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A STUDY ON THE IMPACT OF PARENTAL STRUCTURE  
ON HIGH SCHOOL STUDENTS' ACADEMIC PERFORMANCE

by  
Erica Rell

A Thesis

Submitted in partial fulfillment of the requirements of the  
Master of Arts in School Psychology Degree  
of  
The Graduate School  
at  
Rowan University  
May 2, 2007

Approved by

Date Approved May 2, 2007

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## ABSTRACT

Erica Rell

### A STUDY ON THE IMPACT OF PARENTAL STRUCTURE ON HIGH SCHOOL STUDENTS' ACADEMIC PERFORMANCE

2006/07

Drs. Frank Epifanio & Roberta Dihoff  
Master of Arts in School Psychology

The purpose of this study was to examine the differences in the cumulative GPAs and highest combined SAT scores of students from varying backgrounds and parental structures. A total of 83 participants (36 males and 47 females) from a southern New Jersey Catholic high school were surveyed concerning their individual type of parental structure, their cumulative GPA, as well as their highest combined SAT score and individual SAT test scores. Results showed that the interaction between gender and type of parental structure did not have a significant impact on cumulative GPA, on SAT verbal scores, on SAT math scores, on SAT writing scores, or on total combined SAT scores. A correlation matrix was performed to analyze interactions between variables, which yielded no significant relationships between any of the variables in the study. However, it was found that males outscored females on all SAT categories; however, females achieved a higher average cumulative GPA than males in the study. The limitations in this study were numerous; the population studied, time constraints imposed, possible compounding factors unaccounted for, and limited return rate each had a definite impact on the results of the study.

## ACKNOWLEDGEMENTS

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## CHAPTER I: INTRODUCTION

### Need

Education is of primary importance in a young person's life. An individual's ability to learn and produce meaningful work can be affected by many things during the course of his or her academic life. One major factor influencing a young person's level of achievement in the school environment is the amount of support and interaction the student receives in the home. The parental structure specifically is of supreme importance in influencing a student's academic drive, performance, and ultimate achievement level.

Contemporary society is very diverse in terms of home environment. Children today are being raised by single parents, working parents, and various relatives more and more frequently. The traditional family of the father working to 'bring home the bacon' and the mother staying home to care for the children and the household is a thing of the past. Children who are being raised by a single parent or other relative or guardian may be suffering academically and intellectually due to a lack of quality time and stimulation in the home. Research has shown that the home environment is significant to a child's ability to learn and achieve; children in single-parent families have more of an educational disadvantage than children in dual-parent families (Pong & Ju, 2000). In addition, similar research has shown that children living in two-parent families in the United States receive more attention and assistance when it comes to homework and test preparation (Beller & Chung, 1992; Bankston & Caldas, 1998).



While natural ability cannot be ignored, it is logical to assume that the home environment has some impact on a child's possible success. The nature vs. nurture debate comes into question here: Are naturally gifted children immune to the harmful effects of a 'bad home environment', or is every child susceptible to the influences of the home setting and the parental structure?

In addition to the aforementioned question, it has been shown that children's academic performances can also differ depending on the type of examination. More specifically, the cumulative GPAs of students and their highest combined SAT scores can be quite different from one child to another. Many students perform very well in the classroom but fail miserably on standardized tests, while others perform in the opposite fashion. Some students perform admirably on both types of assessments, and yet others cannot seem to succeed on either. Research is needed to examine the impact of the parental structure on students and the effect this home environment has on children's performances both in the classroom and on standardized tests.

#### Purpose

The purpose of this study was to examine the differences in the cumulative GPAs and highest combined SAT scores of students from varying backgrounds and parental structures. Students were surveyed concerning their individual type of parental structure, their cumulative GPA, as well as their highest combined SAT score.

#### Hypothesis

It was hypothesized that students who live in two-parent homes will have a higher cumulative GPA than those students who currently live in single parent homes or live with another relative or guardian. In addition, it was hypothesized that students

who live in two-parent homes and single-parent homes, with either the mother or father, will have higher combined SAT scores than students who live with another relative or guardian.

#### Theory/Background

The impact of family structure on children's academic performance and achievement has been a heavily studied topic over the recent past. With the growing divorce rate and the commonness of single parenthood in society today, research is necessary to determine what, if any, effects children are experiencing due to the life decisions of their parents.

Researchers have been on both sides of the fence when it comes to the issue of parental effects on student performance. Some researchers have argued that the strongest impacts that single parenthood have on a child are the financial disadvantage and lack of resources that this family has as opposed to a traditional two-parent family (Ricciuti, 2004; Biblarz & Raftery, 1999). On the contrary, some researchers have claimed that the most significant impact lies in the emotional distress that comes with a divorce (Amato, 2001), or with the increased stress of everyday life while living in a single-parent home.

Mulkey, Crain, & Harrington (1992) performed a study to evaluate the effects of one-parent households on high school students' grades and test scores. The researchers acknowledged that students in one-parent homes are disadvantaged in many ways and for myriad reasons, and that no one particular reason can be proven to have the most harmful effect on such students (p. 48).

