducted, a one-tailed .05 alpha level was employed to help control for Type I errors. Means and standard deviations were displayed on tables.

The following research question were used to analyze the school engagement participation frequencies of military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school.

Overarching Posttest Only Engagement Research Question #4. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different 12th-grade (a) sports, (b) clubs, and (c) arts school engagement participation frequencies?

Sub-Question 4a. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different 12th-grade (a) sports school engagement participation frequencies?

Sub-Question 4b. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different 12th-grade (b) clubs school engagement participation frequencies?

Sub-Question 4c. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before

completing high school have congruent or different 12th-grade (c) arts school engagement participation frequencies?

Analysis. Research Sub-Questions #4a, 4b, and 4c utilized a chi-square test of significance to compare observed versus expected (a) sports, (b) clubs, and (c) arts participation frequency scores for military dependents' with low, moderate and high mobility school district transfer rates compared to non-military control students before completing high school. Because multiple statistical tests were conducted, a .01 alpha level was employed to help control for Type I errors. Frequencies and percents were displayed on tables.

Data Collection Procedures

All study achievement data was retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained. Naturally formed groups were obtained to include achievement and engagement data. Non-coded numbers were used to display individual de-identified achievement and school engagement data. All data gathered was de-identified by designated school district personnel. Aggregated group data, descriptive statistics, and parametric statistical analyses was utilized and reported as means and standard deviations on tables.

Performance site. The research was conducted in the public school setting through normal educational practices. The study procedures did not interfere with the normal educational 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 cabinet. 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.101(b) categories 1 and 4. The research was conducted using routinely collected archival data. A letter of support from the district was provided for IRB review.

CHAPTER FOUR

Results

Purpose of the Study

Schools can be one place where stability and normal routine can provide an anchor for children during the challenges of mobility and the resulting disruptions to daily life. The predictability of the classroom helps to cushion the impact of mobility that often includes changes in psychological equilibrium and disruption of individual behavior and coping skills. Alternatively, the stresses that may result from mobility have the potential to affect an entire school community and may interfere with the ability of students and staff to focus on learning. About 17% of school-aged children in the U.S. relocate each year. Although many school-aged American children move, military children are especially likely to experience frequent relocation. On average, military children are three times more likely to move than their civilian peers and will move six to nine times by the time they graduate from high school. Furthermore, military families may have less influence over the locations to which they are assigned, and less notice of those locations, than their civilian counterparts.

The purpose of this study was to determine the impact of low, moderate, and high military family mobility school district transfer rates on graduating senior high school dependents' achievement, and school engagement. This exploratory study was confined to graduating senior high dependents ($N = 60$) to determine the impact of low, moderate, and high military family mobility school district transfer rates compared to no mobility control students. Study participants in the first arm ($n = 20$) had low military family mobility (1 to 2 moves) school district transfer rates. Study participants in the second

arm (n = 20) had moderate family mobility (3 to 4) school district transfer rates. Study participants in the third arm (n = 20) had high family mobility (5 or more) school district transfer rates. Non-military control students had no mobility issues and completed kindergarten through 12th-grade within the research school district.

The study's four posttest only dependent variables were (1) Achievement as measured by the ACT college entrance exam scores, (2) Achievement as measured by the research school districts Essential Objectives for proficiency levels, (3) Achievement as measured by the research school districts final semester 12-grade, Grade Point Average scores, and (4) School engagement as measured by student 12-grade participation frequencies in (a) sports, (b) clubs, and (c) arts Results.

Research Question #1 Results

Table 1 displays the ACT English test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students. Table 2 displays results of Analysis of Variance for ACT English test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students.

As seen in Table 2, the null hypothesis was not rejected for ACT English test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students where students from military families with low mobility rates (M = 21.35, SD = 4.63), students from military families with moderate mobility rates (M = 24.55, SD = 5.96), students from military families with high mobility rates (M = 23.50, SD = 5.02), and non-military control students (M = 21.55, SD = 5.10). The overall main effect of comparison of ACT

English test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students was not statistically significant, ($F(3, 76) = 1.77$, $p = .28$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 1

ACT English Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

	Graduating Senior High School Students			
Student Number	Low Mobility Rate Students	Moderate Mobility Rate Students	High Mobility Rate Students	Control Students
1.	18	21	20	24
2.	20	17	26	15
3.	21	22	20	21
4.	21	35	29	26
5.	21	23	29	15
6.	25	35	20	29
7.	15	17	19	21
8.	21	24	24	16
9.	24	21	28	24
10.	23	31	17	29
11.	22	20	18	24
12.	19	16	22	18
13.	18	32	26	25
14.	32	31	20	25
15.	16	25	35	12
16.	22	25	27	15
17.	20	26	22	26
18.	23	30	28	19
19.	32	19	15	20
20.	14	21	25	27

Note. Low Mobility = moved 1 or 2 times; Moderate Mobility = moved 3 or 4 times; High Mobility = moved 5 or more times; Control Group = no movement issues.

Table 2

Results of Analysis of Variance for ACT English Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	144.03	48.01	3	1.77	.16[†]
Within Groups	2057.45	27.07	76		

Students Mobility Rates	Mean (*SD*)
Low Mobility (moved 1 or 2 times)	21.35 (4.63)
Moderate Mobility (moved 3 or 4 times)	24.55 (5.96)
High Mobility (moved 5 or more times)	23.50 (5.02)
Control Group (no movement issues)	21.55 (5.10)

[†]*ns.* No *post hoc* results calculated or displayed.

