Family Structure As An Effect On Student Achievement

University of Missouri

In Partial Fulfillment of the Requirements for the Degree

Doctor of Education

By

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May 2015
The undersigned, appointed by the dean of the Graduate School, have examined the
dissertation entitled

FAMILY STRUCTURE AS AN EFFECT ON STUDENT ACHIEVEMENT

presented by Benjamin Johnson,

a candidate for the degree of doctor of education of Educational Leadership,

and hereby certify that, in their opinion, it is worthy of acceptance.

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Professor Simin Cwick
Acknowledgements

I would like to thank my parents, Doug and Teresa Johnson, who taught me to never give up and keep working hard for everything that you want in life. They supported me in anything that I wanted to try and were always there to offer advice and wisdom whenever I needed it.

I would also like to thank Dr. Paul Watkins who has been there every step of the way during my doctoral journey and always made time for me when I needed guidance and help during this experience. Also would like to extend a special thanks to Dr. Lisa Bertrand, Dr. Simin Cwick, Dr. David Stader and fellow Sikeston Bulldog, Dr. Ruth Ann Roberts, who all contributed my understanding and more importantly, my confidence that I can achieve my academic goal.

Finally I would like to give a special thanks to Dr. Jim Carver, my Superintendent, who was there to offer his insight and experience from the very beginning of my teaching career and really gave me the tools I need to become a successful administrator.
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Family Structure As An Affect On Student Achievement

Ben Johnson

Dr. Paul Watkins, Dissertation Supervisor

Abstract

Students not only learn at different speeds and methods but also live in many different households and face many challenges to their personal academic journeys. These households have both positive and negative effects on the students which is often mirrored in the classroom. How students learn, and what are the factors that have positive and a negative effect on their learning is not only a very important aspect of education, but a highly evolving phenomena. Family households have changed rapidly over the last several decades and it is the job of the educational community to adhere to these changes in order to service each student in the very best way possible.

The purpose of this study was to classify a selected group of students into three family households: married, single/divorced and foster guardianship and using state standardized tests in math and communication arts (MAP) along with school district quarterly benchmark assessments, see if a significant relationship exists between family households and student achievement. Once a significant relationship is identified, the study addressed to what degree the significance level existed, and finally through an analysis of the literature review, make
recommendations that might benefit school districts in helping students that are not performing at the appropriate levels of success in state testing.

The study will address four research questions:

1) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes, as measured by the Math MAP?

2) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes, as measured by the Communication Arts MAP?

3) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by Math quarterly benchmark assessments?

4) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by Communication Arts quarterly benchmark assessments?

The testing instrument used was ANOVA (Analysis of Variance), which provided the appropriate measure of testing for the dependent variable (MAP and Quarterly Benchmarks) and the independent variable (family demographics, households). The results of the data will be organized and identified as having significant relationships and rejections of the null hypothesis or an acceptance of the null hypothesis.
The study was significant because it examined literature that addressed the impact that a home life has on a student, and how that affect that students’ performance in the classroom. The study also will provide recommendations for educators that would be beneficial in addressing the growing needs of all students based on the type of household they dwell.
CHAPTER 1

INTRODUCTION TO THE STUDY

State and Federal Lawmakers have raised test score standards, which in addition to becoming the sole measuring device for how to assess the success or failure of a school district, has thrust the issue of accountability into the forefront. These state test scores have become the sole measuring stick for how to measure the success or failure of a school district. The Missouri Department of Education has used the MAP test as the assessment measured to evaluate how well a student performs in a specific school district while also gauging how well that school district is performing. The Missouri Department of Education (2010) defines the MAP as a Missouri Assessment Program and is the state mandated test that every middle school student is required to take in the spring of each school year. The test is scored with a numerical value along with a classification of Below Basic, Basic, Proficient or Advanced, depending on the score.

Schools are now held completely responsible for meeting the testing standards in all grade levels for the areas of math, communication arts and science. Mandates such as No Child Left behind have caused controversy as the standards are not obtainable by numerous school districts across the country but will have to face negative consequences such as massive funding cuts and in extreme cases, total shutdown of the districts. According to the Missouri Department of Education, 120 school districts failed to obtain the test scores required by No Child Left Behind.

Public schools are coming under fire for the supposed decline in educational quality for students. As state and federal government agencies look for the sources of blame they focused
on the public school system. According to the strict policies and heavy accountability that were mandated for school systems under the No Child Left Behind legislation the threat of being taken over, financially stripped and even closed down if certain scores are not achieved were possible conclusions. Lawmakers missed the major reason why students succeed or fail in school. Family structure is the most important influence in a child’s life and numerous research studies have been conducted that show a direct relationship between family demographics and student achievement. Researchers like Pong (1997), Devarics (2011), Grissmer (2000), Kirby (2000) have presented results that prove how the impact of a student and the family demographic he or she resides with has a significant impact and relationship.

Pong (1997), a researcher from Pennsylvania State University, described family demographics as the parental figures that are in charge of and responsible for the middle school age students in the study. Examples would be a mother and father married in the home full time, or a divorced mother or father living at home full time with the student. Family Demographics are the individual or group of adults responsible and have custody of the middle school age students in the study. Pong (1997) investigated how the rising trend of single parent families and step families and how they affect a selected group of eighth grade students. The study ultimately concluded that single parent families and stepfamilies had a negative effect on overall reading and math scores even after individual demographics and family backgrounds were controlled. The results of the study conducted by Pong (1997) further explained that socio-economic status only partly explained the reasons for the low test scores while parental interaction seemed to show positive effects on test scores regardless of the family demographic.

Pong (1997) further explained that the increase in single parent households cannot be ignored and should be investigated over a long period of time to look for ways to increase
parental involvement among all family demographics. In 1960, the number of single parent families was about 8%, but in 1992, the rate had increased to 23%. According to the researcher’s trends more than half of all children will live in single parent households by the turn of the century.

Pong (1997) researched numerous Pennsylvania households where both parents were present or just one parent was present. The single parent households show significant decreases in standardized test scores when compared to the two parent households in all areas of competency. Other significant results were that graduation rates were lower, drop-out rates were higher, and delinquency was higher among those single family homes when compared to the latter. These findings represented a growing trend with the increased number of single parent families developing in the United States.

Researcher Casey (2011) supported the work conducted by Pong by initiating a 2011 study in which the single parent phenomena has continued to affect student achievement as measured by state test scores in a negative way. Casey (2011) conducted a study in which a sample group of high school students in the state of Washington were evaluated using the state test scores as a variable to measure success based on the categorical rankings of “Below Basic, Basic, Proficient and Advanced”. The results showed that out of 200 male and female students selected, those that were from non-traditional families were six times as likely to score below basic then traditional family students regardless of the student’s gender.

**Foster and Guardianship Students**

According to researcher Frerer (2013) Foster children make up approximately 10-20 percent of the student population in most states with large urban areas such as California. Each
year more than 7,000 students between the ages of 8 and 13 are removed from their home due to abuse and neglect and placed into the foster system (p. 1). According to Frerer (2013) a foster or guardianship student is one that is removed from their household due to abuse, criminal activity and the signing over of parental rights to the state by the biological parents. The reasons for signing a student over vary from behavioral by the student, to parental neglect. These guardianship and foster students are held to the same academic standards as students from two parent families and single parent families and therefore will be tested as a variable in this study.

Researcher Casey (2011) much like Frerer found that 68% percent of the students from traditional families scored at least basic on the state exam, while 58% percent of students from non-traditional families scored basic or above. There was no significance between the two genders for any of the students selected. She reported that race was a significant factor in the results as blacks and Hispanics scored an average of twenty points lower than their white counterparts on the same exam. Casey also noted that these minority based students (black, Hispanic) were predominately from non-traditional families.

Since this rapid change in the American Family is evident, it is important to address the impact that it has on education. Events both positive and negative in a child’s life directly affect how that child will perform in school. A study that identifies the relationships between student achievement and family demographics is important in order to inform lawmakers so policies and strategies can be formulated to focus on the family instead of the current attention paced on schools and teachers.
Conceptual underpinnings for the study

Since the definition and role of the family has changed rapidly in the last several decades, it is important to research and classify the many different types of families that exist not only in our society but in the collected research data. Dervarics and O’Brien (2011) studied parental involvement has a direct cause of positive performances by students on standardized test scores. The next logical step would be to test the relationships among different students from the different family demographics and see what type of relationship exists between those families and achievement on test scores.

Key concepts of this study will be how a student’s family and home life affects their performance at school, especially on the critical state tests. Researchers like Devarics, O’Brien, and Pong have already demonstrated through data and testing that the more parents are involved in a student’s life, the more successful that student is in school.

Grissmer, Kirby, Berends, and Williamson (2000) used a quantitative measuring system with a standard deviation scale to compare the different variables. Children living in two parent homes scored .30 to .40 standard deviation higher than single parent homes on the middle school to high school level standardized tests. The researchers also concluded that there was no significant finding when comparing the households with a mother who works and a mother who does not work. What this study identifies is that students from two parent homes score significantly higher than students from one parent homes. This relationship will be utilized in a small town school district for this study with the actual family demographics expanded to include all parental and non-parental situations.
This study will be looked at through the lens of parental involvement. The more parents that a child has living at home full time, the more likely that student will be successful in school which will result in higher scores on the state standardized tests. A household with a mother and father living there full time will have students that have all of the advantages needed to succeed in school like financial support, adequate food, clothing, shelter and quality spent together according to researchers Milne, Myers, and Rosenthal (1986)

Milne, Myers, and Rosenthal (1986) conducted one of the first comprehensive studies on the effects of single parent households, working mothers with student achievement. According to the research, between 1970 and 1980, the proportion of children living in one parent families increased from 11.9 percent to 19.7 percent. This increase showed to be even higher among black households, 31.5 percent to 45.8 percent. The variables of working mothers and single mother households were isolated and compared with two separate ages groups of students, middle school aged (10-14) and high school aged students (15-18).

The results of the Milne, Myers and Rosenthal study (1986) were that mother’s employment and living in a single parent family have negative effects both age groups of student’s achievement on state tests, college entrance exams and grade point averages. The researchers also concluded that in order for the test to be considered completely valid and accurate, additional variables such as income and parental time spent with their student have to be considered. Race and age of parent were also shown to have effects on student achievement but at a smaller level of significance than family demographics.

The second lens to be evaluated originates from Creswell (2009) and the advocacy/participatory worldview. Since public schools are drawing great amounts of criticism lately an action agenda needs to be formulated that not only assists schools positively, but raises
awareness as to what factors contribute to the hindering of student learning to their fullest potential. A research study such as family demographics allows the role of the family to be evaluated and ultimately allows for necessary legislation to be enacted that would help families whose students are at risk because of the homes they live in not what school they attend as the current lawmakers are targeting.

A specific issue such as the role of the family opens the door for real change at the political level as the advocacy/participatory worldview stance allows. A specific issue, such as family structure is in need of major attention and awareness so real reform and begin that helps students and families achieve educational goals and dreams. Only by raising the consciousness of this issue can the influential lawmakers see the problem and possible solutions and can then make the steps to initiate real change.

**Statement of the Problem**

While evidence of the relationship between family demographics and student achievement is well documented nationwide, a study needs to be conducted to test the relationship between family structures and student achievement in a small community. Much of the literature and prior studies focused on specific variables such as single parents, student to parent interaction and the amount of time students and parents spend together at home. Therefore this study not only identifies all of the different family structures that are prevalent in a community but how each student in a traditional family structure (mother and father in the household) compares academically with students from the identified non-traditional family structures using standardized test scores as the measuring device.
A study conducted to establish a relationship between the various types of family demographics and student achievement will bridge the gap between the studies conducted that prove relationships with single parent households and the relationships with divorced families. According to the enrollment data of the small town middle school selected for the study there are 14 different types of family demographics that students live in. Examples not only include married, single and divorced but also foster care, older siblings and nonrelative households.

Only by identifying all of the various family demographics can a fully detailed study provide the validity needed to publicize just how much and to what degree all types of family demographics affect student achievement in a typical small town public school. The results will be important in establishing a pattern between the two variables that might ultimately lead to policies and strategies that will improve student achievement for all types of students from all types of households.

**Purpose**

The purpose of this study is to discover which types of family demographics impact students that achieve at the highest levels on the state standardized test. By identifying the different types of family demographics and comparing those different types with one another using state test scores, we can hope to gain an understanding of how family demographics affect student achievement. Family demographics will be tested as a possible contributing factor and will be identified as to how and why some students achieve higher test scores than other students.
Research Questions

The research questions guiding this study are:

1) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes, as measured by the Math MAP?

Hypothesis

1A) There is no difference between 5th and 6th grade students from two parent homes when compared academically with single parent or guardianship homes on the Math MAP.

2) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes, as measured by the Communication Arts MAP?

Hypothesis

2A) There is no difference between 5th and 6th grade students from two parent homes when compared with single parent or guardianship homes on the Communication Arts MAP.

3) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by Math quarterly benchmark assessments?
Hypothesis

3A) There is no difference between 5th and 6th grade students from two parent homes when compared with single parent or guardianship homes on the math quarterly benchmark assessments.

4) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by Communication Arts quarterly benchmark assessments?

Hypothesis

4A) There is no difference between 5th and 6th grade students when compared with single parent or guardianship homes on the communication arts quarterly benchmark assessments.

SUMMARY

This study is designed to test for a relationship between the family demographics of a student and how well that student achieves in school using the MAP test as a variable. A comparison will be made among the numerous family demographic types. After calculating the scores they will be categorized to see which groups achieve at the highest levels and which score at the lower levels. Given the numerous homes and custody arrangements that students live in it is important to test those relationships with school achievement.

Key issues to be addressed are the relationships between the two variables and how those variables measure against one another. Students from a married two-parent household will be compared with students from a single parent household as well as others to see which group truly achieves at a higher level. If a relationship exists between the variables then the question of
family demographics being a significant factor in a student’s life will be answered as it applies to the small town middle school being tested.
CHAPTER 2

REVIEW OF THE LITERATURE

Before reviewing and analyzing the research conducted about students and their families, an explanation of the origin for the study helps introduce the many factors related to family structure and student achievement. In 2001, the No Child Left Behind legislation was passed that outlined student performances which were to be reported in terms of proficiency. Grade level tests were mandated by each state in the main core areas of Math, Communication Arts and Science, which were to be administered to students’ each year from grades 3-8. Annual yearly progress reports were generated for each school district based on how well students performed on the state assessments based on a four category scoring of Advanced, Proficient, Basic and Below Basic. In accordance with the new Federal guidelines, Missouri created their assessment exams called the Missouri Assessment Program (MAP).

Family Types

When looking at how family demographics affect student achievement, it is most important to identify the different types of families that now exist. The increasing number of broken families, blended families, single parent families and other demographics has caused researchers to take a look to the overall affects these households have on students particularly their performance in the classroom. Pong (1997) researched and categorized many different types of families while investigating how students perform on state tests while members of these identified households.

Pong (1997), a researcher from Pennsylvania State University, investigated how the rising trend of single-parent families and step-families and how they affect a selected group of
eighth grade students. The study ultimately concluded that single parent families and step-families had a negative effect on overall reading and math scores even after individual demographics and family backgrounds were controlled.

The results of the study conducted by Pong (1997) further explained that socio-economic status only partly explained the reasons for the low test scores while parental interaction seemed to show positive effects on test scores regardless of the family demographic. Pong (1997) further explained that this growing trend cannot be ignored and should be investigated over a long period of time to look for ways to increase parental involvement among all family demographics. In 1960, the number of single parent families was about 8%, but in 1992, the rate had increased to 23%. According to these researcher’s trends more than half of all children will live in single-family households by the turn of the century.

**Different Family Demographics**

Pong (1997) researched numerous Pennsylvania households where both parents were present or just one parent was present. The single parent households show significant decreases in standardized test scores when compared to the two parent households in all areas of competency. Other significant results were that graduation rates were lower, drop-out rates were higher and delinquency was higher among those single family homes when compared to the latter. These findings represented a growing trend with the increased number of single parent families developing in the United States. Pong’s study was not without its critics.

He was able to identify the impact of single-family homes on student achievement but many more variables needed to be studied in order to get an accurate representation of just how impacted a student by his or her family demographic. Pong’s study only compared two parent
households with single parent households. There is a large growing population of students that live in alternate households such as foster homes, grandparents, widowed, step families, older siblings, adopted, and several others that should be studied and compared with one another to test for significant differences.

The other limitation in Pong’s study is the absence of gender when comparing the single parent households with the two parent households. Pong (1997) identified a single family household as being one with only one parent but did not control for which parent was present in those households. Future research concentrating on just single parent households where gender of the parent is controlled for would identify if parental gender is a significant factor in the achievement of students.

**Foster and Guardianship Students**

Frerer (2013) researched foster and guardianship students and how they perform on school assessments and state standardized tests as compared to other types of students. The researcher selected students from grades three through eight from the school years of 2003-2004 and 2006-2007 from the selected California public schools. Two separate samples of test data were analyzed, math and communication arts. Those scores were then matched and compared with other students in the same grade level from the same schools.

He concluded that foster and guardianship students were much less likely to achieve testing levels of proficient than any other type of student (p. 3). The study also found that these same foster and guardianship students were much less likely to improve test scores over the duration of their academic careers then other types of students. He did state that the study had several limitations and future study needed to be conducted that isolated movements from school
to school by the tested students and the frequency of changing foster parents or guardians. The underlying discovery of the study was to highlight the at-risk nature of students in the foster and guardianship system.

**Involvement over Demographics**

Dervarics and O’Brien (2011), researched an alternate variable that produced positive results for student achievement in the classrooms. The researchers studied parental involvement has a direct cause of positive performances by students on standardized test scores. Parental involvement was defined and classified by activity while parental race was controlled. There was no control group established for single family parents or two parent families.

They studied a large number of parental groups in the states of Virginia and Massachusetts and through a series of field notes and surveys identified several areas of parental involvement: parent teacher conferences, school event attendance, school based fundraisers, volunteer of school committees, PTO/PTA meetings and responses to school literature and newsletters.

The results of the study found that among the higher level achieving students in standardized test scores, 78% of those students’ parents attended at least one parent teacher conference. 74% of the parents attended a school event during the tested given while 65% participated in a school fundraiser. 86% responded to school based literature or newsletters and 46% volunteered on a school committee. Finally, the study found that 89% of the parents in the higher achieving student group attended at least one PTO or PTA meeting during the tested school year.
Devarics and O’Brien (2011) found that the parental involvement levels were much higher at the Kindergarten through 8th grade level than the high school level. An overall higher participation level of 92% of top achieving K-8 grade students while only 86% participation level of the higher achieving high school students. The results of the study also showed no significant relationship among race as a variable.

Synthesis of the Pong, Devarics and O’Brien Studies

Expanding upon the results of the Pong (1997) study, researchers Devarics and O’Brien (2011) confirmed Pong’s results with similar findings in a study of Virginia and Massachusetts. There was a significant relationship between family demographics and student achievement. Students from single-parent families consistently scored lower on state achievement tests than two-parent family students. Devarics and O’Brien (2011) then went beyond those findings and the similar findings of Pong and decided to use the variable of parental interaction as a testable comparison with student test scores. They concluded that higher levels of parental interaction had a significant and positive relationship with test scores. They refuted the Pong conclusion by stating that it may not be family demographics as a while that has the effect on student achievement but rather the amount of parental interaction given that is producing the results. Devarics and O’Brien (2011) theorized through qualitative measures that two-parent households give more parental interacting with their students than single-parent homes but did admit more research needed to be conducted before any concrete conclusions could be published.

Grissmer, Kirby, Berends, and Williamson (2000) studied many factors that when combined have a negative effect on how students perform in the classroom and on standardized
tests. The purpose of this study was to address several perceived notions about the changing schools and families in the United States. The perceptions addressed were:

1) The perceived decline in student achievement on tests such as the SAT.
2) The perceived deterioration of the family.
3) Increase in the number of teen mothers and out of wedlock births.
4) Increase in the number of children living in poverty.
5) Increase in the number of mothers working.
6) Increase in the number of single parent homes. (Grissmer, p. 17)

Grissmer, Kirby, Berends, and Williamson (2000) used a quantitative measuring system with a standard deviation scale to compare the different variables. Children living in two-parent homes scored .30 to .40 standard deviations higher than single-parent homes on the middle school to high school level standardized tests. The researchers also concluded that there was no significant finding when comparing the households with a mother who works and a mother who does not work.

When comparing the student achievement levels of students in high income households with students living in low income households, the tests were inconclusive as the researchers deducted that income alone was not significant enough to measure as a stand-alone reason for student achievement. The end result of the study was that additional testing needed to be conducted in order to identify common patterns in the achievement levels of students and the households they derive from. All though family demographics was a definite significant factor in achievement levels of students, there was not enough clear evidence to accurately state that family demographics alone was enough to effect the levels of achievement.
Expanding on the earlier works of Pong (1997) and Devarics and O’Brien (2011), Grissmer, Kirby, Berends, and Williamson (2000) confirmed the trend that students from single-family households perform at lower levels than their two-parent family counterparts on achievement tests even when variables such as income are used for comparison. Although Devarics and O’Brien (2011) discovered that the underlying cause of the lower scores for single-parent students was the lack of parental interaction, a subsidiary of single-parent households.

**Single Parent, Working Mother Study**

Milne, Myers, and Rosenthal (1986) conducted one of the first comprehensive studies on the effects of single parent households, working mothers with student achievement. According to the authors, between 1970 and 1980, the proportion of children living in one parent families increased from 11.9 percent to 19.7 percent. This increase showed to be even higher among black households, 31.5 percent to 45.8 percent. The variables of working mothers and single mother households were isolated and compared with two separate ages groups of students, middle school aged (10-14) and high school aged students (15-18).

The results of Milne, Myers and Rosenthal’s (1986) study were that mother’s employment and living in a single parent family have negative effects on both age groups of student’s achievement on state tests, college entrance exams and grade point averages. The researchers also concluded that in order for the test to be considered completely valid and accurate, additional variables such as income and parental time spent with their student have to be considered. Race, and age of parent were also shown to have effects on student achievement but at a smaller level of significance than family demographics.
The results of the Milne, Myers and Rosenthal study (1986) conflict with Pong’s study in that Pong (1997) concluded that there single-parent families and a mother’s income do not always have negative relationships with student achievement when the variable of parental interaction is above a certain level. According to Milne, Myers and Rosenthal (1986) single-parent families, regardless of interaction show a negative relationship when compared to student achievement. While the studies coincide with one another on the effect single-parent families have on their children, there is research like Milne, Myers and Rosenthal that conclude parental interaction can have a positive effect on student achievement regardless of the family household.

**Student Mobility as an Alternate Negative Effect**

Rumberger and Larson (1998) conducted a study on the effects of student mobility and achievement in the classroom. Eighth grade to twelfth grade students were tracked from 1988 to 1998. Eighth grade students were evaluated to see the frequency of changing schools and dropping out while the 12th grade students were evaluated for high school completion status two years after graduation. The conceptual framework for the study was the perceived increase in high school dropout rates and the social disengagement of frequently transferring schools that are similar to dropping out.

Rumberger and Larson (1998) found that low grades, misbehavior, and high absenteeism were predictors of both students changing schools and dropout rates. The researchers further noted that students between the eighth grade and twelfth grade who made just one school change during that time frame were twice as likely to not complete high school as other students. The
findings as a whole suggest that student mobility is a significant factor in both student achievement and high school completion.

**Educational Resources Compared to Student Achievement**

Okpala (2002) studied family demographics and educational resources and how they affect student achievement. Several high school and middle schools were studied in New York with the goal of identifying a significant link between student achievement on student test scores and college entrance exams with family demographics and the availability of educational resources. Each school district was evaluated for funding and a comparison was conducted with the household incomes. A formula was created where each household was ranked on a scale from highest to lowest before comparison with the various represented family demographic.

The results of the study indicated that the higher the educational resources were per student, the higher the achievement scores on tests. These educational resources included both at home and school district wide availability. The researchers noted that educational resources or household incomes by themselves were inconclusive when directly compared to student achievement but when grouped together; a positive relationship was indicated among the groups studied.

**Study of the Levels of Parental Interaction**

A study conducted by Casanova, Garcia-Linares, Torre and Carpio (2005) used parental styles a variable on the reported achievement scores of students in a large metropolitan area. The researchers found that all though family demographics was a highly significant factor in the achievement levels of all types of students, they were able to identify another variable that was productive in predicting success levels in school. Parental interaction was identified as occurring
at different levels and different frequencies, all of which resulted in a more accurate prediction of student success.

According to the researchers Casanova, Garcia-Linares, Torre and Carpio (2005), the differing levels of parental interaction were:

a) Behavioral Involvement – involves the participation of parents in their children’s activities

b) Personal Involvement – refers to the interest shown by parents in the academic life of their students.

c) Cognitive Involvement – The indication of whether parents expose their children to stimulating activities or material.

These levels of parental interaction were essential and significant in predicting the various levels of student success in not only classroom work but state tests. Casanova, Garcia-Linares, Torre and Carpio (2004) conclude that involvement by parents was just as significant as a variable as the demographic design of the family. When the two variables are tested together, a more accurate prediction can be made as to how well a student will perform in school starting at in elementary school.