Mulkey et al (1992) found that the absence of two parents in the home had a strong effect on children's test scores as well as GPAs (p. 56). Test scores and GPAs

were significantly lower in homes with one parent as opposed to those of students in dual-parent homes (p. 60). The researchers could not point to a specific cause of the reduced academic performance in students with one parent; however, they suggested that the lack of two parents may have an adverse effect on student's efforts and motivation to perform well in the classroom (p. 59). Their findings were consistent with contemporary research on this topic.

#### Definition of Terms

1. Parental Structure- This is the type of guardianship that is present in the home. It includes two-parent homes, single parent homes (either maternal or paternal), other relative guardian, such as an aunt, uncle, or grandparent, or other non-related guardian, such as a foster home. This term is also interchangeable with the terms 'family structure', 'parental unit', 'parental environment', and 'home environment' for the purposes of this study.
2. Two-parent home – For the purposes of this study, a two-parent home is considered to be any of the following: two natural parents, one natural parent and one step-parent, one natural parent and that parent's significant other who lives in the home, or two same-sex parents. A two-parent household is defined by two parental figures living under the same roof as the student the majority of the time.
3. GPA – This stands for 'grade point average'.
4. Cumulative GPA- For the purposes of this study, the cumulative GPA of each student is considered to be the accumulation of grades from the student's high school career, up to when the survey was given. For example, when the students in this study were surveyed, they were asked to report their cumulative GPA as of the end of the first semester of the 2006-2007 school year, which was

in January 2007. This would mean that the students in the study were reporting their cumulative GPA from September 2003 through January 2007.

5. SAT – The SAT stands for the ‘scholastic aptitude test’, which students are required to take in high school before applying for admission to college.

6. Combined SAT score- For the purposes of this study, the combined SAT score is considered the combined values of each student’s highest math section score, highest verbal section score, and highest writing section score to date. For example, if a student took the SAT test three times, their highest combined SAT score would be the combination of scores from the highest math section, the highest verbal section, and the highest writing section.

7. Socioeconomic Status – The New Dictionary of Cultural Literacy defines this as “An individual’s or group’s position within a hierarchical social structure. Socioeconomic status depends on a combination of variables, including occupation, education, income, wealth, and place of residence”. Sociologists often use socioeconomic status as a means of predicting behavior. This term can be abbreviated by using ‘SES’, and is interchangeable with this abbreviation.

#### Assumptions

In this experiment, it was assumed that all the students surveyed had taken the SAT test at the time the survey was given. It was also assumed that the students correctly reported their cumulative GPAs and highest combined SAT scores. Finally, it was assumed that the students who took the survey understood the questions being asked and correctly reported their current parental structure.

## Limitations

A few limitations should be noted in this study. The population that was studied was limited to one school, and one grade level within that school. Also, due to the large sample size that was used, it was not timely to interview each student individually. This is a limitation in that the students used in the experiment were relied upon to provide accurate, truthful answers. It could be considered a limitation if any of the students surveyed did not fully understand the questions being asked of them, and in turn reported inaccurate information. Another limitation that should be considered in the study was the inability to control certain variables, including race, socioeconomic status of the family, or the effects of divorce in step-parent or single parent homes that may have had an impact on the students' academic performances.

## Summary

Chapter II consists of a review of the relevant research that has been done on the subject of family structures and their influence on children's academic performance. This research includes studies on the varying achievement levels of students living in both single- and dual-parent families. Chapter III includes a description of the study's design and the methodology used in gathering data. Chapter IV consists of an assessment of the results of the study. Chapter V discusses the major findings in the study and any conclusions that may be drawn from these findings. This chapter also informs the reader of possible limiting factors and contains suggestions for future research on this topic.

## CHAPTER II: REVIEW OF THE LITERATURE

### Introduction

The research presented within is discussed from the most general to the most specific regarding the topic being studied. The general research includes factors that have major effects on students' academic performance, differences within and between age groups and grade levels as they pertain to academic performance, as well as the factors that affect this performance. General research will also note the effects of family structures on the varying academic performances of students in the United States compared to those in other countries. More specific research focuses on the multiple factors effecting high school students' performances in the classroom, family structure, socioeconomic status, and their combined effects on children's academic performance, and the effects of varying family structures on high school students' performances.

### Research on General Factors Affecting Student Achievement

Much research has been conducted in recent decades regarding students' academic performances and the factors that have an effect on these performances. One of the most consistent findings has been the negative effects that growing up in poverty has on children throughout their lives. Studies have shown that growing up in poverty has an adverse effect on children's subsequent academic achievement (Morris & Gennetian, 2003), as well as the likelihood to drop out of school early (Pong & Ju, 2000). The lack of resources that comes with living in poverty has consistently been shown to hinder children's development and ultimate achievement.