Table 3 displays the ACT Math test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students. Table 4 displays results of Analysis of Variance for ACT Math test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students.

As seen in Table 4, the null hypothesis was not rejected for ACT Math test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students where students from military families with low mobility rates ($M = 20.80$, $SD = 4.70$), students from military families with moderate mobility rates ($M = 22.70$, $SD = 5.35$), students from military families with high mobility rates ($M = 23.05$, $SD = 5.18$), and non-military control students ($M = 22.05$, $SD = 4.12$). The overall main effect of comparison of ACT Math test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students was not statistically significant, ($F(3, 76) = 0.83$, $p = .48$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 3

ACT Math Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

	Graduating Senior High School Students			
Student Number	Low Mobility Rate Students	Moderate Mobility Rate Students	High Mobility Rate Students	Control Students
1.	17	24	26	27
2.	15	24	27	15
3.	20	16	15	22
4.	26	35	25	24
5.	20	18	24	20
6.	27	26	18	26
7.	18	20	18	20
8.	22	19	25	22
9.	19	17	26	23
10.	23	30	22	32
11.	24	17	24	22
12.	20	17	24	17
13.	13	27	27	26
14.	28	28	15	20
15.	15	22	33	16
16.	26	20	32	17
17.	15	26	18	24
18.	23	28	24	21
19.	28	16	15	25
20.	17	24	23	22

Note. Low Mobility = moved 1 or 2 times; Moderate Mobility = moved 3 or 4 times; High Mobility = moved 5 or more times; Control Group = no movement issues.

Table 4

Results of Analysis of Variance for ACT Math Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	58.90	19.63	3	0.83	.48[†]
Within Groups	1799.30	23.67	76		

Students Mobility Rates	Mean (*SD*)
Low Mobility (moved 1 or 2 times)	20.80 (4.70)
Moderate Mobility (moved 3 or 4 times)	22.70 (5.35)
High Mobility (moved 5 or more times)	23.05 (5.18)
Control Group (no movement issues)	22.05 (4.12)

[†]*ns.* No *post hoc* results calculated or displayed.

Table 5 displays the ACT Reading test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students. Table 6 displays results of Analysis of Variance for ACT Reading test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students.

As seen in Table 6, the null hypothesis was not rejected for ACT Reading test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students where students from military families with low mobility rates ($M = 22.85$, $SD = 5.40$), students from military families with moderate mobility rates ($M = 23.70$, $SD = 5.33$), students from military families with high mobility rates ($M = 25.30$, $SD = 5.54$), and non-military control students ($M = 23.05$, $SD = 5.88$). The overall main effect of comparison of ACT Reading test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students was not statistically significant, ($F(3, 76) = 0.80$, $p = .49$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 5

ACT Reading Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

	Graduating Senior High School Students			
Student Number	Low Mobility Rate Students	Moderate Mobility Rate Students	High Mobility Rate Students	Control Students
1.	18	22	25	32
2.	22	20	33	18
3.	29	21	24	20
4.	24	32	22	31
5.	29	19	33	16
6.	28	32	25	24
7.	11	16	20	29
8.	21	22	23	17
9.	28	17	33	25
10.	24	27	18	21
11.	22	26	21	19
12.	20	19	23	18
13.	14	33	24	24
14.	30	30	23	21
15.	18	23	34	17
16.	24	21	33	20
17.	22	25	19	33
18.	24	30	31	20
19.	31	20	17	21
20.	18	19	25	35

Note. Low Mobility = moved 1 or 2 times; Moderate Mobility = moved 3 or 4 times; High Mobility = moved 5 or more times; Control Group = no movement issues.

Table 6

Results of Analysis of Variance for ACT Reading Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	74.05	24.68	3	0.80	.49†
Within Groups	2335.90	30.73	76		

Students Mobility Rates	Mean (*SD*)
Low Mobility (moved 1 or 2 times)	22.85 (5.40)
Moderate Mobility (moved 3 or 4 times)	23.70 (5.33)
High Mobility (moved 5 or more times)	25.30 (5.54)
Control Group (no movement issues)	23.05 (5.88)

†*ns.* No *post hoc* results calculated or displayed.

Table 7 displays the ACT Science test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students. Table 8 displays results of Analysis of Variance for ACT Science test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students.

As seen in Table 8, the null hypothesis was not rejected for ACT Science test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students where students from military families with low mobility rates (M = 20.45, SD = 5.15), students from military families with moderate mobility rates (M = 22.85, SD = 4.78), students from military families with high mobility rates (M = 23.90, SD = 5.55), and non-military control students (M = 22.00, SD = 4.41). The overall main effect of comparison of ACT Science test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students was not statistically significant, ($F(3, 76) = 1.70$, $p = .17$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 7

ACT Science Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

	Graduating Senior High School Students			
Student Number	Low Mobility Rate Students	Moderate Mobility Rate Students	High Mobility Rate Students	Control Students
1.	18	24	25	26
2.	17	22	31	18
3.	23	21	22	19
4.	24	33	27	22
5.	23	23	24	15
6.	25	25	15	25
7.	13	14	18	23
8.	18	24	22	24
9.	25	19	33	26
10.	20	31	21	28
11.	21	19	22	21
12.	21	16	22	17
13.	15	28	30	27
14.	32	23	17	20
15.	11	25	35	13
16.	22	20	30	18
17.	17	24	18	28
18.	23	28	23	22
19.	27	20	19	21
20.	14	18	24	27

Note. Low Mobility = moved 1 or 2 times; Moderate Mobility = moved 3 or 4 times; High Mobility = moved 5 or more times; Control Group = no movement issues.