Casanova, Garcia-Linares, Torre and Carpio (2004) support the research conducted by Devarics and O’Brien by concluding from their research that parental interaction, in the various forms categorized, does have a significant relationship with student achievement. Parental interaction, regardless of income, family size and number of parents in the household are all shown to have a positive relationship with student achievement according these studies.
**Rand Corporation Study**

The Rand Corporation conducted a research study on student performance by comparing performances on standardized tests from 1970-1990. The Rand Corporation’s Institute for Education and Training (1994) published their findings by concluding that family demographics have a significant effect on students, especially minority students, regardless of gender. Rand (1994) also discovered that despite public perception the results of their study actually showed an increase in student performance during the 1970-1990 testing time frame.

The largest gains were made by minority students and when compared with the changing of the family demographics, these gains were significant, all though a gap still remained between the differing ethnic groups. While other variables were tested like public investment, spending and the increase of social programs, the rapidly changing types of family demographics provided the most likely explanation for the effects on student achievement.

The first research question addressed in the Rand (1994) study was: Student performance and family environment, what is the connection? The researchers constructed a comprehensive, quantitative model to compare and contrast how family demographics affect test scores among junior high and high school age students. The demographic information was randomly selected from two national data basis: The National Longitudinal Survey of Youth and the National Education Longitudinal Survey. Mathematics and Verbal/Reading Scores were compared with each specific type of family demographic and several additional variables related to family demographics.

The findings of the Rand (1994) study indicated that the most significant variable that affected student performance most was parental education. This meant that a student with one or
both college-educated parents performed significantly better than students with parents who did not complete a high school education. There was not a significant statistical difference between the students who had one college-educated parent and a student with both parents with college educations.

The additional tested variables of family household income, family size and mother’s age at the child’s birth showed only a moderate statistical significance. Students who resided in families with higher income levels compared to students with lower household income levels did score higher but the amount was not enough to conclude it to be a significant factor that affects student achievement.

The variable of a working mother in a two-parent home was additionally tested but proved to have no statistical significance when compared with all other tested variables. Single parent employment was therefore not tested further as the results indicated to low of a significance level to test either parents’ employment status. The results of this study helped pioneer changes in funding from the state governments and focused on financing more parental programs designed to educate parents and provide a better learning environment for their students.

Family Structure Study

Feiner and Shim (2000) researched how the family structure affects a student’s performance in both the classroom and standardized test scores. After testing a sample size of 25,000 high school age students in the state of Rhode Island, the researchers discovered that all though family structure does indeed affect a student’s performance, another variable tested seem to show a much higher level of significance. The tested variable of a student’s perception of the
academic expectation of the parents regardless of the family structure of the student indicated the highest level of significance.

The study by Feiner and Shim (2000) reported that a larger portion of students from step and single parent families perceived their parents to have low expectations about their student’s academics and those same students did achieve lower levels of achievement in both grades and standardized testing. A qualitative survey was sent to each student with a set of numbers representing family perceptions of expectations was categorized and analyzed. The results of this survey show a high number of students from single parent families and step families also reported low levels of parental expectations of their performance. This variable was then tested and compared with test scores and grades and reflected the same trend. Those students with low reported parental expectations also reported lower grades and test scores.

Feiner and Shim (2000) used family structure as a significant factor that affects student achievement both positively and negatively. They realized that family structure or demographics was not enough of an explanation as to what actually makes the difference in the student achievement. This brought about the variable of parental expectations and how it is directly affected by the student’s perception of their parents’ expectations. The higher the expectations were of the parent or parents, the higher the achievement scores for the student.

All though Feiner and Shim (2000) support the earlier findings of a single-parent family and student achievement, they refute the claim that single-parent status alone is the major cause for the lower achievement by students. Feiner and Shim (2000) stated that the number of parents alone is simply not enough f an indicator according to their research. Parental expectation, as
measured by the researchers, produced a much higher level of significance and was a much better measuring tool for future study and policy making.

**Parental Involvement**

Conway (2008) took family demographics one step further by hypothesizing that while family demographics does indeed affect student achievement at every level of education there is actually a deeper cause that impacts the success or failure of students in school. Conway (2008) studied a random sample of 10,000 8th grade students in New Hampshire and conducted a qualitative study using a variable of parental involvement as a comparison with student achievement on grades and test scores.

Researcher Conway (2008) constructed a survey that focused on the frequency of time parents spent discussing school activities with their students, time sent discussing the student’s activities with them, time spent discussing school programs and enrollment and time spent volunteering for school activities and attending meetings. Gender of each student was isolated and a significant finding was that parents of female students reported higher levels of parental involvement which might explain the higher levels of achievement. Conway (2008) did note however that this could have been caused by personality traits of females being more communicative and more likely to have discussions about their school activities and involvement then boys all though that theory would have to be tested in a future study.

**Family Size**

Researcher Kim (2008) while investigating the current academic trends and the relationship between it and the increase in government education funding discovered that there was no relationship between increased funding and academic achievement. Instead Kim (2008)
identified the variables of family size and parental involvement as being the most significant factors in the achievement levels of students. Kim (2008) reported that from 1960 to 1980 there were 5.5 million students that had to repeat a grade. By 2002 the number of students having to repeat a grade had increased by another 750,000 students. These numbers ran consistently with the divorce rates and rates of single parent households.

The results of the Kim study (2008) indicate that factors such as the rapid increase of single parent families has directly affected student achievement in the classroom. Kim (2008) reported that from 1960 to 2002 there was a 38.5% increase in the number of children born to unwed mothers. Parallel to this increase was the 33% increase in students repeating grades during the same 1960-2002 time frame. Also indicated in the study was the increase in single parent families saw a decrease in academic achievement by students. College graduation rates decreased by around 20% while dropout rates increased by about 25% during the same observed time frames giving validation to the claim that family demographics is a major factor in the success or failure of students.

Kim (2008) concluded by stating that all though there are underlying factors within family demographics that do affect student achievement and any combination of them play a role but they are described as mediating circumstances and are inconsistent when tested with student achievement meaning the level of significance varies greatly with none showing a very strong link. These variables are time and money (income) which Kim (2008) reiterates do affect student achievement in every household but on a smaller scale even when grouped together.

Kim (2008) studied 11,500 kindergarten students and found that those students who lived in a married household scored higher levels on the reading comprehension exams then those of
both single parent households and step-parent households (where either parent is the step parent). Additional results found to be significant comparing family demographics and student achievement. Kim (2008) reported the following:

1) Children ages 6-11 were reported as spending more time on school work in households with both biological parents.

2) 8\textsuperscript{th} Grade Students reported higher achievement test scores in both science and math when residing in two parent households when compared to 8\textsuperscript{th} grade students living in single parent or step parent households.

3) High school student were more likely to complete an algebra course then high school students of single mothers.

4) Students who experience a divorce during their academic career have a sharp drop in their grade point averages and have an increased risk of having to repeat a grade.

5) Students who live with a biological mother and a cohabitating boyfriend show even higher levels of drop out, lower grades, lower test scores and behavior problems at school then just single mothers living alone. (p. 7)

**Effects on Higher Education Performance**

Kim (2009) expanded on an earlier study of the affects of family demographics on student achievement at the middle school and high school levels to see what impact family demographics have on a student entering college. Kim (2009) found that students who enter college with both parents intact and residing at home will be more likely to graduate with a degree than those students living in any other type of household. College attendance and
completion was reported as being much lower among single parent households or blended households when compared to married households.

All though family income and the availability of student financial aid were factors, the level of significance of them were not strong enough to warrant them as being the definitive explanation as to the lower achievement of students at the college level by single parent or blended parent households. The family household still had a much higher significant level than any other factor use to compare. When looking at just college attendance, students from single parent households, and blended households were 5% less likely to attend college and 6% less likely to graduate then students from intact families.

**Parental Involvement Factors**

Kim (2008) supported the research by introducing tested evidence that parental involvement is key in the success of every student regardless of household situations. After analyzing surveys of parental activities with students like time spent looking over homework, attendance at school functions and participation in conferences, the results show a positive the relationship between that and the overall student achievement. These levels are highest among two biological parent households and carry forward to the higher education phase of each student.

**Study of Traditional versus Nontraditional Families**

Fonteboa (2012) conducted a dissertation comparing the effect of student achievement using traditional families and non-traditional families as the comparative variables. Addressing the problem statement of the increase in the amount of nontraditional (broken) households, the
need to see how these life changes affect how the students perform in the classroom was necessary. Fonteboa (2012) tested the interactive framework of social cognitive theory, attachment theory and the theory of moral absolutism by comparing the family structure of students to their academic achievement on standardized tests.

Fonteboa (2012) collected data from 242 high school seniors from the state of Georgia. Approximately half of the students were from traditional households while the other half resided in nontraditional households. There was also an equal representation of gender for each student. The researcher identified family structure (traditional, nontraditional) as the independent variable and compared it with student achievement exams as required by the Georgia State graduation requirements. Nontraditional families were categorized by single mother, single father, adopted, and any other type of household that differed from a mother and father household which was defined as the traditional household.

Fonteboa (2012) performed a series of ANOVA test to compare the overall significance between the independent variable of traditional households/nontraditional households versus the dependent variable, achievement scores. The results of the study indicated that there was no significant different between the two variables when comparing the overall traditional students/nontraditional students with achievement scores. Fonteboa (2012) then compared the subgroups of nontraditional households like foster, step parents, blended families and grandparents with the dependent variable and found there was also no significance between the two variables when analyzed using an ANOVA test. Fonteboa’s results indicated no relationship between the selected high school seniors in Georgia with the types of family demographics they resided in.
Single Parent Studies

Researchers Nord and West (2001) conducted an extensive on parental households as they relate to and affect student achievement in the classroom. The focus was to isolate single mother households and single father households and compare those with student achievement while concluding with a comparison to other types of family households. While identifying and comparing variables, the researchers were able to note the varying degrees of parental involvement and how that supplements a student’s achievement both positively or negatively depending on the family household but the study specifically illustrates the point that family demographics have a significant effect on a student achievement in the classroom.

Nord and West (2001) drew upon prior studies that divorces and broken homes affect students negatively in a variety of their lives but the extent and degree varies in differing household types. They also wanted to explore the possible differences between single father households and singe mother households and how that impacts a child’s success in school. Data for the study was collected during the 1996-1997 school year by the US Department of Education.

Nord and West (2001) identified three frequent outcomes over the duration of the study which guided the supported the overall hypothesis that family demographics have a significant effect on student achievement. The three outcomes identified were:

1) Measure of academic difficulties (whether the student has ever repeated a grade.)
2) Measure of academic success (whether the student gets mostly A’s)
3) Measure of discipline issues (whether the student has ever been expelled or suspended) (p. 16)
The researchers, Nord and West (2001) noted that all three of these testable outcomes are factual in nature and do not require the formulation of judgments about emotional or psychological state of the student. The results of the study provided a key variable that was identified as being significant. The variable that the researchers noted as being a key factor in explaining why students of different family demographics perform differently was parental involvement.

Nord and West (2001) reported that students living in nontraditional family households are significantly less likely than students living in traditional family household to have parents with high levels of involvement in their schools. As reported by Nord and West (2001) the levels of parental involvement were categorized into four activities: School Meeting, Parent-Teacher Conference, School Event and Volunteer. Students who live in nontraditional family households were reported as having half of the studied population have high levels of parental involvement which Nord and West (2001) identified as participating in at least three of the four activities. 62% of the students from the traditional family households were reported as having highly involved parents.

Nord and West (2001) reported in their findings that there was no significant differences between students living in step parent families and students living in single mother households as both were reported as having 48% of those studied having high parental involvement. Father only households were reported as having 46% of students with a high level of parental involvement. There was a 50% reported level of high parental involvement in students residing in stepmother family households while students living in nonparent family households like guardians reported at the lowest of parental involvement at 37%.
Nord and West (2001) recognized that family demographics have a highly significant effect on student achievement especially when the variable of parental involvement is examined. Students living with both parents report much higher levels of not only grades and test scores but parental involvement as well which is identified by the researchers as being the largest set of influences in a student’s career.

Ledbetter and Leonce (2009) conducted a similar study exploring the many family demographic types and the root causes for why the discrepancy in student achievement among the various households. Parental involvement consistently came about as a significant factor when tested as a variable with student achievement at all education levels. Ledbetter and Leonce (2009) state that parental involvement is the number one indicator of how well a student will perform in the classroom. Students from two parent households tend to have at least one parent spending significant amounts of time with their student in school related matters which transpires into higher levels of success academically.