In addition to growing up in poverty, research has shown that the area in which one grows up can affect a child's later academic performance. Greenwald, Hedges, & Laine (1996) performed a meta-analysis on the effects of school resources on student achievement. The researchers looked at 60 studies previously conducted and analyzed the results from those studies. They found that the majority of educational resources were found in small, suburban school districts, and that rural and urban schools were lacking such resources (p. 383). This is consistent with contemporary research that points to the lack of resources in urban schools, where poverty is primarily concentrated, as a major factor in students' low academic performance.

Another major factor that can be attributed to students' academic success and achievement is parental involvement in the child's school life. Fan & Chen (2001) performed a meta-analysis on the effects of parental involvement on students' academic performance. The study found a positive relationship between parental involvement and students' achievement in the classroom, particularly in the area of GPA as compared to a specific subject, such as a math grade. The study also found that the strongest relationship existed between a parent's aspirations and motivation and the student's academic achievement, while the weakest relationship was between parental supervision in the home and student academic achievement (p. 18). This study provides evidence that parental involvement does have an impact on students' academic achievement.

#### Research on Academic Achievement in Elementary School Students

The majority of research performed on the topic of academic achievement in children has been in the high school population. However, it is safe to assume that

elementary school-aged children are affected by many factors both inside and outside the home, and these factors play a role in children's academic performance. It is also safe to assume that factors that affect elementary school children can have lingering effects and become factors that effect academic achievement in subsequent years.

Gennetian (2005) performed a study looking at different family types and the impact the family has on young children's academic performance. The researcher looked at a variety of family structure types to determine which, if any, had an impact on children's (ages 5-10) academic achievement. Gennetian found that children who lived in a non-blended single-parent home (specifically, a non-married or re-married birth mother-headed family) were negatively effected in the classroom. The researcher attributed these findings to an assumed lack of financial resources in these homes, which is consistent with similar research findings in this area.

Jackson, Brooks-Gunn, Huang, & Glassman (2000) performed a study similar to Gennetian's (2005), which looked at the effects of living in a single female-headed home and how this impacts young children academically and emotionally. Jackson et al were interested in how parenting in these homes had an effect on children who were pre-school aged. The results of the study indicated that mothers who were working low-paying jobs and were financially struggling more often showed signs of depression, which in turn affected the parenting style they exhibited. This poor parenting had an adverse effect on the children in the home, and subsequently the children's performances declined in the classroom.

Pong (1997) examined the different family types emerging in the 20<sup>th</sup> and 21<sup>st</sup> centuries and the impact these changing family types have on academic performance of children. What Pong was interested in studying was the make-up of schools,



specifically the types and number of families within a school. Pong hypothesized that a school made up primarily of children from single-parent homes would be less likely to generate high academic achievement from its students.

Pong (1997) found significant evidence to support his claim that schools who educated a large population of students who come primarily from single parent families would be more detrimental to their students. He deduced this finding may be the result of the low socioeconomic make-up of the families in the school, based on the evidence that single-parent families are more economically disadvantaged than dual-parent families (p. 744).

#### Research on Academic Achievement Outside the United States

The majority of research on educational achievement and family structures has been conducted in the United States. Some researchers have suggested that the growing number of single parents in the U.S. may be the reason for declining academic achievement (Pong, Dronkers, & Hampden-Thompson, 2003). However, divorce and single parenthood are pervasive throughout the world and are becoming a more common phenomenon.

Ermisch & Francesconi (2001) studied the effects of living in a single-parent household during one's youth on subsequent educational success, economic activity, early child-bearing, distress, and smoking. This study was conducted in the United Kingdom, and the researchers gathered information that was submitted by their subjects from the British Household Panel Survey. The authors concluded from their research that the experience of life in a single-parent home was associated with disadvantageous outcomes for young children and adults (p. 262). Ermisch & Francesconi also determined that when there was disruption in the type of family

structure between the ages of 0-5, children were more strongly affected in terms of later academic achievement and emotional stability (p. 262).

Pong, Dronkers, & Hampden-Thompson (2003) performed a meta-analysis to determine cross-nationally how varied the academic achievement gap is between children who live in single-parent families versus two-parent families. The researchers looked at the math and science grades from The International Math and Science Study (TIMSS) that was conducted in 1995 (p. 686). The majority of the children who participated in this study were in either third or fourth grade (9-10 years of age) at that time.

What Pong, Dronkers, & Hampden-Thompson (2003) found was that the United States had the highest rate of single parent families, as well as the lowest rate of dual-parenthood (p. 689). In addition, American students from single parent homes scored an average of 28 points less in math and 32 points less in science than do children who live with both parents (p. 691), which was by far the largest gap of any country. The researchers surmised that because the United States has such higher rates of single parenthood than the other countries studied and the resources available to single parents in the United States are much fewer than in Europe, this is likely the reason for such a large gap in test scores.

The majority of research on parental structures and academic achievement has been between single- and two-parent families. However, a few studies compare the effects of dual parents and multiple parents in the same home. Elbedour, Bart, & Hektner (2000) conducted a study which measured the differences in children's academic achievement between monogamous and polygamous families in Israel.