Table 8

Results of Analysis of Variance for ACT Science Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	127.50	42.50	3	1.70	.17[†]
Within Groups	1895.30	24.93	76		

Students Mobility Rates	Mean (*SD*)
Low Mobility (moved 1 or 2 times)	20.45 (5.15)
Moderate Mobility (moved 3 or 4 times)	22.85 (4.78)
High Mobility (moved 5 or more times)	23.90 (5.55)
Control Group (no movement issues)	22.00 (4.41)

[†]*ns.* No *post hoc* results calculated or displayed.

Research Question #2 Results

Table 9 displays the Essential Objective English test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students. Table 10 displays results of Analysis of Variance for Essential Objective English test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students.

As seen in Table 10, the null hypothesis was not rejected for Essential Objective English test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students where students from military families with low mobility rates ($M = 1.75$, $SD = 0.71$), students from military families with moderate mobility rates ($M = 1.60$, $SD = 0.59$), students from military families with high mobility rates ($M = 1.55$, $SD = 0.60$), and non-military control students ($M = 1.70$, $SD = 0.65$). The overall main effect of comparison of Essential Objective English test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students was not statistically significant, ($F(3, 76) = 0.40$, $p = .75$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 9

Essential Objective English Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

	Graduating Senior High School Students			
Student Number	Low Mobility Rate Students	Moderate Mobility Rate Students	High Mobility Rate Students	Control Students
1.	2	1	2	1
2.	2	2	1	3
3.	1	2	2	2
4.	1	1	1	1
5.	1	2	1	2
6.	1	1	2	1
7.	3	3	2	2
8.	2	2	2	2
9.	1	2	1	1
10.	1	1	1	1
11.	2	2	2	2
12.	2	2	1	3
13.	2	1	1	1
14.	1	1	2	2
15.	3	1	1	2
16.	2	2	1	2
17.	2	1	3	1
18.	2	1	1	2
19.	1	2	2	2
20.	3	2	2	1

Note. Low Mobility = moved 1 or 2 times; Moderate Mobility = moved 3 or 4 times; High Mobility = moved 5 or more times; Control Group = no movement issues.

Table 10

Results of Analysis of Variance for Essential Objective English Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	0.50	0.16	3	0.40	.75[†]
Within Groups	31.70	0.41	76		

Students Mobility Rates	Mean (*SD*)
Low Mobility (moved 1 or 2 times)	1.75 (0.71)
Moderate Mobility (moved 3 or 4 times)	1.60 (0.59)
High Mobility (moved 5 or more times)	1.55 (0.60)
Control Group (no movement issues)	1.70 (0.65)

[†]*ns.* No *post hoc* results calculated or displayed.

Table 11 displays the Essential Objective Math test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students. Table 12 displays results of Analysis of Variance for Essential Objective Math test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students.

As seen in Table 12, the null hypothesis was not rejected for Essential Objective Math test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students where students from military families with low mobility rates ($M = 1.65$, $SD = 0.71$), students from military families with moderate mobility rates ($M = 1.60$, $SD = 0.59$), students from military families with high mobility rates ($M = 1.60$, $SD = 0.59$), and non-military control students ($M = 1.60$, $SD = 0.59$). The overall main effect of comparison of Essential Objective Math test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students was not statistically significant, ($F(3, 76) = 0.04$, $p = .98$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 11

Essential Objective Math Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

	Graduating Senior High School Students			
Student Number	Low Mobility Rate Students	Moderate Mobility Rate Students	High Mobility Rate Students	Control Students
1.	1	2	2	1
2.	2	1	1	2
3.	2	1	2	1
4.	2	2	1	2
5.	1	2	1	2
6.	2	1	2	1
7.	2	2	2	1
8.	1	2	2	2
9.	1	2	1	2
10.	2	1	1	1
11.	1	2	2	1
12.	1	2	1	3
13.	2	1	1	1
14.	2	1	2	1
15.	3	1	1	2
16.	1	2	1	2
17.	2	1	3	2
18.	2	1	1	2
19.	1	2	2	1
20.	2	2	3	2

Note. Low Mobility = moved 1 or 2 times; Moderate Mobility = moved 3 or 4 times; High Mobility = moved 5 or more times; Control Group = no movement issues.

Table 12

Results of Analysis of Variance for Essential Objective Math Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	0.03	0.01	3	0.04	.98[†]
Within Groups	26.95	0.35	76		

Students Mobility Rates	Mean (*SD*)
Low Mobility (moved 1 or 2 times)	1.65 (0.71)
Moderate Mobility (moved 3 or 4 times)	1.60 (0.59)
High Mobility (moved 5 or more times)	1.60 (0.59)
Control Group (no movement issues)	1.60 (0.59)

[†]*ns.* No *post hoc* results calculated or displayed.

Table 13 displays the Essential Objective Science test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students. Table 14 displays results of Analysis of Variance for Essential Objective Science test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students.