Ledbetter and Leonce (2009) reported that single parents have students that are three times as likely to drop out of high school as students from two parent households. Because single parents are the primary source of financial support for the student they tend to have much less time to support their students with academic activities such as homework, activities and conferences. This lack of interaction results in a negative relationship between single parent involvement and student achievement.

Ledbetter and Leonce (2009) also tested income as a possible reason affecting student achievement especially when dealing with single parent households who tend to have much less. The results were that all though income does have some effect on student achievement, the
number is much less significant when compared with parental interaction, parental involvement and other variables.

**Single Mothers and Single Fathers Isolated Variables**

Researcher Kelteringham (2007) conducted a study by separating single households by parental gender to compare the different effects they each have on children as students. Kelteringham (2007) reported that 22 million children live with only one parent as of 2007 and that 83% of those parents are single mothers. All though much more common and representing a much larger sample size single father households have seen an increase by almost 60% since 1997. Kelteringham (2007) also identified that about half of the children living in the single mother households do not see their father at all.

Kelteringham (2007) took a large sample size of the single mother households and categorized them by status:

Of the children living with their mother:

A) 38% lived with a divorced mother.
B) 35% lived with a never-married mother.
C) 19% lived with a separated mother
D) 4% lived with a widowed mother
E) 4% lived with a mother whose spouse lived elsewhere due to work. (p. 3)

All though extensive research has been documented that prove children living in single parent homes are at higher risk for negative behaviors, disadvantages such as time and money and generally do not do as well in school. Kelteringham (2007) reported that statistically, family
structure is the most important contributor to a child’s well-being and the development of characteristics. Some of the key characteristics noted in the study involving children that live with a single parent included higher risks of depression, emotional stress and difficulties in school. How this difficulty in school is measured and analyzed was the key component of this particular study.

International Studies

Casanova, Garcia-Linres, Torre and Carpio (2005) conducted a study at the University of Jaen in Spain and compared various variables that comprise family demographics like: Socio-economic status, family structure, number of children in the household and the order of birth of the children. Additional variables for comparison included family characteristics like: acceptance, control, involvement, and expectations. (p. 33)

The researchers analyzed a sample size of 310 students from a Spanish province that included a wide range of socio-economic level representations. The age range of each student was between 12 and 15 years who were broken into two groups: Group 1 contained 105 students (38% boys and 62% girls) who were tested and graded as being on the normal level of academic performance, Group 2 consisted of 205 students (63% boys and 37% girls) and were considered to be of low academic achievement based on failures in one more classes including mathematics and/or Spanish.

Casanova, Garcia-Linres, Torre and Carpio (2005) reported that 84.5% of the students in the normal achievement levels of performance had both parents in the household while 83.7% the students in the low levels of achievement had both parents in the household. All though the researchers admitted this was not a distinct difference between the two groups of students, when
additional factors such as parental acceptance, expectations and involvement are measured in, the reported percentages become increasingly more significant.

Jabbar, Aziz and Zeb (2011) investigated the effect of demographic factors on the achievement levels of students in the secondary levels of education in the area of Punjab. The demographic characteristics that were examined were: gender, urban/rural, family size and income. 15 schools in the rural area of Punjab were randomly selected and the sample size of students were grouped in numbers of 50 with 25 males and 25 females each school.

Jabbar, Aziz and Zeb (2011) collected data for the study by issuing three different questionnaires to the 15 schools and distributed to the families of the 50 students per school. The questionnaires were designed to measure the amount of interaction between parents and students, the amount of time spent during homework and other demographic factors like student household responsibilities. The researchers then personally visited each school and collected academic data like grades, test scores and aptitude scores.

The researchers then tabulated results using and independent t test to determine the possible significance between the students’ achievement levels between males and females. The relationships between family size and student achievement were measured using Pearson’s correlation coefficient. Chi-square was applied to find any significant relationships between any of the variables collected and categorized.

Jabbar, Aziz and Zeb (2011) reported their findings in the International Journal of Academic Research in Business and Social Sciences with the following results:

1) The success of 54.2% of male students and 59.2% of female students show that female students excelled from male students.
2) There exists a significant difference (t-value = 3.694 at 0.05 level of significant) in the achievement of rural and urban male students at secondary levels.

3) A significant difference exists (t-value = 5.681 at 0.05 level of significant) in the achievement of rural and urban female students.

4) The majority of students (78%) having smaller family sizes (2-4 members) passed while students with larger family sizes (11 or more) reported much lower achievement scores. (p. 10)

5) The Pearson’s r value – 0.756 show there is a significant negative high correlation between family size and total students. (p. 10)

6) Majority of students (83%) passed the country’s mandatory examination who lived in households with higher incomes while students with low family incomes reported only a 32% passing rate.

7) The Pearson’s r values of 0.376 and 0.408 report there is a significant correlation between male students and income levels and female students and income levels.

8) The Pearson’s r values of 0.394 indicate there is a significant correlation between income and total students achievement levels of success (p. 11).

All though the research on international students and how family demographics affect their achievement support the idea that the type of household a student lives in does have an impact. Researchers Casanova, Garcia-Linres, Torre, Carpio and Jabbar, Aziz and Zeb all discussed not only the similarities between family demographics and students worldwide, but spent a great deal of time discussing the differences and limitations that make it impossible to compare United States students and International Students based on family demographics. Variables that separate international schools and American schools such as political pressures,
student enrollment and teacher requirements differ greatly and have to be factored when doing a comparison or impact study such as this.

**Conclusion**

While the researchers studied all supported one another in claiming that their research shows a significant relationship between family demographics and student achievement, and that single-parent families have students that score lower on assessments then students from two-parent families, they do not all agree that the parental status by itself is enough to explain the achievement trend. Factors such as parental interaction, educational resources, and parental confidence in education were all shown to have significant relationships with student achievement.
CHAPTER 3

METHODOLOGY

Introduction

Accountability has become front and center in the field of education as State and Federal Lawmakers raise test score standards. These state test scores have become the sole measuring stick for how to measure the success or failure of a school district. Schools are now held completely responsible for meeting the testing standards in all grade levels for the areas of math, communication arts and science. Mandates such as No Child Left behind have caused controversy as the standards are not obtainable by numerous school districts across the country but will have to face negative consequences such as massive funding cuts and in extreme cases, total shutdown of the districts.

Purpose

The purpose of the study is to gain an understanding of how family households affect student achievement on standardized test scores as mandated by state and federal governments as well as quarterly benchmark exams. Using two years of test data from the same group of 5th and 6th grade students during the 2011-2012 and 2012-2013 school years, a comparison will be tested among the 5th and 6th grade students from the three identified family households (two-parent, also known as married, single parent/divorced, and foster/guardianship) with one another using the measured assessments. Next is to discover if students from two-parent households
score higher or lower on quarterly benchmarks and state achievements tests when compared to
students from single-parent and guardianship households.

**Research Questions**

1) How do 5th and 6th grade students from two parent homes compare academically
with 5th and 6th grade students from single parent or guardianship homes, as
measured by the Math MAP?

**Hypothesis**

1A) There is no difference between 5th and 6th grade students from two parent homes
when compared academically with single parent or guardianship homes on the Math
Map.

2) How do 5th and 6th grade students from two parent homes compare academically
with 5th and 6th grade students from single parent or guardianship homes, as
measured by the Communication Arts MAP?

2A) There is no difference between 5th and 6th grade students from two parent homes
when compared with single parent or guardianship homes on the Communication Arts
MAP.

3) How do 5th and 6th grade students from two parent homes compare academically
with 5th and 6th grade students from single parent or guardianship homes as
measured by quarterly benchmark assessments in Math?
Hypothesis

3A) There is no difference between 5th and 6th grade students from two parent homes when compared with single parent or guardianship homes on the math quarterly benchmark assessments.

4) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by quarterly benchmark assessments in Communication Arts?

Hypothesis

4A) There is no difference between 5th and 6th grade students when compared with single parent or guardianship homes on the communication arts quarterly benchmark assessments.

Design and Methods

Since the definition and role of the family has changed rapidly in the last several decades, it is important to research and classify the many different types of family units that exist not only in our society but in the collected research data. After analyzing the student data from the Student Information System (SIS) from the selected middle school in southeast Missouri, the following family types were identified:

1) Two parent households where both biological parents reside.

2) Single parent households where only one biological parent resides.

3) Guardianship households where students are wards of the state and reside in a residential care
Research Hypothesis

For the purpose of this study, the following null hypotheses were formulated. Hypothesis 1 is that there are no statistically significant differences between 5th and 6th grade students from two parent homes (married) and 5th and 6th grade students from single parent/divorced households on the Math MAP. Hypothesis 2 is that there are no statistically significant differences between 5th and 6th grade students from two parent households (married) and 5th and 6th grade students from foster/guardianship households on the Math MAP. Hypothesis 3 is that there is no statistically significant difference between 5th and 6th grade students from two parent households (married) and 5th and 6th grade students from single parent/divorced households on the Communication Arts MAP. Hypothesis 4 is that there is no statistically significant difference in 5th and 6th grade students from two parent households (married) and 5th and 6th grade students from foster/guardianship households on the Communication Arts MAP. Hypothesis 5 is that there is no statistically significant difference between 5th and 6th grade students from two parent households (married) and 5th and 6th grade students from single parent/divorced households on the quarterly benchmark assessments. Hypothesis 6 is that there is no statistically significant difference in 5th and 6th grade students from two parent (married) households and 5th and 6th grade foster/guardianship students on the quarterly benchmark assessments. Hypothesis 7 is that there is no statistically significant difference in 5th and 6th grade students from a single parent/divorced household and 5th and 6th grade foster/guardianship households on the Math MAP. Hypothesis 8 is that there is no statistically significant difference in 5th and 6th grade students from single parent/divorced households and 5th and 6th grade students from foster/guardianship households on the Communication Arts MAP. Hypothesis 9 is that there is no statistically significant difference in 5th and 6th grade students from single parent/divorced households and 5th and 6th grade foster/guardianship households on the quarterly benchmark assessments.
students from single parent/divorced households and 5th and 6th grade students from foster/guardianship households on the quarterly benchmark assessments.

**Population and Sample**

The population of this study will be comprised of 96 fifth grade students during the 2011-2012 academic school year. The community is a small, rural area that serves two residential facilities. The necessary data was collected from the Student Information System (SIS) utilized by the selected school district in Southeast Missouri. The data selected was the family demographic of each of the 96 students which included the heads of household. The second set of data was the assessment scores of each student’s performance on the state standardized test during the 2011-2012 school year, as well as the four scores for each student on the quarterly benchmark exams during the students fifth grade and sixth grade school years.

The family demographic information was organized into groups based on the 14 family demographic types identified. After each student is categorized, they are entered into the Statistical Product and Service Solutions (SPSS) as a testable variable. The student performances on the state standardized testing are also categorized appropriately for each student in the SPSS system. The quarterly benchmark tests will be organized by student with four scores attributed to each student.

An ANOVA test will be conducted to calculate different experimental conditions using the same participants. Examples of the different experimental conditions would be single-parent family households, two-parent (traditional) households and any of the other types of family households identified in the previous chapters. The test will be conducted utilizing the SPSS
system and significance levels will be identified as to the relationship and means between family demographics and achievement on the state test.

Since this rapid change in the American Family is evident, it is important to address the impact that it has on education. Events both positive and negative in a child’s life directly affect how that child will perform in school. A study that identifies the relationships between student achievement and family demographics is important in order to inform lawmakers so policies and strategies can be formulated to focus on the family instead of the current attention paced on schools and teachers.

**Statement of the Problem**

While evidence of the relationship between family demographics and student achievement has been well documented nationwide, a study needed to be conducted to test the relationship in a small community. Much of the literature and prior studies focused on specific variables such as single parents, student to parent interaction and the amount of time students and parents spend together at home. A study needs to be conducted that not only identifies all of the different types of families that are prevalent in a community but how each student in those families compare with one another on standardized test scores.

A study conducted to establish a positive relationship between the various types of family demographics and student achievement will bridge the gap between the studies conducted that prove relationships with single parent households and the relationships with divorced families. According to the enrollment data of the small town middle school selected for the study there are 14 different types of family demographics that students live in. Examples not only include married, single and divorced but also foster care, older siblings and nonrelative households.
Only by identifying all of the various family demographics can a fully detailed study provide the validity needed to publicize just how much and to what degree all types of family demographics affect student achievement in a typical small town public school. The results will be important in establishing a pattern between the two variables that might ultimately lead to policies and strategies that will improve student achievement for all types of students from all types of households.

An ANOVA test will be conducted to calculate different experimental conditions using the same participants. The test will be conducted utilizing the SPSS system and significance levels will be identified as to the relationship and means between family demographics and achievement on the state test.