While the practice of polygamy is neither common nor legal in the United States, it is practiced in other parts of the world. Based on previous research on this topic, one would assume that having more parental figures in the home would be more beneficial scholastically to the children in the home. However, the researchers hypothesized that monogamous families would offer more support to their children than polygamous families, and also that children from polygamous families were more at risk for academic dysfunction than children from monogamous families.

Elbedour, Bart, & Hektner (2000) sampled 240 students from four Bedouin high schools in Israel. The students self-reported their individual family structure and were assessed by their school records for their academic achievement in the areas of Arabic, English, Hebrew, and Mathematics. The researchers found that there were no significant differences between the two types of families in any subject except for Hebrew. Males who lived in a monogamous family were found to have significantly higher Hebrew scores than did females from a polygamous family (p. 510). Aside from this one subject, the researchers reported that children from monogamous and polygamous families exhibited relatively the same level of scholastic achievement (p. 511).

#### Research on Ethnic and Racial Differences and Academic Achievement

Research has found that children from different ethnic backgrounds tend to perform in varied degrees on academic achievement tests (Hong & Ho, 2005; Keith et al, 1998). Researchers have also found the concentration of African American students in schools has a negative effect on achievement, regardless of the socioeconomic status of the family or the school district (Caldas & Bankston, 1997).

Bankston & Caldas (1998) performed a study on the effects of race and ethnicity in addition to family structure regarding academic achievement. The researchers compared the results of White and African American students' test scores from the Louisiana Graduation Exit Examination that all graduating high school students must pass. Of the 18,310 participants, 71% of the African American students scored below the median, compared to 34% of White students.

When paired with parental structure, Bankston & Caldas (1998) found that there was a stronger negative relationship between academic achievement and family structure than between academic achievement and race (p. 719). The researchers concluded that the effects of living in a single parent-headed home had more of a detrimental affect than students' race, but added that the majority of students living in single parent-headed homes were African American students.

Battle (1998) performed a study aimed at determining the effects of living in single- versus dual-parent households on eighth grade African American students. Battle argued that most of the previous research on this topic had failed because no research had looked at a nationally representative sample of students or was properly controlled for socioeconomic variables. Battle looked at both standardized test scores and individual grades of each student, as well as a survey completed by a parent and a questionnaire completed by the students' teachers.

What Battle (1998) found was that at a low level of socioeconomic status, students from single-parent families outscored students from dual-parent families (p. 793). As SES increased, family structure became less of an indicating factor in academic performance (p. 793). At the highest level of SES, students in dual-parent families significantly outscored students from single-parent families (p. 793). Battle's

research is important in that he found evidence to support the claim that children from single-parent families do have a chance at success, as long as the SES in the household is sufficient and remains constant.

#### Research on Single-Parent Families Headed by Males

The majority of research on single parent families looks at the effects of living in a female-headed household. More children ultimately live in a female-headed home due to the fact that mothers are more likely to gain custody of a child in a divorce (Seltzer, 1991), or have children out of wedlock with no guaranteed support from the father. However, there are more and more single fathers raising children on their own in today's society (Downey, 1994).

Cooksey & Fondell (1996) examined the relationship between single fathers and their children, and the impact that this relationship has on the children's academic performances. The researchers hypothesized that single fathers would spend more time with their children than fathers who have an adult partner in the home. Their research found that single fathers did spend significantly more time with their children than did partnered fathers (p. 700), and that single fathers spend more activity and play time with their children (p. 701). However, in regards to academic performance, children in single father-headed families performed worse than children from dual-parent homes (p. 701). These findings support the theory that children from single-parent homes, regardless of the sex of the parent, fare worse in the classroom than children with two parents in the home.

Downey, Ainsworth-Darnell, & Dufur (1998) examined the effects of living in single-parent homes and the overall wellbeing of children in these homes. The researchers were interested in differences between children raised in female-headed

households versus male-headed households. They conducted their research by viewing standardized test scores for eighth grade children and giving the students a survey to complete, then performing a follow-up study two years later as a means to test for the child's wellbeing.

Downey et al (1998) found that children from single mother-headed homes scored higher on standardized tests than children from single father-headed homes (p. 887), once they controlled for socioeconomic variables. The researchers also determined that the wellbeing of a child did not vary from female-headed to male-headed households (p. 888).

#### Research on Effects of SES and Academic Achievement

Much research has been done on the impact of socioeconomic status on children's academic achievement (see Battle, 1998; Entwisle & Alexander, 1995; Beller & Chung, 1992). Many researchers point to low socioeconomic status as the primary reason for lowered academic achievement in single-parent homes. In fact, some researchers claim that over half of the problems stemming from single-parent homes come from economic deprivation (McLanahan & Sandefur, 1994).

Entwisle & Alexander (1996) studied the effects of family structure on achievement in the classroom and on standardized tests, and considered the impact of socioeconomic status on scholastic achievement as well. The researchers randomly selected 774 students from 20 schools, and looked at the children's classroom performance as reported by the teacher, the CAT tests (California Achievement Test), and a self-report questionnaire from the child's parent(s).