As seen in Table 14, the null hypothesis was not rejected for Essential Objective Science test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students where students from military families with low mobility rates ($M = 1.65$, $SD = 0.67$), students from military families with moderate mobility rates ($M = 1.65$, $SD = 0.58$), students from military families with high mobility rates ($M = 1.60$, $SD = 0.59$), and non-military control students ($M = 1.60$, $SD = 0.59$). The overall main effect of comparison of Essential Objective Science test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students was not statistically significant, ($F(3, 76) = 0.04$, $p = .98$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 13

Essential Objective Science Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

	Graduating Senior High School Students			
Student Number	Low Mobility Rate Students	Moderate Mobility Rate Students	High Mobility Rate Students	Control Students
1.	1	1	2	1
2.	1	1	1	2
3.	2	2	2	1
4.	2	2	2	2
5.	2	2	1	2
6.	1	1	1	1
7.	1	1	1	1
8.	1	2	2	2
9.	2	1	2	2
10.	2	2	1	1
11.	2	3	1	1
12.	1	2	1	3
13.	3	1	2	1
14.	2	2	3	1
15.	2	1	2	2
16.	1	2	2	2
17.	3	2	1	2
18.	2	2	1	2
19.	1	2	2	1
20.	1	1	3	2

Note. Low Mobility = moved 1 or 2 times; Moderate Mobility = moved 3 or 4 times; High Mobility = moved 5 or more times; Control Group = no movement issues.

Table 14

Results of Analysis of Variance for Essential Objective Science Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	0.05	0.01	3	0.04	.98[†]
Within Groups	28.70	0.37	76		

Students Mobility Rates	Mean (*SD*)
Low Mobility (moved 1 or 2 times)	1.65 (0.67)
Moderate Mobility (moved 3 or 4 times)	1.65 (0.58)
High Mobility (moved 5 or more times)	1.60 (0.59)
Control Group (no movement issues)	1.60 (0.59)

[†]*ns.* No *post hoc* results calculated or displayed.

Table 15 displays the Essential Objective Social Studies test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students. Table 16 displays results of Analysis of Variance for Essential Objective Social Studies test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students.

As seen in Table 16, the null hypothesis was not rejected for Essential Objective Social Studies test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students where students from military families with low mobility rates (M = 1.55, SD = 0.60), students from military families with moderate mobility rates (M = 1.65, SD = 0.58), students from military families with high mobility rates (M = 1.60, SD = 0.68), and non-military control students (M = 1.70, SD = 0.65). The overall main effect of comparison of Essential Objective Social Studies test scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students was not statistically significant, ($F(3, 76) = 0.21$, $p = .88$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 15

Essential Objective Social Studies Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

	Graduating Senior High School Students			
Student Number	Low Mobility Rate Students	Moderate Mobility Rate Students	High Mobility Rate Students	Control Students
1.	2	2	1	2
2.	2	2	2	1
3.	1	1	1	2
4.	1	1	2	2
5.	2	1	2	1
6.	2	2	2	1
7.	1	1	1	1
8.	1	2	1	2
9.	1	2	3	2
10.	1	1	1	1
11.	2	3	1	1
12.	2	2	2	2
13.	2	2	2	2
14.	3	2	2	2
15.	1	1	3	3
16.	1	2	1	1
17.	2	1	2	1
18.	1	2	1	2
19.	2	2	2	2
20.	1	1	2	1

Note. Low Mobility = moved 1 or 2 times; Moderate Mobility = moved 3 or 4 times; High Mobility = moved 5 or more times; Control Group = no movement issues.

Table 16

Results of Analysis of Variance for Essential Objective Social Studies Test Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	0.25	0.08	3	0.21	.88†
Within Groups	30.50	0.40	76		

Students Mobility Rates	Mean (*SD*)
Low Mobility (moved 1 or 2 times)	1.55 (0.60)
Moderate Mobility (moved 3 or 4 times)	1.65 (0.58)
High Mobility (moved 5 or more times)	1.60 (0.68)
Control Group (no movement issues)	1.70 (0.65)

†*ns.* No *post hoc* results calculated or displayed.

Research Question #3 Results

Table 17 displays the English Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students. Table 18 displays results of Analysis of Variance for English Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students.

As seen in Table 18, the null hypothesis was not rejected for English Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students where students from military families with low mobility rates ($M = 2.50$, $SD = 1.00$), students from military families with moderate mobility rates ($M = 2.15$, $SD = 0.81$), students from military families with high mobility rates ($M = 2.05$, $SD = 0.94$), and non-military control students ($M = 2.15$, $SD = 0.93$). The overall main effect of comparison of English Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students was not statistically significant, ($F(3, 76) = 0.91$, $p = .44$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 17

English Grade Point Average Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

	Graduating Senior High School Students			
Student Number	Low Mobility Rate Students	Moderate Mobility Rate Students	High Mobility Rate Students	Control Students
1.	1	2	1	3
2.	1	3	2	2
3.	3	2	1	1
4.	4	1	2	1
5.	4	2	2	2
6.	2	2	2	1
7.	3	4	1	2
8.	1	2	1	2
9.	2	2	3	2
10.	3	1	1	1
11.	2	3	1	2
12.	4	2	2	1
13.	1	2	2	2
14.	3	2	2	2
15.	3	1	3	3
16.	2	2	1	2
17.	3	1	2	1
18.	3	2	1	1
19.	2	2	1	1
20.	3	1	1	2

Note. Low Mobility = moved 1 or 2 times; Moderate Mobility = moved 3 or 4 times; High Mobility = moved 5 or more times; Control Group = no movement issues.

Table 18

Results of Analysis of Variance for English Grade Point Average Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	2.33	0.77	3	0.91	.44†
Within Groups	65.05	0.85	76		

Students Mobility Rates	Mean (*SD*)
Low Mobility (moved 1 or 2 times)	2.50 (1.00)
Moderate Mobility (moved 3 or 4 times)	2.15 (0.81)
High Mobility (moved 5 or more times)	2.05 (0.94)
Control Group (no movement issues)	2.15 (0.93)

†*ns.* No *post hoc* results calculated or displayed.