**Significance of the Study**

The significance of the study is to identify a possible relationship between a students’ performance on the state mandated test and the family demographics that each student lives among. If a significant relationship exists between the two groups after analyzing, it is important to share that information with current law makers. Public schools have been under scrutiny over the past several years as states have pushed to pass legislation that adds more pressure on teachers and administrators.
Conclusion

State and Federal Agencies have been passing legislation to hold teachers and school administrators in the public school system completely and 100 percent accountability for how a student achieves in the classroom. Funding and career advancement are jeopardized as more and more students fail to perform at the level each state believes their students should be performing. This study is to address the possibility of the most significant influence in a student’s life which is his or her family. If such significance is found, then lawmakers need to be informed of this key influence in a student’s life that directly affects how they perform in school.

The importance of education has forced school districts, governments and policy makers to address issues and areas of concern. Since state testing is an important issue that influences lawmakers on how to ascertain the success or failures of school districts, it is imperative that these decisions be based on the right kind of research and information. While state testing provides a clear set of numbers that show whether a student is performing and learning at the rate he or she should, we must continue to provide information as to why a student scores a certain way.

While the issues of how to address schools that seem to produce a larger percentage of students who fail the state test is a difficult one, certainly more research can help support policy decisions that target school districts and families. Research focused on the types of families that students reside in may help explain gaps in achievement which can lead to policy change designed to help those families who are deemed as being at a higher risk of underachievement.
Chapter 4 will analyze the student scores on the MAP test and the quarterly benchmark exams during their 5th and sixth grade academic years (2011-2013). Each of the 97 students in the class will have two MAP scores and 8 benchmark exam scores each for comparison. After those scores are organized, the comparisons will be tested between two-parent family students and the other types of family students to see if a significant relationship exists. Chapter 5 will conclude the study by analyzing the results of the data, along with the findings and overall conclusion of the research.
CHAPTER 4

ANALYSIS OF THE DATA

Many studies focused on specific variables such as single parents, student-parent interaction and the amount of time students and parents spend together at home. This study was conducted to not only identify all of the different family structures that are prevalent in a community but how each student in a traditional family structure (mother and father in the household) compares academically with students from the identified non-traditional family structures using standardized test scores as the measuring device. The study took similar concepts from the literature review and analyzing data from a traditional public school in a small community to see if a relationship existed between family demographics and student achievement.

This study sought to discover which types of family demographics impact students that achieve at the highest levels on the state standardized tests in both Math and Communication Arts. A comparison of the family types with one another using state test scores may help gain an understanding of how family demographics affect student achievement, using ANOVA to tabulate the data. Researcher Field (2009) recommended using ANOVA for testing variables against a null hypothesis. Since it is an omnibus test for an overall experimental effect, the ANOVA provides an F-ratio to compare and register the amount of systematic variance in the data. (Field 2009) The following research questions were investigated to determine if any relationships existed between the variables of family demographics and student achievement:
1) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes, as measured by the Math MAP?

**Hypothesis**

1A) There is no difference between 5th and 6th grade students from two parent homes when compared academically with single parent or guardianship homes on the Math MAP.

2) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes, as measured by the Communication Arts MAP?

**Hypothesis**

2A) There is no difference between 5th and 6th grade students from two parent homes when compared with single parent or guardianship homes on the Communication Arts MAP.

3) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by Math quarterly benchmark assessments?
Hypothesis

3A) There is no difference between 5\textsuperscript{th} and 6\textsuperscript{th} grade students from two parent homes when compared with single parent or guardianship homes on the Math quarterly benchmark assessments.

4) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by Communication Arts quarterly benchmark assessments?

Hypothesis

4A) There is no difference between 5\textsuperscript{th} and 6\textsuperscript{th} grade students when compared with single parent or guardianship homes on the Communication Arts quarterly benchmark assessments.

Ninety-six students were selected and demographic information and test results were collected during the 5\textsuperscript{th} grade and 6\textsuperscript{th} grade school years. After the data was collected and organized, SPSS was used to tabulate any relationships between the variables of family demographics and achievement. ANOVA was used to determine if there was a significant relationship between the variables and what that level of significance registered. A total of four MAP scores were tested (5\textsuperscript{th} and 6\textsuperscript{th} grade Math and 5\textsuperscript{th} and 6\textsuperscript{th} grade Communication Arts) and 12 Benchmark test results (three-quarters of 5\textsuperscript{th} Grade Math scores, three-quarters of 6\textsuperscript{th} Grade Math scores, three-quarters of 5\textsuperscript{th} Grade Communication Arts and three-quarters of 6\textsuperscript{th} Grade Communication Arts.) A grand total of 16 categories were tested which was the sum of all the
MAP and benchmark test results.

After the initial ANOVA testing was complete, 14 out of the 16 ANOVA tests showed levels of significance when compared with family demographics which meant when the test results were labeled as the dependent variable and the student's family demographic was labeled as the independent variable, the end analysis from an ANOVA test was that 14 tests registered levels of significance by falling below the 0.05 standard of significance sum. (p< 0.05) A tabulation that presents the data is provided that show each variable being tested and how it compares to one another in conjunction with the research questions.

Each table represents one of the tests (Math MAP, 5th Grade, Math MAP 6th Grade, Communication Arts 5th Grade, Communication Arts 6th Grade, and the 12 quarterly Acquity Benchmark Scores, six in Math and six in Communication Arts for both 5th and 6th Grade school years, quarters 1-3) The table will show the number of students that scored in each of the levels: Advanced, Proficient, Basic and Below Basic as well as the significant levels tabulated by the ANOVA test.

The pie chart illustrates what the percentage of representation is among the 96 students tested when categorized by one of the three family demographic households (married, single/divorced, foster). The results indicate that 39 students came from married households which represent 40.6% of the overall study population.
Fifty-two students came from single or divorced households which comprise 54% of the overall study population and five students are from foster households, which is 5% of the overall study population.

After analyzing the data and compiling the results on each of the tests for 5th grade and 6th grades, the following tables and charts show the breakdown of each student by family demographic and test achievement.

Addressing Research Question 1) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes, as measured by the Math MAP?
Table 1.1

5th Grade Math MAP

<table>
<thead>
<tr>
<th>MAP Levels</th>
<th>Married</th>
<th></th>
<th>Single/Divorced</th>
<th></th>
<th>Foster</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
</tr>
<tr>
<td>Advanced</td>
<td>16</td>
<td>41.0%</td>
<td>10</td>
<td>19.2%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Proficient</td>
<td>15</td>
<td>38.4%</td>
<td>13</td>
<td>25.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Basic</td>
<td>7</td>
<td>17.9%</td>
<td>25</td>
<td>48.0%</td>
<td>2</td>
<td>40.0%</td>
</tr>
<tr>
<td>Below Basic</td>
<td>1</td>
<td>2.5%</td>
<td>4</td>
<td>7.6%</td>
<td>3</td>
<td>60.0%</td>
</tr>
</tbody>
</table>

As designated by the Missouri Department of Education, a standardized Math MAP score is defined below:

Advanced is defined as the ability of the student to obtain a score in the range of 706-830 and displays an advanced level of knowledge in the areas of money counting, 3-D graphs, chart comprehension, addition and subtraction for money in real world situations, angle measurement and conversion between standard units of measurement.
**Proficient** is defined as the ability of the student to obtain a score in the range of 668-705 and displays a proficient level of knowledge in the areas of money counting, 3-D graphs, chart comprehension, addition and subtraction for money in real world situations, angle measurement and conversion between standard units of measurement.

**Basic** is defined as the ability of the student to obtain a score in the range of 605-667 and displays a basic level of knowledge in the areas of money counting, 3-D graphs, chart comprehension, addition and subtraction for money in real world situations, angle measurement and conversion between standard units of measurement.

**Below Basic** is defined as the ability of the student to obtain a score in the range of 604-480 displays a below basic level of knowledge in the areas of money counting, 3-D graphs, chart comprehension, addition and subtraction for money in real world situations, angle measurement and conversion between standard units of measurement.

The significance level is below the 0.05 standard. (p<0.05) The F ratio scored a highly significant level of 12.508 between the groups. The ANOVA output indicates that family demographics did have a significant effect on achievement on the 5th grade Math Map test scores. Therefore the null hypothesis of there is no difference between 5th and 6th grade student from two parent homes when compared academically with single parent or guardianship homes on the Math MAP is rejected.

Addressing Research Question One: How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes, as measured by the Match MAP? The following Table represents the ANOVA result for the students on the Math MAP during the 6th grade school year.
Table 1.2

6th Grade Math MAP

<table>
<thead>
<tr>
<th>MAP Levels</th>
<th>Married n</th>
<th>Married Percent</th>
<th>Single/Divorced n</th>
<th>Single/Divorced Percent</th>
<th>Foster n</th>
<th>Foster Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced</td>
<td>11</td>
<td>28.2%</td>
<td>5</td>
<td>9.6%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Proficient</td>
<td>20</td>
<td>51.2%</td>
<td>20</td>
<td>38.4%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Basic</td>
<td>8</td>
<td>20.5%</td>
<td>27</td>
<td>51.9%</td>
<td>3</td>
<td>60.0%</td>
</tr>
<tr>
<td>Below Basic</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
<td>2</td>
<td>40.0%</td>
</tr>
</tbody>
</table>

The significance level registers at .000 which is below the 0.05 standard of significance (p<0.05). The F ratio scored a highly significant 13.403 between the groups. This output indicates that family demographics did have a significant effect on achievement on the 6th Grade Math Map test scores. Therefore the null hypothesis of there is no difference in 6th grade students from two parent homes when compared academically with single or guardianship home students on the 6th grade Math MAP is rejected.

Addressing Research Question Number Two: How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or
guardianship homes, as measured by the Communication Arts MAP? The following table represents the ANOVA results for students tested during the 5th grade school year on the Communication Arts MAP.

Table 2.1

5th Grade Communication Arts MAP

<table>
<thead>
<tr>
<th>MAP Levels</th>
<th>Married</th>
<th>Single/Divorced</th>
<th>Foster</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
</tr>
<tr>
<td>Advanced</td>
<td>11</td>
<td>28.2%</td>
<td>9</td>
</tr>
<tr>
<td>Proficient</td>
<td>14</td>
<td>35.8%</td>
<td>14</td>
</tr>
<tr>
<td>Basic</td>
<td>10</td>
<td>25.6%</td>
<td>22</td>
</tr>
<tr>
<td>Below Basic</td>
<td>4</td>
<td>10.2%</td>
<td>4</td>
</tr>
</tbody>
</table>

As designated by the Missouri Department of Education, a standardized Communication Arts MAP score is defined below:

**Advanced** is defined as a student achieving a score in the range of 704-855 and displays an advanced level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.
**Proficient** is defined as a student achieving a score in the range of 703-676 and displays a proficient level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

**Basic** is defined as a student achieving a score in the range of 631-676 and displays a basic level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

**Below Basic** is defined as a student achieving a score in the range of 505-630 and displays a below basic level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

The significance level registers at .001 (p<0.05) which is below the 0.05 standard of significance. The F ratio scored a highly significant level of 7.059 between the groups. This output indicates that family demographics did have a significant effect on achievement on the 5th Grade Communication Arts Map test scores. The null hypothesis of there is no difference between 5th grade students from two parent homes when compared academically with 5th grade students from single or guardianship homes on the 5th grade Communication Arts MAP is rejected.

Addressing research Question Two: How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship
homes, as measured by the Communication Arts MAP? The following results were analyzed and organized using ANOVA.

Table 2.2

6th Grade Communication Arts MAP

<table>
<thead>
<tr>
<th>MAP Levels</th>
<th>Married</th>
<th>Single/Divorced</th>
<th>Foster</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
</tr>
<tr>
<td>Advanced</td>
<td>12</td>
<td>30.7%</td>
<td>7</td>
</tr>
<tr>
<td>Proficient</td>
<td>16</td>
<td>41.0%</td>
<td>13</td>
</tr>
<tr>
<td>Basic</td>
<td>11</td>
<td>28.2%</td>
<td>11</td>
</tr>
<tr>
<td>Below Basic</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
</tr>
</tbody>
</table>

As designated by the Missouri Department of Education, a standardized Communication Arts MAP score is defined below:

**Advanced** is defined as a student achieving a score in the range of 704-855 and displays an advanced level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.
**Proficient** is defined as a student achieving a score in the range of 703-676 and displays a proficient level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

**Basic** is defined as a student achieving a score in the range of 631-676 and displays a basic level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

**Below Basic** is defined as a student achieving a score in the range of 505-630 and displays a below basic level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

The significance level registers at .000 which is below the 0.05 standard of significance (p<0.05). The F ratio scored a highly significant level of 12.332 between the groups. This output indicates that family demographics did have a significant effect on achievement on the 6th Grade Communication Arts Map test scores. The null hypothesis of there is no difference between 6th grade students from two parent homes when compared academically with single or guardianship students on the 6th Grade Communication Arts MAP is rejected.