What Entwisle & Alexander (1996) found was that there were no effects for family type on reading scores or the standardized test scores in reading

comprehension when socioeconomic status was controlled (p. 348). However, when economic variables are taken into account, children in mother-only homes scored lower on both of these assessments than any other family type (p. 348).

Entwisle & Alexander (1996) saw the same relationship between family type and achievement in math scores. The researchers found the same economic disadvantage to children in single-mother families in regards to math scores (p. 349). Entwisle & Alexander also stressed the importance of parental expectations and the positive effect this has on academic achievement from students of all family types.

#### Research on Family Disruption, Divorce, and Academic Achievement

Many studies have looked at the impact of divorce on children's subsequent academic performance (see Amato, 2001; Jeynes, 2002; Zill, 1996). The bulk of the research in this area shows a negative impact of divorce on later academic performance in children.

Zill, Morrison, & Coiro (1993) examined the effects of divorce on young adult's academic achievement. The researchers studied 18-22-year olds whose parents had divorced before the child was 16 years of age as well as children whose families were still intact. Zill, Morrison, & Coiro found that children from divorced families were twice as likely to drop out of high school (p. 96). The researchers also found that parents divorcing earlier in a child's life (before six years of age) caused a more significant threat to the child's development in later years (p. 98).

Amato (2001) performed a meta-analysis of prior research on the outcomes for children who experience divorce. Amato had previously conducted a study on this topic in 1991 and updated his previous research to include statistics from the 1990s. What Amato found was that the negative effects of divorce for children academically

were weaker than in his previous research. His results indicated that the effects of divorce for children academically were worse prior to the 1980's than in the 1980's and 1990's (p. 362). Amato deduced that other variables that had not been accounted for in his previous studies, such as the time of the divorce in a child's life or the economic status of the parent, had an impact on these results.

Lansford et al (2006) conducted a study to determine whether the occurrence or timing of a parent's divorce was related to the trajectory of a child's grades. Lansford et al studied 194 children in kindergarten through 10<sup>th</sup> grade who had and had not experienced divorce or separation in the home. The researchers found the later in the child's life that a divorce or separation occurred the more negative an effect it had on a child's grades (p. 297). One of the implications of this study is that adolescents may benefit more from interventions focused on promoting academic achievement rather than young children.

### Summary

Research on family structures and their relation to academic achievement in children is very diverse. The research presented in this study indicates several things. In the majority of studies, children living in a single-parent home are disadvantaged when it comes to resources, support, and encouragement. This effect seems to increase negatively when the child experiences divorce or separation in the home during childhood and adolescence. In addition, the socioeconomic status of the family has a major effect on the academic achievement levels of students in the home, which in some cases negates the effects of living in a single-parent home. The research on the effects of single-parenthood and children's academic achievement



throughout the world and involving different ethnicities are consistent with that performed in the United States.

## CHAPTER III: DESIGN

### Participants

The participants in this study consisted of senior high school students from a Catholic high school in southern New Jersey. For the 2006-2007 academic year, there are a total of 245 students in the senior class, 126 males and 119 females. The age of the subjects ranged from 17-19 years old at the time of the study. The racial and ethnic make-up of the school is very diverse. The school's entire student population for the 2006-2007 academic year consists of 71% Caucasian, 12% African American, 2% Asian, 13% Latino, and 2% multiethnic. This racial and ethnic diversity is also reflected within the individual classes in the school. The senior class population consists of 181 Caucasian students, 22 African American students, 31 Latino students, 8 Asian students, and 3 multiracial students.

Each student was required to hand in a signed parental consent form and informed consent form prior to participating in the study. Students were only given a survey to complete once they had turned in their signed consent forms. Not every student returned his/her signed parental consent form on the day the survey was given, which caused the total number of participants in the study to drop. While there are 245 students in the entire senior class, only 112 students returned their parental consent form for participation.

In addition to this decreased number of students, not every participant filled out the survey completely. A number of participants left one or more questions blank or incorrectly answered the question being asked, which in turn made their survey

null and void. The number of surveys that were discounted due to incompleteness was 29. In total, the actual number of participants in the study was 83, 36 males and 47 females. Because each subject was given a survey to complete, there were no control or experimental groups.

### Materials

Students were given a parental consent form to participate in the study on a Friday, one week prior to the study taking place. They were instructed to have their parent/guardian read, complete, and sign the consent form and bring it to class with them on the following Friday, when the survey would be completed. In addition, on the reverse side of the parental consent form, the informed consent form for the participant was located. The student was instructed to read and sign this side of the form as well. Both of these consent forms were composed by the researcher.

A survey was also composed by the researcher which asked for information from the subjects about their individual family structure as well as current cumulative GPA and highest combined SAT score to date (see appendix). Each student was only given the survey to complete once they had returned a signed parental consent form and informed consent form.