Table 19 displays the Math Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students. Table 20 displays results of Analysis of Variance for Math Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students.

As seen in Table 20, the null hypothesis was not rejected for Math Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students where students from military families with low mobility rates ($M = 2.55$, $SD = 0.99$), students from military families with moderate mobility rates ($M = 2.20$, $SD = 1.05$), students from military families with high mobility rates ($M = 2.45$, $SD = 0.99$), and non-military control students ($M = 2.00$, $SD = 0.85$). The overall main effect of comparison of Math Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students was not statistically significant, ($F(3, 76) = 1.28$, $p = .28$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 19

Math Grade Point Average Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

	Graduating Senior High School Students			
Student Number	Low Mobility Rate Students	Moderate Mobility Rate Students	High Mobility Rate Students	Control Students
1.	1	1	4	1
2.	4	2	4	2
3.	4	3	3	1
4.	2	1	1	4
5.	3	3	2	3
6.	1	3	3	1
7.	3	4	2	2
8.	1	4	1	2
9.	3	3	3	1
10.	3	2	3	3
11.	3	1	2	1
12.	4	2	2	2
13.	2	2	3	3
14.	3	1	2	2
15.	3	1	1	2
16.	2	2	3	2
17.	3	2	3	3
18.	3	1	4	1
19.	1	4	1	2
20.	2	2	2	2

Note. Low Mobility = moved 1 or 2 times; Moderate Mobility = moved 3 or 4 times; High Mobility = moved 5 or more times; Control Group = no movement issues.

Table 20

Results of Analysis of Variance for Math Grade Point Average Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	3.70	1.23	3	1.28	.28[†]
Within Groups	73.10	0.96	76		

Students Mobility Rates	Mean (*SD*)
Low Mobility (moved 1 or 2 times)	2.55 (0.99)
Moderate Mobility (moved 3 or 4 times)	2.20 (1.05)
High Mobility (moved 5 or more times)	2.45 (0.99)
Control Group (no movement issues)	2.00 (0.85)

[†]*ns.* No *post hoc* results calculated or displayed.

Table 21 displays the Science Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students. Table 22 displays results of Analysis of Variance for Science Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students.

As seen in Table 22, the null hypothesis was not rejected for Science Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students where students from military families with low mobility rates ($M = 2.05$, $SD = 0.94$), students from military families with moderate mobility rates ($M = 1.85$, $SD = 0.67$), students from military families with high mobility rates ($M = 1.85$, $SD = 0.67$), and non-military control students ($M = 1.90$, $SD = 0.85$). The overall main effect of comparison of Science Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students was not statistically significant, ($F(3, 76) = 0.28$, $p = .83$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 21

Science Grade Point Average Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

	Graduating Senior High School Students			
Student Number	Low Mobility Rate Students	Moderate Mobility Rate Students	High Mobility Rate Students	Control Students
1.	1	2	3	1
2.	2	1	2	1
3.	1	3	3	2
4.	3	1	2	3
5.	3	2	2	2
6.	1	1	2	2
7.	3	3	2	1
8.	1	2	2	1
9.	3	2	2	2
10.	1	3	2	2
11.	2	1	1	2
12.	4	2	1	3
13.	1	2	3	4
14.	3	1	2	1
15.	1	2	1	2
16.	2	2	1	3
17.	2	2	2	2
18.	2	1	2	1
19.	2	2	1	1
20.	3	2	1	2

Note. Low Mobility = moved 1 or 2 times; Moderate Mobility = moved 3 or 4 times; High Mobility = moved 5 or more times; Control Group = no movement issues.

Table 22

Results of Analysis of Variance for Science Grade Point Average Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	0.53	0.17	3	0.28	.83†
Within Groups	47.85	0.62	76		

Students Mobility Rates	Mean (*SD*)
Low Mobility (moved 1 or 2 times)	2.05 (0.94)
Moderate Mobility (moved 3 or 4 times)	1.85 (0.67)
High Mobility (moved 5 or more times)	1.85 (0.67)
Control Group (no movement issues)	1.90 (0.85)

†*ns.* No *post hoc* results calculated or displayed.

Table 23 displays the Social Studies Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students. Table 24 displays results of Analysis of Variance for Social Studies Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students.

As seen in Table 24, the null hypothesis was not rejected for Social Studies Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students where students from military families with low mobility rates ($M = 2.10$, $SD = 0.96$), students from military families with moderate mobility rates ($M = 2.00$, $SD = 0.85$), students from military families with high mobility rates ($M = 1.85$, $SD = 0.98$), and non-military control students ($M = 2.00$, $SD = 0.79$). The overall main effect of comparison of Social Studies Grade Point average scores of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students was not statistically significant, ($F(3, 76) = 0.26$, $p = .85$). Because no significant main effect was found *post hoc* contrast analyses were not conducted.

Table 23

Social Studies Grade Point Average Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

	Graduating Senior High School Students			
Student Number	Low Mobility Rate Students	Moderate Mobility Rate Students	High Mobility Rate Students	Control Students
1.	1	2	4	1
2.	2	2	4	2
3.	2	3	3	1
4.	3	1	1	4
5.	3	2	2	3
6.	1	3	3	1
7.	4	4	2	2
8.	1	4	1	2
9.	2	3	3	1
10.	2	2	3	3
11.	1	1	2	1
12.	4	2	2	2
13.	1	2	3	3
14.	3	1	2	2
15.	2	1	1	2
16.	2	2	3	2
17.	3	2	3	3
18.	2	1	4	1
19.	1	4	1	2
20.	2	2	2	2

Note. Low Mobility = moved 1 or 2 times; Moderate Mobility = moved 3 or 4 times; High Mobility = moved 5 or more times; Control Group = no movement issues.