To address Research Question Number Three: How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by Math quarterly benchmark assessments? The following charts and tables represent the results of student scores during the math and communication
quarterly benchmark exams for the two consecutive school years tested. Twelve tests were totaled with six being from math and six being from communication arts for the two school years.

Table 3.1

First Quarter

5th Grade Math Quarterly Benchmark Scores

<table>
<thead>
<tr>
<th>Benchmark Levels</th>
<th>Married</th>
<th>Single/Divorced</th>
<th>Foster</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
</tr>
<tr>
<td>Advanced</td>
<td>5</td>
<td>12.8%</td>
<td>4</td>
</tr>
<tr>
<td>Proficient</td>
<td>22</td>
<td>56.4%</td>
<td>12</td>
</tr>
<tr>
<td>Basic</td>
<td>11</td>
<td>28.2%</td>
<td>30</td>
</tr>
<tr>
<td>Below Basic</td>
<td>1</td>
<td>2.5%</td>
<td>6</td>
</tr>
</tbody>
</table>
Table 3.2

Second Quarter

5th Grade Math Quarterly Benchmark Scores

<table>
<thead>
<tr>
<th>Benchmark Levels</th>
<th>Married</th>
<th>Single/Divorced</th>
<th>Foster</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
</tr>
<tr>
<td>Advanced</td>
<td>4</td>
<td>10.2%</td>
<td>4</td>
</tr>
<tr>
<td>Proficient</td>
<td>23</td>
<td>58.9%</td>
<td>10</td>
</tr>
<tr>
<td>Basic</td>
<td>10</td>
<td>25.6%</td>
<td>33</td>
</tr>
<tr>
<td>Below Basic</td>
<td>2</td>
<td>5.1%</td>
<td>5</td>
</tr>
</tbody>
</table>
### Table 3.3

**Third Quarter**

5th Grade Math Quarterly Benchmark Scores

<table>
<thead>
<tr>
<th>Benchmark Levels</th>
<th>Married</th>
<th></th>
<th>Single/Divorced</th>
<th></th>
<th>Foster</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
</tr>
<tr>
<td>Advanced</td>
<td>4</td>
<td>10.2%</td>
<td>3</td>
<td>5.7%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Proficient</td>
<td>22</td>
<td>56.4%</td>
<td>11</td>
<td>21.1%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Basic</td>
<td>12</td>
<td>30.7%</td>
<td>33</td>
<td>63.4%</td>
<td>2</td>
<td>40.0%</td>
</tr>
<tr>
<td>Below Basic</td>
<td>1</td>
<td>2.5%</td>
<td>5</td>
<td>9.6%</td>
<td>3</td>
<td>60.0%</td>
</tr>
</tbody>
</table>

As designated by the Missouri Department of Education, a standardized Communication Arts Acuity Benchmark score is defined below:

- **Advanced** is defined as a student achieving a score in the range of 704-855 and displays an advanced level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

- **Proficient** is defined as a student achieving a score in the range of 703-676 and displays a proficient level of knowledge and comprehension in the areas of reading, writing, main
idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

**Basic** is defined as a student achieving a score in the range of 631-676 and displays a basic level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

**Below Basic** is defined as a student achieving a score in the range of 505-630 and displays a below basic level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

The Quarterly Benchmark Exams are tests given to students once a quarter for quarters 1-3 from the testing design Acuity, which is a test making company that services many public schools as their exams are shown to align very closely with the MAP tests.

The significance level registers at .000 which is below the 0.05 standard of significance. (p<0.05). The F ratio scored a highly significant level of 14.158 between the groups for the first quarter, 8.599 for the second quarter and 11.758 for the third quarter benchmark math test. This output indicates that family demographics did have a significant effect on achievement on the Quarterly Benchmark Test in Math during the 5th grade school year. The null hypothesis of there is no difference between 5th grade students from two parent homes when compared academically with single and guardianship home students on the 5th grade quarterly math benchmark assessments is rejected.
To address Research Question Number Three: How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by Math quarterly benchmark assessments? The following three tables display the ANOVA output results for student scores and levels for the 6th grade math quarterly benchmark assessments.

Table 3.4

First Quarter

6th Grade Math Quarterly Benchmark Scores

<table>
<thead>
<tr>
<th>Benchmark Levels</th>
<th>Married</th>
<th>Single/Divorced</th>
<th>Foster</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
</tr>
<tr>
<td>Advanced</td>
<td>5</td>
<td>12.8%</td>
<td>3</td>
</tr>
<tr>
<td>Proficient</td>
<td>21</td>
<td>53.8%</td>
<td>11</td>
</tr>
<tr>
<td>Basic</td>
<td>13</td>
<td>33.3%</td>
<td>33</td>
</tr>
<tr>
<td>Below Basic</td>
<td>0</td>
<td>0.0%</td>
<td>5</td>
</tr>
</tbody>
</table>
Table 3.5

Second Quarter

6th Grade Math Quarterly Benchmark Scores

<table>
<thead>
<tr>
<th>Benchmark Levels</th>
<th>Married</th>
<th>Single/Divorced</th>
<th>Foster</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
</tr>
<tr>
<td>Advanced</td>
<td>4</td>
<td>10.2%</td>
<td>3</td>
</tr>
<tr>
<td>Proficient</td>
<td>15</td>
<td>38.4%</td>
<td>10</td>
</tr>
<tr>
<td>Basic</td>
<td>15</td>
<td>38.4%</td>
<td>34</td>
</tr>
<tr>
<td>Below Basic</td>
<td>5</td>
<td>12.8%</td>
<td>5</td>
</tr>
</tbody>
</table>
Table 3.6

Third Quarter

6th Grade Math Quarterly Benchmark Scores

<table>
<thead>
<tr>
<th>Benchmark Levels</th>
<th>Married</th>
<th>Single/Divorced</th>
<th>Foster</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
</tr>
<tr>
<td>Advanced</td>
<td>4</td>
<td>10.2%</td>
<td>1</td>
</tr>
<tr>
<td>Proficient</td>
<td>24</td>
<td>61.5%</td>
<td>22</td>
</tr>
<tr>
<td>Basic</td>
<td>11</td>
<td>28.2%</td>
<td>26</td>
</tr>
<tr>
<td>Below Basic</td>
<td>0</td>
<td>0.0%</td>
<td>3</td>
</tr>
</tbody>
</table>

As designated by the Missouri Department of Education, a standardized Communication Arts Acuity Benchmark score is defined below:

**Advanced** is defined as a student achieving a score in the range of 704-855 and displays an advanced level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

**Proficient** is defined as a student achieving a score in the range of 703-676 and displays a proficient level of knowledge and comprehension in the areas of reading, writing, main
idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

**Basic** is defined as a student achieving a score in the range of 631-676 and displays a basic level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

**Below Basic** is defined as a student achieving a score in the range of 505-630 and displays a below basic level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

The significance level registers at .000 for both the first and second quarter and .001 for the third quarter which is below the 0.05 standard of significance. (p<0.05). The F ratio scored highly significant levels of 13.631 between the groups for the first quarter, 12.867 for the second quarter and 7.023 for the third quarter benchmark math test. This output indicates that family demographics did have a significant effect on achievement on the Quarterly Benchmark Test in Math during the 6th grade school year. The null hypothesis of there is no difference between 6th grade students from two parent homes when compared academically with single parent and guardianship student homes on the 6th Grade Math Quarterly benchmark Assessments is rejected.

To Address Research Question Number Four: How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by Communication Arts quarterly benchmark assessments? The
following three tables tabulated from the ANOVA output display the results of the student scores by each quarter and level of performance.

*Table 4.1*

First Quarter

5th Grade Communication Arts Quarterly Benchmark Scores

<table>
<thead>
<tr>
<th>Benchmark Levels</th>
<th>Married</th>
<th></th>
<th>Single/Divorced</th>
<th></th>
<th>Foster</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
</tr>
<tr>
<td>Advanced</td>
<td>1</td>
<td>2.5%</td>
<td>1</td>
<td>1.9%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Proficient</td>
<td>22</td>
<td>56.4%</td>
<td>30</td>
<td>57.6%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Basic</td>
<td>16</td>
<td>41.0%</td>
<td>19</td>
<td>36.5%</td>
<td>5</td>
<td>100.0%</td>
</tr>
<tr>
<td>Below Basic</td>
<td>0</td>
<td>0.0%</td>
<td>16</td>
<td>30.7%</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
Table 4.2

Second Quarter

5th Grade Communication Arts Quarterly Benchmark Scores

<table>
<thead>
<tr>
<th>Benchmark Levels</th>
<th>Married</th>
<th></th>
<th>Single/Divorced</th>
<th></th>
<th>Foster</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
</tr>
<tr>
<td>Advanced</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Proficient</td>
<td>16</td>
<td>41.0%</td>
<td>21</td>
<td>40.3%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Basic</td>
<td>23</td>
<td>58.9%</td>
<td>28</td>
<td>53.8%</td>
<td>4</td>
<td>80.0%</td>
</tr>
<tr>
<td>Below Basic</td>
<td>0</td>
<td>0.0%</td>
<td>28</td>
<td>53.8%</td>
<td>1</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
Table 4.3

Third Quarter

5th Grade Communication Arts Quarterly Benchmark Scores

<table>
<thead>
<tr>
<th>Benchmark Levels</th>
<th>Married</th>
<th></th>
<th>Single/Divorced</th>
<th></th>
<th>Foster</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
</tr>
<tr>
<td>Advanced</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Proficient</td>
<td>16</td>
<td>41.0%</td>
<td>21</td>
<td>40.3%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Basic</td>
<td>23</td>
<td>58.9%</td>
<td>26</td>
<td>50.0%</td>
<td>4</td>
<td>80.0%</td>
</tr>
<tr>
<td>Below Basic</td>
<td>0</td>
<td>0.0%</td>
<td>26</td>
<td>50.0%</td>
<td>1</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

As designated by the Missouri Department of Education, a standardized Communication Arts Acuity Benchmark score is defined below:

**Advanced** is defined as a student achieving a score in the range of 704-855 and displays an advanced level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.
**Proficient** is defined as a student achieving a score in the range of 703-676 and displays a proficient level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

**Basic** is defined as a student achieving a score in the range of 631-676 and displays a basic level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

**Below Basic** is defined as a student achieving a score in the range of 505-630 and displays a below basic level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

The significance levels of all three quarter tests (0.76, 0.70 and 0.88) register more than .05, (p>0.05). This results in levels that are not significant. The F ratio levels are low: 2.645, 2.742, and 2.490 which result in no significance levels registered between family demographics and achievement on the communication arts quarterly benchmark test during the 5th grade school year. Therefore the null hypothesis of there is no difference between 5th grade students from two parent homes when compared academically with single parent and guardianship home students on the 5th grade Communication Arts Benchmark Assessments is accepted.

To Address Research Question Number Four: How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by Communication Arts quarterly benchmark assessments? The
following three tables tabulated from the ANOVA output display the results of the student scores by each quarter and level of performance.

*Table 4.4*

First Quarter

6th Grade Communication Arts Quarterly Benchmark Scores

<table>
<thead>
<tr>
<th>Benchmark Levels</th>
<th>Married</th>
<th>Single/Divorced</th>
<th>Foster</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
</tr>
<tr>
<td>Advanced</td>
<td>1</td>
<td>2.5%</td>
<td>1</td>
</tr>
<tr>
<td>Proficient</td>
<td>15</td>
<td>38.4%</td>
<td>22</td>
</tr>
<tr>
<td>Basic</td>
<td>23</td>
<td>58.9%</td>
<td>28</td>
</tr>
<tr>
<td>Below Basic</td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 4.5

Second Quarter

6th Grade Communication Arts Quarterly Benchmark Scores

<table>
<thead>
<tr>
<th>Benchmark Levels</th>
<th>Married</th>
<th></th>
<th>Single/Divorced</th>
<th></th>
<th>Foster</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
</tr>
<tr>
<td>Advanced</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Proficient</td>
<td>22</td>
<td>56.4%</td>
<td>24</td>
<td>46.1%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Basic</td>
<td>17</td>
<td>43.5%</td>
<td>23</td>
<td>44.2%</td>
<td>4</td>
<td>80.0%</td>
</tr>
<tr>
<td>Below Basic</td>
<td>0</td>
<td>0.0%</td>
<td>5</td>
<td>9.6%</td>
<td>1</td>
<td>20.0%</td>
</tr>
</tbody>
</table>
### Table 4.6

**Third Quarter**

6th Grade Communication Arts Quarterly Benchmark Scores

<table>
<thead>
<tr>
<th>Benchmark Levels</th>
<th>Married</th>
<th></th>
<th>Single/Divorced</th>
<th></th>
<th>Foster</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
</tr>
<tr>
<td>Advanced</td>
<td>2</td>
<td>5.1%</td>
<td>2</td>
<td>3.8%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Proficient</td>
<td>20</td>
<td>51.2%</td>
<td>24</td>
<td>46.1%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Basic</td>
<td>17</td>
<td>43.5%</td>
<td>23</td>
<td>44.2%</td>
<td>5</td>
<td>100.0%</td>
</tr>
<tr>
<td>Below Basic</td>
<td>0</td>
<td>0.0%</td>
<td>3</td>
<td>5.7%</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

As designated by the Missouri Department of Education, a standardized Communication Arts Acuity Benchmark score is defined below:

**Advanced** is defined as a student achieving a score in the range of 704-855 and displays an advanced level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

**Proficient** is defined as a student achieving a score in the range of 703-676 and displays a proficient level of knowledge and comprehension in the areas of reading, writing, main
idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

**Basic** is defined as a student achieving a score in the range of 631-676 and displays a basic level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

**Below Basic** is defined as a student achieving a score in the range of 505-630 and displays a below basic level of knowledge and comprehension in the areas of reading, writing, main idea identification, grammar, construction of complex sentences, character traits and constructing complex sentences with diagrams.