The survey consisted of questions regarding demographic information, specifically the student's age, grade level, and gender. The survey also asked the participant to check the box of the type of parental structure in which he/she currently lives, leaving room for a description if one was necessary. Lastly, the survey asked each student to report their current cumulative grade point average and highest combined SAT score to date. The researcher was present the entire time the survey

was being completed by the subjects and was available to answer any questions during that time.

#### Reliability/Validity of Scales

The survey that was given to the participants was composed by the researcher. It has never been used before this study. Because of this, there is no reliability or validity that can be given to the survey, other than the face validity. The face validity was assessed by the administration of the school where the study was conducted as well as by the researcher's supervising faculty member. All parties who assessed the survey found the survey at face value to be acceptable and valid.

#### Method

The current study was performed at a Catholic high school in southern New Jersey. Before the study was to take place, the researcher presented the thesis idea to the administration of the school in an effort to obtain permission to conduct the research within the school. Permission was granted by the administration, and consent was given to conduct the study using the senior class as subjects. At this particular school, the one of two classes that every senior student is required to take is a prescribed religion class. Because of this, it was decided that the best time for the study to be conducted would be in these religion classes.

Prior to the study taking place, parental consent/informed consent forms were distributed to the teachers of the eight senior religion classes. The teachers were each given the same written instructions to distribute the consent forms to the students on a Friday, and the survey would be conducted on the following Friday. The teachers were instructed to have the students read the form and take it home to have their parent or guardian read and sign the parental consent side of the form. The students

were also instructed to read the informed consent side of the form and sign and date this side themselves. The teachers were instructed to remind the students each day during that week that the survey was being conducted on Friday and they were to return their consent forms on or before that day.

On the Friday that the survey was to be conducted, the researcher went to the first senior religion class that was being held that day, introduced herself to the class, and asked if any students had any questions about the consent form or the study itself. If so, questions were addressed before beginning the survey. She then collected the completed consent forms that were available.

Once any questions were answered, each student who handed in a signed parental consent form/informed consent form was given a survey. Only the students who returned their signed consent forms were given a survey to complete; any student who did not hand in the consent form was excluded from the study. The surveys were distributed and collected randomly to ensure anonymity.

Once the surveys were collected, the students were given the opportunity to ask any questions or voice any concerns about the study in which they had just participated. This process was repeated for each of the senior religion classes until all the classes had been visited and surveyed.

#### Independent and Dependent Variables

In this study, the independent variable was the type of parental structure in which each subject currently lives. This can be a two-parent family, a single-parent family, another relative guardian, or a non-relative guardian. The dependent variables in this study were each subject's highest SAT math score, highest SAT verbal score,

highest SAT writing score, highest combined SAT score, and their individual cumulative GPA at the time the study was conducted.

As stated previously in this study, it was hypothesized that students who live in two-parent homes will have a higher cumulative GPA than those students who currently live in single parent homes or live with another relative or guardian. In addition, it was hypothesized that students who live in two-parent homes and single-parent homes, with either the mother or father, will have higher combined SAT scores than students who live with another relative or guardian.

#### Analysis of Data

The data was collected on a survey completed by each subject. The data were coded and combined, and analyses were performed to determine if any correlations could be made. A one-way, between groups analysis of variance test was performed on the data at the .05 significance level. In addition, the mean scores from each dependent variable were calculated.

Each independent variable in the study was analyzed by determining the average of the dependent variables within that group. More specifically, for the family structure labeled 'two-parent family', the average cumulative GPA and average SAT scored was calculated, and so on with the other family structure categories. In addition, an independent samples t-test was performed within each independent variable to test for significance at the .05 level within that group.

#### Summary

In this study, students from a Catholic high school in southern New Jersey were asked to complete a survey about their individual family structures, SAT scores, and cumulative GPAs. The survey was handed out to those students who returned

their signed parental consent form/informed consent form during his/her religion class. Each subject's self-report survey was anonymous. The surveys were distributed and collected randomly to ensure anonymity.

Once surveys were completed and collected, the researcher performed a two-way, between subjects analysis of variance at the .05 level to test for significant differences in GPAs and SAT scores between parental structures and gender. A correlation matrix was also performed to test for significant interaction between variables.

Once again, it was expected that students who live in two-parent homes will have a higher cumulative GPA than those students who live in single parent homes or live with another relative or guardian. Additionally, it was expected that students who live in two-parent homes and single-parent homes, with either the mother or father, would have higher combined SAT scores than students who live with another relative or guardian.

## CHAPTER IV: RESULTS

### Introduction

The purpose of this study was to examine the differences in the cumulative GPAs and highest combined SAT scores of students from varying backgrounds and parental structures. Students were surveyed concerning their individual type of parental structure, their cumulative GPA, as well as their highest combined SAT score. It was hypothesized that students who live in two-parent homes will have a higher cumulative GPA than those students who live in single parent homes or live with another relative or guardian. Also, it was hypothesized that students who live in two-parent homes and single-parent homes, with either the mother or father, would have higher combined SAT scores than students who live with another relative or guardian.