Table 24

Results of Analysis of Variance for Social Studies Grade Point Average Scores of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

Source of Variation	Sum of Squares	Mean Square	*df*	*F*	*p*
Between Groups	0.63	0.21	3	0.26	.85[†]
Within Groups	62.35	0.82	76		

Students Mobility Rates	Mean (*SD*)
Low Mobility (moved 1 or 2 times)	2.10 (0.96)
Moderate Mobility (moved 3 or 4 times)	2.00 (0.85)
High Mobility (moved 5 or more times)	1.85 (0.98)
Control Group (no movement issues)	2.00 (0.79)

[†]*ns.* No *post hoc* results calculated or displayed.

Research Question #4 Results

Research question #4 was analyzed using chi-square (X^2). The results of X^2 were displayed in Table 25 for sports, clubs, and arts observed cumulative participation frequencies of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students. As seen in Table 25 graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students' sports, clubs, and arts observed participation frequencies was not significantly different $X^2(6, N = 151) = 1.16$, $p = 0.979$ so the null hypothesis of no difference or congruence for sports, clubs, and arts observed participation frequencies of graduating senior high school students from military families with low, moderate, and high mobility rates compared to non-military control students cumulative participation frequencies was not rejected.

Table 25

Results of Chi-Square for Sports, Clubs, and Arts Observed Participation Frequencies of Graduating Senior High School Students From Military Families With Low, Moderate, and High Mobility Rates Compared to Non-Military Control Students

	Low Mobility		Moderate Mobility		High Mobility		Control		
Participation Frequencies	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	X^2
Sports	14	(29)	16	(30)	14	(29)	19	(32)	
Clubs	24	(49)	23	(43)	20	(42)	24	(40)	
Arts	11	(22)	15	(27)	14	(29)	17	(28)	
Totals	49	(100)	54	(100)	48	(100)	60	(100)	1.16[†]

[a]Observed verses expected cell frequencies used for calculation with *df* = 6 and a tabled value = 16.210 required to obtain an alpha level of .01, the threshold for statistical significance for this research question.
[†]*ns*. $p = 0.979$.

CHAPTER FIVE

Conclusions and Discussion

The purpose of this study was to determine the impact of low, moderate, and high military family mobility school district transfer rates on graduating senior high school dependents' achievement, and school engagement. This exploratory study was confined to graduating senior high dependents' ($N = 60$) to determine the impact of low, moderate, and high military family mobility school district transfer rates compared to no mobility control students. Study participants in the first arm ($n = 20$) had low military family mobility (1 to 2 moves) school district transfer rates. Study participants in the second arm ($n = 20$) had moderate family mobility (3 to 4) school district transfer rates. Study participants in the third arm ($n = 20$) had high family mobility (5 or more) school district transfer rates. Non-military control students had no mobility issues and completed kindergarten through 12th-grade within the research school district. Four research questions guided this study. These were:

1. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different ACT (a) English, (b) mathematics, (c) reading, and (d) science Norm Reference Test (NRT) Normal Curve Equivalent (NCE) scores?
2. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different Essential Objective (a) English, (b) math, (c) science, and (d) social studies proficiency level scores?

3. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different final semester (a) English, (b) math, (c) science, and (d) social studies Grade Point Average scores?

4. Do military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school have congruent or different 12th-grade (a) sports, (b) clubs, and (c) arts school engagement participation?

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

Conclusions

Research question #1 conclusion. Military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school had congruent ACT (a) English, (b) mathematics, (c) reading, and (d) science Norm Reference Test (NRT) Normal Curve Equivalent (NCE) scores. This statistical equipoise was found for each of the ACT subtest conditions. Furthermore, the overall mean ACT scores indicate college readiness for students regardless of their mobility status. For example the mean ACT English score of 21.35 for military dependents' with low mobility school district transfer rates, the mean ACT English score of 24.55 for military dependents' with moderate mobility school district transfer rates, the mean ACT English score of 23.50 for military dependents' with high mobility school district transfer rates, and the mean ACT English score of 21.55 for non-military control students with no mobility issues are all consistent with and measured

above the ACT college readiness benchmark score indicating a 50% chance of obtaining a B or higher in a corresponding credit bearing college course.

The mean ACT mathematics score of 20.80 for military dependents' with low mobility school district transfer rates, the mean ACT mathematics score of 22.70 for military dependents' with moderate mobility school district transfer rates, the mean ACT mathematics score of 23.05 for military dependents' with high mobility school district transfer rates, and the mean ACT mathematics score of 22.05 for non-military control students with no mobility issues are all consistent with and measured above the ACT college readiness benchmark score indicating a 50% chance of obtaining a B or higher in a corresponding credit bearing college course.

The mean ACT reading score of 22.85 for military dependents' with low mobility school district transfer rates, the mean ACT reading score of 23.70 for military dependents' with moderate mobility school district transfer rates, the mean ACT reading score of 25.30 for military dependents' with high mobility school district transfer rates, and the mean ACT reading score of 23.05 for non-military control students with no mobility issues are all consistent with and measured above the ACT college readiness benchmark score indicating a 50% chance of obtaining a B or higher in a corresponding credit bearing college course.