The results of the ANOVA test show that both the first quarter and third quarter significant levels that score above the 0.05 standard of significance. (p>0.05). The second quarter benchmark test did register a score that was slightly higher than 0.05 (0.19). (p>0.05). All three F ratio scores fell well below the standard of significance (1.582, 4.136, 2.283). Therefore, the null hypothesis of there is no difference between 6th grade students from two parent homes when compared academically with 6th grade students from single or guardianship homes on the 6th grade Communication Arts Benchmark Assessments is rejected.

**Summary**

Chapter 4 provided a summary of the findings and an analysis of data from an ANOVA test used to determine if the dependent variable: student test scores, are affected by an independent variable: family structure. The data was tabulated and organized into a set of 16 tables to represent the scores on the Math MAP during the 5th grade and 6th grade school years, 6
quarterly benchmark math scores and 6 quarterly benchmark communication arts scores. A narrative of the results was provided after each table which explained the level of significance discovered after the ANOVA test was conducted. According to ANOVA, 14 of the 16 tests were found to be significant, meaning the independent variable (family structure) had a significant effect on the dependent variable (student test scores). Chapter 5 will contain the Findings, Conclusions, and Implications as a result of the tested data.
CHAPTER 5
FINDINGS, CONCLUSIONS, AND IMPLICATIONS

Based upon the research and the results posted in Chapter 4, this chapter will present the findings and observations identified after the organization of the data and interpretation was completed. A conclusion section will be presented to address each research question. Issues and suggestions will be discussed in the implications section and a future research section will identify and provide guidelines for any additional research that could be conducted regarding this topic and data. The chapter will conclude with a summary of the purpose, findings, and conclusion of the research.

Summary of the Study

In order to meet state requirements for teaching students while providing the appropriate education to every student, a more clear and concise framework needs to be analyzed that not only show how a student can learn but what are the challenges and situations that are hindering a student from learning. Since all students reside in a household situation, an area to investigate starts there. If a relationship exists between a student’s household and their individual achievement then we can focus time, money and resources into helping those family households who are identified as negatively affecting a student's achievement.

The literature review section of this research design focused on the different households that students live in and how those students achieve in school. Additional literature provided some of the current hypothesis about why certain students were not achieving as high as others.
Factors such as family income, available resources and parental guidance were all tested in various forms and each one was identified as having a significant relationship to student learning. Using that literature to guide this study, I was able to apply the same hypothesis to the selected small community school and test the theory that family demographics do affect student achievement.

Data was analyzed and tabulated through SPSS software and the results were organized into charts and tables for comparison with the research questions:

1) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes, as measured by the Math MAP?

**Hypothesis**

1A) There is no difference between 5th and 6th grade students from two parent homes when compared academically with single parent or guardianship homes on the Math MAP.

2) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes, as measured by the Communication Arts MAP?

**Hypothesis**

2A) There is no difference between 5th and 6th grade students from two parent homes when compared with single parent or guardianship homes on the Communication Arts MAP.

3) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by Math quarterly benchmark assessments?
Hypothesis

3A) There is no difference between 5th and 6th grade students from two parent homes when compared with single parent or guardianship homes on the math quarterly benchmark assessments.

4) How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by Communication Arts quarterly benchmark assessments?

Hypothesis

4A) There is no difference between 5th and 6th grade students when compared with single parent or guardianship homes on the communication arts quarterly benchmark assessments.

Findings

Ninety-six students were selected and demographic information and test results were collected during the 5th grade and 6th grade school years. After the data was collected and organized, SPSS was used to tabulate any relationships between the variables of family demographics and achievement. ANOVA was used to determine if a significant relationship existed between the variables. A total of four MAP scores were tested (5th and 6th grade Math and 5th and 6th grade Communication Arts) and 12 Benchmark test results (three-quarters of 5th Grade Math Scores, three-quarters of 6th Grade Math scores, three-quarters of 5th Grade Communication Arts and three-quarters of 6th Grade Communication Arts.) A grand total of 16 categories were tested which was the sum of all the MAP and Benchmark test results. After the initial ANOVA testing was complete, 14 out of the 16 tests showed levels of significance when
compared with family demographics which meant when the test results were labeled as the dependent variable and the student's family demographic was labeled as the independent variable, the end analysis from an ANOVA test was that 14 tests registered levels of significance by falling below the 0.05 standard of significance sum. (p< 0.05)

Once the ANOVA test was complete a trend was identified when comparing each group of family demographic student (married, single/divorced, foster) and their test results (advanced, proficient, basic, below basic). The following tabulation represents the inverse relationship among the groups, meaning the students from Married households had the highest percentage of test scores in the Advanced and Proficient levels then the other groups while also scoring the lowest percentage of scores in the Basic and Below Basic Levels. The Foster Household students had the highest percentage of test scores in the Below Basic Level while also registering the lowest percentage of test scores in the Advanced and Proficient Levels. The MAP Scores from the 5th and 6th grade tests concluded with the following results:

Table 5.1

<table>
<thead>
<tr>
<th>Math MAP 5th Grade</th>
<th>Advanced</th>
<th>Proficient</th>
<th>Basic</th>
<th>Below Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>41%</td>
<td>38%</td>
<td>17%</td>
<td>2%</td>
</tr>
<tr>
<td>Single/Div</td>
<td>19%</td>
<td>25%</td>
<td>48%</td>
<td>7%</td>
</tr>
<tr>
<td>Foster</td>
<td>0%</td>
<td>0%</td>
<td>40%</td>
<td>60%</td>
</tr>
</tbody>
</table>
Married household students registered the largest number and percentage of advanced and proficient scores on the 5th Grade MAP test and registering the lowest number and percentage scores in the basic and below basic levels. The Single/Divorced group of students scored the highest percentage of students in the Basic level while foster Student Households scored the highest level at the Below Basic Level.

Table 5.2

<table>
<thead>
<tr>
<th></th>
<th>Advanced</th>
<th>Proficient</th>
<th>Basic</th>
<th>Below Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>40%</td>
<td>51%</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>Single/Div</td>
<td>9%</td>
<td>38%</td>
<td>51%</td>
<td>0%</td>
</tr>
<tr>
<td>Foster</td>
<td>0%</td>
<td>0%</td>
<td>60%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Similar to the 5th Grade MAP score totals, the 6th Grade Math MAP totals identified the Married Household Students as scoring the highest percentage of scores in the Advanced and Proficient levels while scoring the lowest in the Basic and Below Basic Levels. The Single/Divorced Students were in the middle of the three groups by scoring the second highest in the Proficient Level and the Basic Level. The Foster Student Households had no one score in the Advanced or Proficient levels but were highest in the Basic and Below Basic Levels.
Table 5.3

Communication Arts MAP 5th Grade

<table>
<thead>
<tr>
<th></th>
<th>Advanced</th>
<th>Proficient</th>
<th>Basic</th>
<th>Below Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>28%</td>
<td>35%</td>
<td>25%</td>
<td>10%</td>
</tr>
<tr>
<td>Single/Div</td>
<td>17%</td>
<td>26%</td>
<td>42%</td>
<td>5%</td>
</tr>
<tr>
<td>Foster</td>
<td>0%</td>
<td>0%</td>
<td>20%</td>
<td>80%</td>
</tr>
</tbody>
</table>

As with the Math MAP results, the 5th grade Communication Arts MAP results identify the Married Household Students as scoring the highest percentage of scores in the Advanced and Proficient levels. The Single/Divorced Student Households registered the highest level in the Basic level while the Foster Household Students scored the highest levels in the Below Basic range.

Table 5.4

Communication Arts 6th Grade MAP

<table>
<thead>
<tr>
<th></th>
<th>Advanced</th>
<th>Proficient</th>
<th>Basic</th>
<th>Below Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>30%</td>
<td>41%</td>
<td>28%</td>
<td>0%</td>
</tr>
<tr>
<td>Single/Div</td>
<td>13%</td>
<td>25%</td>
<td>55%</td>
<td>5%</td>
</tr>
<tr>
<td>Foster</td>
<td>0%</td>
<td>0%</td>
<td>40%</td>
<td>60%</td>
</tr>
</tbody>
</table>

The 6th Grade Communication Arts results were the same as the other MAP scores tabulated with Married Household Students scoring the highest percentage in the Advanced and Proficient areas. Single/Divorced Household Students scored the highest level of Basic while the
Foster Household Students scored the highest in the Below Basic area.

*Table 6.1*

Quarterly Benchmark Findings for 5th Grade Math Quarters 1/2/3

<table>
<thead>
<tr>
<th></th>
<th>Advanced</th>
<th>Proficient</th>
<th>Basic</th>
<th>Below Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>12% / 10%/ 10%</td>
<td>56% / 58%/ 56%</td>
<td>28% / 25%/ 56%</td>
<td>2% /  5%/ 2%</td>
</tr>
<tr>
<td>Single/Div</td>
<td>7% / 7%/ 5%</td>
<td>23% / 19%/ 21%</td>
<td>57% / 63%/ 63%</td>
<td>11% /  9%/ 7%</td>
</tr>
<tr>
<td>Foster</td>
<td>0% / 0%/ 0%</td>
<td>0% / 0%/ 0%</td>
<td>20% / 60%/ 40%</td>
<td>80% /40%/60%</td>
</tr>
</tbody>
</table>

The scores from the 5th Grade Math Quarterly Benchmark Assessments show results that are consistent with the MAP scores. The Married Household Students scored the highest percentage of students in both the Advanced and Proficient Levels. The Single/Divorced Household Students scored the highest percentages in the Basic Level while the Foster Household Students scored the highest levels in the Below Basic Levels while registering no student scoring in the Advanced or Proficient Levels.

*Table 6.2*

Quarterly Benchmark Findings for 6th Grade Math Quarters 1/2/3

<table>
<thead>
<tr>
<th></th>
<th>Advanced</th>
<th>Proficient</th>
<th>Basic</th>
<th>Below Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>12% / 10%/ 10%</td>
<td>53% / 38%/ 61%</td>
<td>33% / 38%/ 28%</td>
<td>0% / 12%/ 0%</td>
</tr>
<tr>
<td>Single/Div</td>
<td>5% / 5%/ 1%</td>
<td>21% / 19%/ 42%</td>
<td>63% / 38%/ 50%</td>
<td>9% / 12%/ 5%</td>
</tr>
<tr>
<td>Foster</td>
<td>0% / 0%/ 0%</td>
<td>0% / 0%/ 20%</td>
<td>20% / 40%/ 60%</td>
<td>80% /60%/20%</td>
</tr>
</tbody>
</table>

The 6th Grade Math Quarterly Benchmark Results indicated a similar trend with the
Married Household Students scoring the highest percentage of students on the Advanced and Proficient Levels. The Single/Divorced Household Students scored the highest levels in the Basic Level and the Foster Household Students scored the highest levels in the Below Basic Level.