### Results

In this study, students from a Catholic high school in southern New Jersey were asked to complete a survey about their individual family structures, SAT scores, and cumulative GPAs. The survey was handed out to those students who returned their signed parental consent form/informed consent form during his/her religion class. There was a total of 83 participants, 36 males and 47 females.

Of the 83 participants, results showed that 63 students lived with both biological parents, which was 75.90% of the subjects. Five of the participants lived with one biological parent and one step-parent, making up 6.02%. In addition, 10 students lived with their biological mother only, which was 12.05%, while 2



participants lived with their biological father only, making up 2.41%. One participant in the study lived with another relative guardian, which was 1.20% of the population surveyed. Finally, 2 participants lived in another type of parental structure, or 2.41%. None of the participants lived with one biological parent and that parent's significant other.

A two-way analysis of variance was conducted to determine possible significance between groups. The results are as follows: the interaction between gender and type of parental structure did not have a significant impact on cumulative GPA,  $f(2,0) = .129, p = .879$ . The interaction between gender and type of parental structure also did not have a significant impact on SAT verbal scores,  $f(2,0) = 1.775, p = .177$ , on SAT math scores,  $f(2,0) = .035, p = .966$ , on SAT writing scores,  $f(2,0) = .591, p = .556$ , or on total combined SAT scores,  $f(2,0) = .798, p = .454$ .

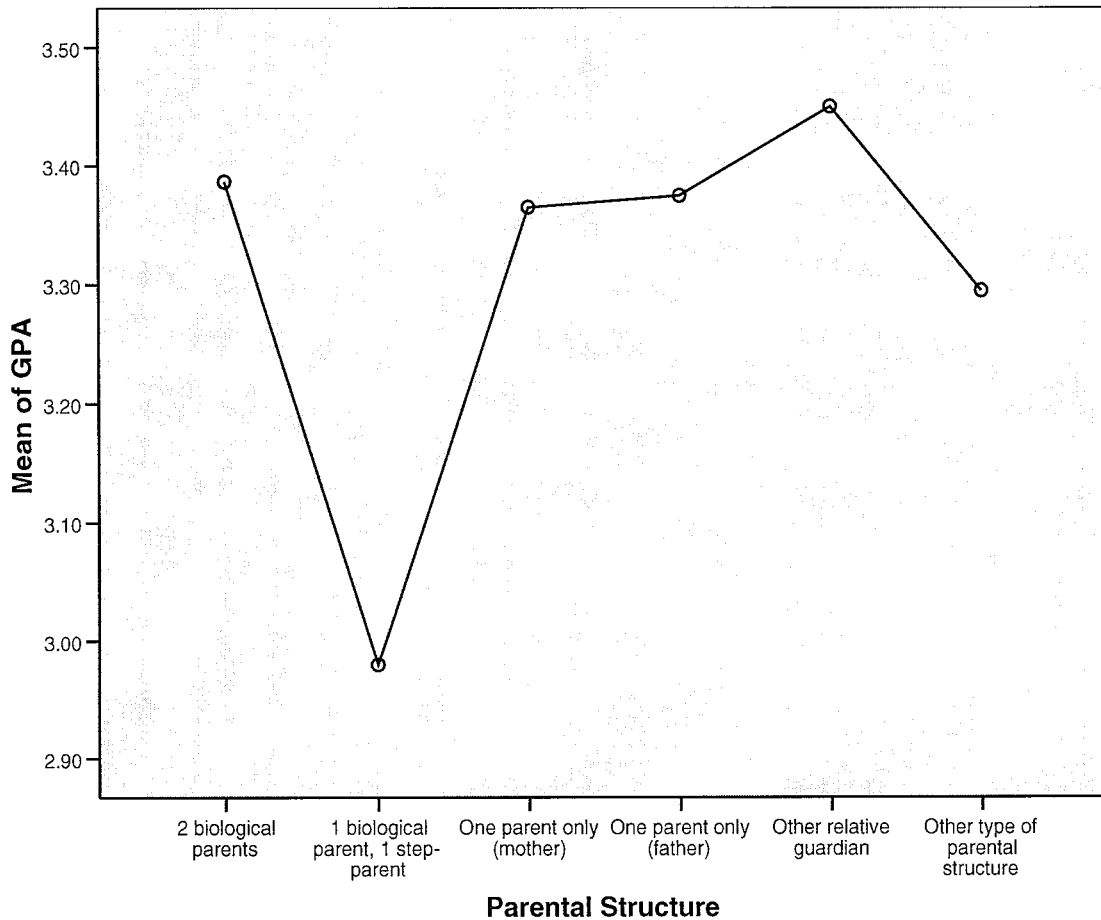
A correlation matrix was performed to analyze interactions between variables. The results of this test show that no significant relationships exist between any of the variables in the study. Regarding gender, results are as follows: no significant relationship exists between gender and type of parental structure,  $r = .000, p = .997$ ; no significant relationship exists between gender and cumulative GPA,  $r = .185, p = .094$ ; no significant relationship exists between SAT math scores and gender,  $r = -.198, p = .073$ ; no significant relationship exists between gender and SAT verbal scores,  $r = -.078, p = .482$ ; no significant relationship between gender and SAT writing scores,  $r = -.075, p = .499$ ; and no significant relationship exists between gender and total combined SAT scores,  $r = -.142, p = .202$ .