The mean ACT science score of 20.45 for military dependents' with low mobility school district transfer rates, the mean ACT science score of 22.85 for military dependents' with moderate mobility school district transfer rates, the mean ACT science score of 23.90 for military dependents' with high mobility school district transfer rates, and the mean ACT science score of 22.00 for non-military control students with no

mobility issues are all consistent with and measured above the ACT college readiness benchmark score indicating a 50% chance of obtaining a B or higher in a corresponding credit bearing college course.

Research question #2 conclusion. Military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school had congruent Essential Objective (a) English, (b) math, (c) science, and (d) social studies proficiency level scores. This statistical equipoise was found for each of the Essential Objective subtest conditions. Furthermore, the overall mean Essential Objective scores indicate advanced skill levels for students regardless of their mobility status. For example the mean Essential Objective English score of 1.75 for military dependents' with low mobility school district transfer rates, the mean Essential Objective English score of 1.60 for military dependents' with moderate mobility school district transfer rates, the mean Essential Objective English score of 1.55 for military dependents' with high mobility school district transfer rates, and the mean Essential Objective English score of 1.70 for non-military control students with no mobility issues are all consistent with and measured above the Essential Objective benchmark cut score indicating beyond proficiency advanced skill levels.

The mean Essential Objective math score of 1.65 for military dependents' with low mobility school district transfer rates, the mean Essential Objective math score of 1.60 for military dependents' with moderate mobility school district transfer rates, the mean Essential Objective math score of 1.60 for military dependents' with high mobility school district transfer rates, and the mean Essential Objective math score of 1.60 for non-military control students with no mobility issues are all consistent with and measured

above the Essential Objective benchmark cut score indicating beyond proficiency advanced skill levels.

The mean Essential Objective science score of 1.65 for military dependents' with low mobility school district transfer rates, the mean Essential Objective science score of 1.65 for military dependents' with moderate mobility school district transfer rates, the mean Essential Objective science score of 1.60 for military dependents' with high mobility school district transfer rates, and the mean Essential Objective science score of 1.60 for non-military control students with no mobility issues are all consistent with and measured above the Essential Objective benchmark cut score indicating beyond proficiency advanced skill levels.

The mean Essential Objective social studies score of 1.55 for military dependents' with low mobility school district transfer rates, the mean Essential Objective social studies score of 1.65 for military dependents' with moderate mobility school district transfer rates, the mean Essential Objective social studies score of 1.60 for military dependents' with high mobility school district transfer rates, and the mean Essential Objective social studies score of 1.70 for non-military control students with no mobility issues are all consistent with and measured above the Essential Objective benchmark cut score indicating beyond proficiency advanced skill levels.

Research question #3 conclusion. Military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school had congruent final semester (a) English, (b) math, (c) science, and (d) social studies Grade Point Average scores. This statistical equipoise was found for each of the Grade Point Average subtest conditions. Furthermore, the overall mean Grade Point Average scores indicate "A" and "B" level classroom performance for students regardless of their mobility status. For example the mean Grade Point Average English score of 2.50 for military dependents' with low mobility school district transfer rates, the mean Grade Point Average English score of 2.15 for military dependents' with moderate mobility school district transfer rates, the mean Grade Point Average English score of 2.05 for military dependents' with high mobility school district transfer rates, and the mean Grade Point Average English score of 2.15 for non-military control students with no mobility issues are all consistent with and measured within the "B" level above average classroom performance range.

The mean Grade Point Average math score of 2.55 for military dependents' with low mobility school district transfer rates, the mean Grade Point Average math score of 2.20 for military dependents' with moderate mobility school district transfer rates, the mean Grade Point Average math score of 2.45 for military dependents' with high mobility school district transfer rates, and the mean Grade Point Average math score of 2.00 for non-military control students with no mobility issues are all consistent with and measured within the "B" level above average classroom performance range.

The mean Grade Point Average science score of 2.05 for military dependents' with low mobility school district transfer rates, the mean Grade Point Average science

score of 1.85 for military dependents' with moderate mobility school district transfer rates, the mean Grade Point Average science score of 1.85 for military dependents' with high mobility school district transfer rates, and the mean Grade Point Average science score of 1.90 for non-military control students with no mobility issues are all consistent with and measured within the "A" and "B" level outstanding to above average classroom performance range.

The mean Grade Point Average social studies score of 2.10 for military dependents' with low mobility school district transfer rates, the mean Grade Point Average social studies score of 2.00 for military dependents' with moderate mobility school district transfer rates, the mean Grade Point Average social studies score of 1.85 for military dependents' with high mobility school district transfer rates, and the mean Grade Point Average social studies score of 2.00 for non-military control students with no mobility issues are all consistent with and measured within the "A" and "B" level outstanding to above average classroom performance range.

Research question #4 conclusion. Military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school had congruent 12th-grade (a) sports, (b) clubs, and (c) arts school cumulative engagement participation frequencies. Military dependents' with low mobility school district transfer rates had more than double their number (n = 20) of overall participation (49) in combined sports (14), clubs (24), and arts (11) activities. Military dependents' with moderate mobility school district transfer rates also had more than double their number (n = 20) of overall participation (54) in combined sports (16), clubs (23), and arts (15) activities. Military dependents' with high mobility school

district transfer rates also had more than double their number (n = 20) of overall participation (48) in combined sports (14), clubs (20), and arts (14) activities, as did non-military control students who also had more than double their number (n = 20) of overall participation (60) in combined sports (19), clubs (24), and arts (17) activities. Overall, statistical equipoise indicates enviable levels of participation in extra curricular and co-curricular activities regardless of military dependents mobility status.