Table 6.3
Quarterly Benchmark Findings for 5th Grade Communication Arts Quarters 1/2/3

<table>
<thead>
<tr>
<th></th>
<th>Advanced</th>
<th>Proficient</th>
<th>Basic</th>
<th>Below Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>2% / 0% / 0%</td>
<td>56% / 41% / 41%</td>
<td>41% / 58% / 58%</td>
<td>0% / 0% / 0%</td>
</tr>
<tr>
<td>Single/Div</td>
<td>1% / 0% / 0%</td>
<td>57% / 40% / 41%</td>
<td>36% / 53% / 50%</td>
<td>3% / 5% / 9%</td>
</tr>
<tr>
<td>Foster</td>
<td>0% / 0% / 0%</td>
<td>0% / 0% / 0%</td>
<td>100% / 80% / 80%</td>
<td>0% / 20% / 20%</td>
</tr>
</tbody>
</table>

The 5th Grade Communication Arts Benchmark Results had a slight shift in findings but not enough to register any kind of significant relationship. The Married Household Students and the Single/Divorced Students had similar results in both the Advanced and Proficient Levels. This was the only scoring category where the Married Household Students registered a higher percentage of scores in the basic level then the Single/Divorced Household Students. This was also the only scoring category where the Foster Household Students achieved a higher percentage of scores in the basic level then the other two Student groups but they also had the highest percentage of students score in the Below Basic levels which is consistent with the rest of the overall findings.
Table 6.4
Quarterly Benchmark Findings for 6th Grade Communication Arts Quarters 1/2/3

<table>
<thead>
<tr>
<th></th>
<th>Advanced</th>
<th>Proficient</th>
<th>Basic</th>
<th>Below Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>2% / 0% / 5%</td>
<td>38% / 56% / 51%</td>
<td>58% / 43% / 43%</td>
<td>0% / 0% / 0%</td>
</tr>
<tr>
<td>Single/Div</td>
<td>1% / 0% / 3%</td>
<td>42% / 46% / 46%</td>
<td>53% / 44% / 44%</td>
<td>1% / 9% / 5%</td>
</tr>
<tr>
<td>Foster</td>
<td>0% / 0% / 0%</td>
<td>0% / 0% / 0%</td>
<td>100% / 80% / 100%</td>
<td>0% / 20% / 0%</td>
</tr>
</tbody>
</table>

The results of the 6th Grade Communication Arts Quarterly Benchmark Exams once again identify the Married Household Students as scoring the highest percentage in the Advanced Level, finishing just slightly ahead of the Single/Divorced Household Students. Both the Married Household Students and the Single/Divorced Household Students had similar percentages of scores in the Basic Level. The Foster Household Students had the highest percentage of scores in the Below Basic Level and had the highest number of scores in the Basic Level.

Conclusion

When aligned with each research question, the findings can be concluded based on the numerical data. How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes, as measured by the Math MAP? The 5th and 6th grade students from two parent homes had a significantly higher percentage of scores in the Advanced and Proficient Levels than students in the single-parent and guardianship households on the Math MAP test during the 5th grade and
sixth grade school years. The single parent household students scored the highest percentage in the Basic level on the 5th grade Math MAP while the guardianship students scored the highest percentage in the Below Basic Level during both tests.

The second research question: How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes, as measured by the Communication Arts MAP? The results of this study also showed that students from two parent households had the highest percentage of scores in the Advanced and Proficient levels when compared to single parent and guardianship household students during both MAP tests. Single parent students had the highest percentages in the Basic level while the guardianship students had the highest percentage in the Below Basic levels.

The third research question: How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by Math quarterly benchmark assessments? Consistent with the MAP test results, two parent students had the highest percentage of scores in both the Advanced and Proficient levels in each of the six quarters of the Math Benchmark exams. Single parent students had the highest percentage of scores in the Basic Level on 4 of the 6 quarters while the guardianship students scored higher percentages of Basic Level in the other 2 quarters. Guardianship students had the highest percentage of scores in the Below Basic level in each of the six tested quarters.

The fourth research question: How do 5th and 6th grade students from two parent homes compare academically with 5th and 6th grade students from single parent or guardianship homes as measured by Communication Arts quarterly benchmark assessments? The Communication Arts Benchmark exams had the closest percentages of comparison among the
three groups of students as opposed to the other tests. Two parent household students had the highest percentage of scores in the Advanced level in 3 of the six quarters by only one percentage point for one quarter and two percentage points in another quarter. Two parent students also had two quarters where there was no one scoring in the Advanced level (5th grade Communication Arts Benchmark Assessment) which is the only time that happened during the study. The Proficient levels had very similar percentages between the two parent students and the single parent students while the guardianship students had no one score in the Advanced or Proficient Levels. This was the only time that two-parent students scored higher percentages in the Basic level then single parent or guardianship students. Guardianship students had the highest percentage of scores in the Below Basic level in three of the six quarters which is the first time those students did not have the highest levels in all quarters. The Single parent students had the highest percentage of Below Basic scores in the other two quarters of testing.

Evidence from the Literature Review, as well as observation of the current trend of the family structure, most can agree that there is in increase in the number of different household types. How these different household types affect the students who reside in them in their achievement was reasonable endeavor to explore. Policies and laws have been designed and implemented to assist every type of family in order for each student to maximize their growth and potential in school. Assessments are necessary to measure each student's progress and the uniformity of those assessments allows for equal and valid comparison among the different student types.

Family structure is the most important influence in a child’s life and numerous research studies have been conducted that show a direct relationship between family demographics and student achievement. Researchers like Pong (1997), Devarics (2011), Grissmer (2000), Kirby
(2000) and others have presented results that prove how the impact of a student and the family demographic he or she resides with has a significant impact and relationship.

Students from Married Household Families scored much higher on the MAP and Quarterly Benchmark Assessments consistently. Students from Foster Households consistently scored the lowest levels in the Advanced and Proficient areas while registering the highest levels in the Below Basic Level, including having no Foster Student scoring in the Advanced Level on any of the Assessments. The trend seems to conclude that where students reside, and with whom, do have an impact on their achievement as identified by the ANOVA test and analysis of the assessment results.

The differences among the groups in assessment outcome were larger in the MAP tests then in the Quarterly Benchmark Tests. An example of this is the 6th Grade Communication Arts Quarterly Benchmark Exams where the Married Household Students scored 1% and 2% higher then the Single/Divorced Household Students on the Advanced Level but on the 6th Grade Communication Arts MAP there was a 17% difference between the same two groups in the Advanced level.

The family demographics perspective seems to be shared by our society with studies of the impact of the changing American Family by researchers like Casey (2011). Since this rapid change in the American Family is evident, it is important to address the impact that it has on education. Events both positive and negative in a child’s life directly affect how that child will perform in school. A study that identifies the relationships between student achievement and family demographics is important in order to inform lawmakers so policies and strategies can be formulated to focus on the family instead of the current attention placed on schools and teachers. It also helps identify which groups of students would be at risk for falling behind and more
educational resources can be earmarked for those family home students as researchers like Okpala (2002) have identified that family demographics with higher amounts of educational resources issued by government agencies and schools has a positive relationship with achievement in the classroom.

**Recommendations**

Researchers like Okpala (2002), and Devarics and O’Brien (2011) have researched the effects of parental interaction on student achievement and discovered that increased parental interaction has a positive effect on student achievement. School districts can use increased interaction with single/divorced and foster guardianship home students with support staff, tutors and reading specialists to fill the gap left open by an absent parent in the household. Money and educational resources like laptops, internet access, DVDs and other multimedia tools can be issued to these students to alleviate the monetary disadvantages that these students also face as opposed to two-parent home students. After identifying a relationship between family demographics and student achievement, then the next step would be to identify which groups of students are not performing at the appropriate levels of academic success. Once this identification is reached, then the next step is to increase interaction with staff and educational resources to those students until achievement levels can be improved. Through a collective effort from households, students, teachers, administrators and government officials, advances in educational performance for students in need can be improved.

**Implications**

The study identified relationships between students’ performances on the state mandated tests and the family demographics that each student lives among and it is important to share that
information with current law makers. Public schools have been under scrutiny over the past several years as states have pushed to pass legislation that adds more pressure on teachers and administrators. While the issues of how to address schools which seem to produce a larger percentage of students who fail the state test is a difficult one, certainly more research like this one can help support policy decisions that target school districts and families. Focusing on types of families that students reside in may help explain gaps in achievement which can lead to policy change designed to help those families who are deemed as being at a higher risk of underachievement.

Based on this research, there was a significant relationship between the variables which would indicate that a student's family household type does have a positive or negative affect on their achievement on standardized testing which is the current measuring device for how well a student is performing in school. By identifying students early in their academic careers by family household, school districts might be able to focus more time and resources on those particular household groups in order to help them achieve at their maximum levels of success.

Several of the Literature Review findings support the same results found in this study. Grissmer, Kirby, Berends, and Williamson (2000) used a quantitative measuring system with a standard deviation scale to compare the different variables. Children living in two-parent homes scored .30 to .40 standard deviations higher than single-parent homes on the middle school to high school level standardized tests. The researchers also concluded that there was no significant finding when comparing the households with a mother who works and a mother who does not work.

The results of the Kim study (2008) indicate that factors such as the rapid increase of single parent families has directly affected student achievement in the classroom. Kim (2008)
reported that from 1960 to 2002 there was a 38.5% increase in the number of children born to unwed mothers. Parallel to this increase was the 33% increase in students repeating grades during the same 1960-2002 time frame.

Frerer (2013) also researched that students from Foster Households performed at much lower levels then other types of students on standardized testing. The results were consistent with the earlier studies of Pong (1997) and Devarsic and O'Brien (2011) who had also performed extensive research on single/divorced and foster student households. A significant relationship exists between student household types and achievement on standardized tests.

**Future Research**

Since the structure of the family has continued to evolve over the last several decades, it is imperative that we in the education profession keep up with the current trends that affect the way students perform in the classroom. This study classified three different types of family demographics: married, single/divorced and foster. Future studies should be utilized to identify additional family household types like students who reside with older siblings, students who reside with neighbors or close friends, and other types of blended style families. Selecting a sizeable number of students from these groups can then be studied and compared with the previous three households to check for further significance and relationships.

Another type of future study that would be beneficial would be to include students that live in blended households with one of their biological parents and one step parent who are married to one another. A study of this type would be useful in determining what significance might exist of a student living in a married household, regardless of it includes both biological parents or one biological parent and a step parent. A study of this type could also expand to
compare the students who reside in the same household.

Additional studies that isolate the different foster students would also benefit educational research. By comparing foster students who reside in a facility with those that live with foster families, a relationship could be identified which might ultimately lead to more time and resources focused on assisting these students during their academic careers. Many different types of foster family homes could be identified and studied: Foster with two married parental figures, foster with a single parental figure, foster with other children who reside in the home, foster with no other children in the home. With enough time and data, most family demographic types could be identified and included for research with the ultimate goal of finding significant relationships then exploring possible strategies to assist.

**Summary**

The purpose of this study is to discover which types of family demographics impact students that achieve at the highest levels on the state standardized test. By identifying the different types of family demographics and comparing those different types with one another using state test scores, we can hope to gain an understanding of how family demographics affect student achievement. Family demographics was tested as a possible contributing factor and was identified as to how and why some students achieve higher test scores than other students.

This study was designed to test for a relationship between the family demographics of a student and how well that student achieves in school using the MAP test as a variable. A comparison was made among the numerous family demographic types. After calculating the scores they were categorized to see which groups achieve at the highest levels and which score at the lower levels.
After an ANOVA test was conducted through the SPSS system, a significant relationship was identified between the dependent variable, MAP Test and Quarterly Benchmark Assessments, and the independent variable, family demographics. A trend was identified that students from married households had much higher percentages of scores in the Advanced and Proficient Levels of Assessments then the other two studied groups while also scoring the lowest percentage of scores in the Below Basic Level. Students from foster households had the lowest percentage of students score in the Advanced and Proficient Levels while scoring the highest of any group in the Below Basic Level.

Limitations of this study did include having a small sample size of students, especially in the foster/guardianship group, as well as the family structure information gathered and categorized from the Student Information System (SIS) was limited to what parents provide as information as a requirement for enrollment for their children in school. Despite these limitations, a significant relationship was found which will be helpful in future studies concerning family structures and student achievement. The limitations can be used to identify areas of the study that need improvement so a more comprehensive research design can be utilized that can assist educators and families about how best to serve students.

The results of this study show that in the selected school studied, the 5th/6th grade students have their academic achievement affected by the household type they reside in. This discovery will be beneficial in identifying at risk programs to help those students improve in their achievement. The goal of educators is to help each student achieve at their highest possible level and that can be made possible if we can first identify the obstacle in each students’ life that prohibit maximum performance in school.
References


VITA

Ben Johnson was born on October 12th, 1974, in Marion, Kentucky. After graduating from Sikeston High School in 1993 he received the following degrees: B.S. in Criminal Justice (1997) from Murray State University, and an M.A. in Educational Administration (2011) from Southeast Missouri State University. He is presently a Middle School Social Studies Teacher at the Arcadia Valley R2 School District in Ironton, Missouri.