Discussion

The results of this study suggest that there were no significant differences in the academic performance of military dependents' with low, moderate, and high mobility school district transfer rates compared to non-military control students before completing high school. The findings were not consistent with some past research on student mobility. The research school district takes the goal of the Interstate Compact, which is to replace the widely varying treatment of transitioning military students with a comprehensive approach that provides a uniform policy in every school district in every state, very seriously. The research school district most likely sees consistently strong academic performance for its mobile military children because of the positive, and welcoming well-organized, goal-linked, and sustainable home, school, and community partnership supporting military dependents success at school.

Implications for practice.

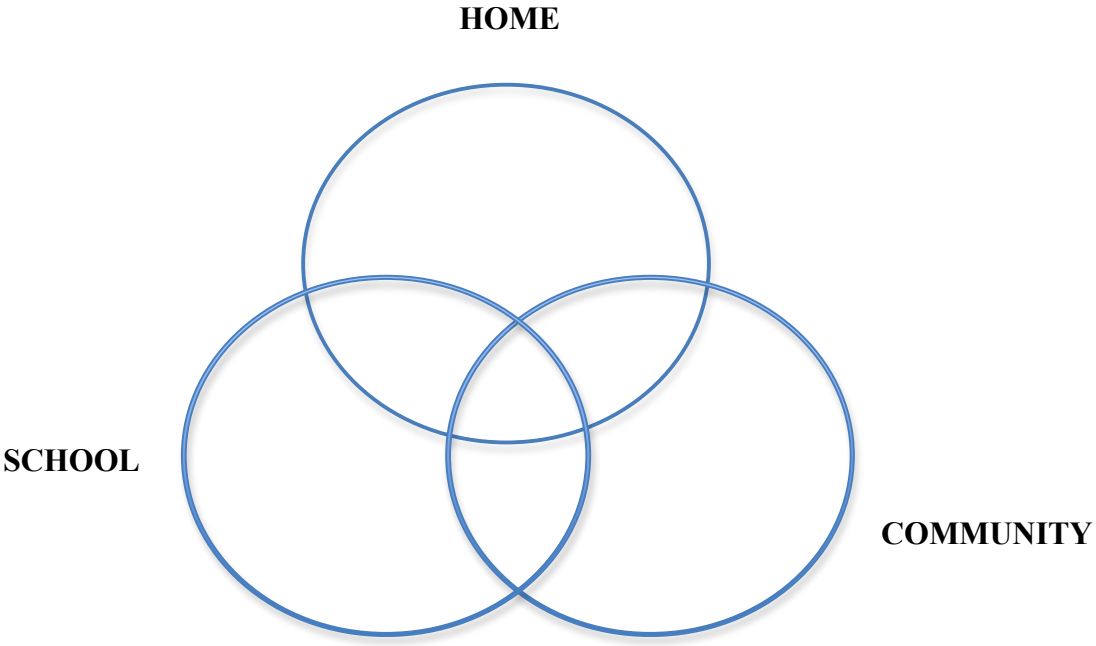

Figure 1. **A well-organized, goal-linked, and sustainable home, school, and community partnership supporting military dependents success at school.**

One component of a positive school community relationship as depicted in *Figure 1* is an organized program of school, family, and community partnerships. Research and fieldwork shows that such programs improve schools, strengthens families, invigorate community support, and increase student achievement and success (Epstein, 2001; Henderson & Mapp, 2002; Sheldon, 2003). Many schools serve a diverse range of students, including military children. The parents of such students, like all parents, want their children to succeed in school. Students of military families, like all students, do better when their parents and teachers are partners. In a welcoming school, educators appreciate differences and involve all families in many ways throughout the school year.

The research school district has put a great focus on student learning and success for all students. The research school district has implemented many family and

community involvement activities to support and extend students' reading, writing, and math skills. The home, school, and community connections make school subjects more meaningful for students. Because most parents cannot frequently come to the school building to see what their children are learning, these activities hold promise for engaging all parents in weekly discussions with their children about schoolwork.

Most schools conduct at least a few activities to involve families in their children's education, but most do not have well organized, goal-linked, and sustainable partnership programs like the research school district. The practice used by the research school district appears to be working as educators, parents, and other partners are working together to systematically strengthen and maintain their family and community involvement.

Implications for policy. Students that attended the research school and were participants in this study were mostly from homes with college-educated parents who set high educational expectations for their children. These students have education role models in front of them each day, they see what education can provide for them and they are raised in what has been referred to as a *concerted cultivation* manner that implies focus on the importance of learning, education, achievement, and service to others based on learning success (Lareau, 2003). While the aforementioned should be the family ideal for all children this is not the case for increasing numbers of children who's parents have not successfully completed their education. Because the research district will be enrolling increased numbers of students from military homes and to comply with the Interstate Compact mandate, it will be important that the research district make every effort to be the model district when it comes to meeting the needs of mobile military children.

Implications for further research. The school district involved in this research is but one of many public school districts in the United States that borders a military installation, thereby serving a diverse, military and civilian, student population. Additional research on the effect of mobility and the academic achievement of students in such districts is needed to better understand the effects of mobility, as well as the factors that moderate that relationship. In doing so, an important consideration is the possibility that school districts that serve a highly transient population become very adept at quickly and efficiently assessing and accommodating the learning needs of individual students. One would expect that in doing so, such school districts would effectively reduce or eliminate potentially negative effects of mobility. When this is compared to school districts that are not accustomed to accommodating the needs of transient students, one would expect a more robust presentation of the detrimental effects of mobility. A study looking at the effect of mobility on academic achievement using statewide or nationwide student data would benefit future research on mobility.

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