Similarly, the results of the correlation matrix in regards to type of parental structure are as follows: no significant relationship exists between type of parental

structure and cumulative GPA,  $r = -.026, p = .814$ ; no significant relationship exists between type of parental structure and SAT math scores,  $r = .042, p = .708$ ; no significant relationship exists between type of parental structure and SAT verbal scores,  $r = .005, p = .962$ ; no significant relationship exists between type of parental structure and SAT writing scores,  $r = .029, p = .792$ ; and no significant relationship exists between type of parental structure and total combined SAT scores,  $r = .022, p = .843$ .

Mean cumulative GPA was highest among students with other types of relative guardianship, followed closely by the mean cumulative GPA for students living with two biological parents (see figure 4.1). Mean cumulative GPA score for students living with another type of relative guardian was 3.45, while the mean cumulative GPA score for students living with two biological parents was 3.39. Additionally, mean cumulative GPA scores for students living with one parent only were very similar for students living with their mother only compared to students living with their father only. Mean cumulative GPA for students living with their mother only was 3.37, while mean cumulative GPA for students living with their father only was 3.38. Students living with one biological parent and one step-parent scored a mean cumulative GPA of 2.98, and students living in any other type of parental structure had a mean cumulative GPA of 3.30.

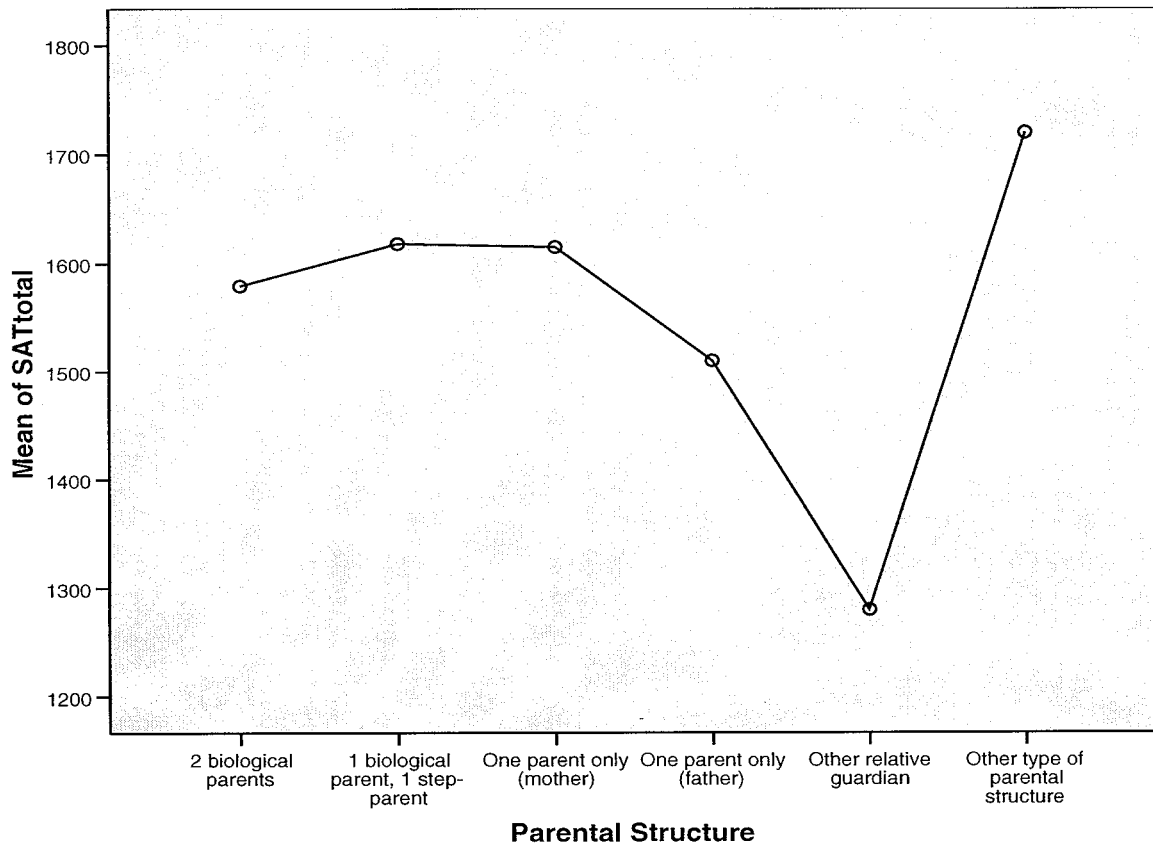
Figure 4.1 Mean cumulative GPA scores for varying types of parental structures.



Mean total combined SAT scores were highest by far among students living in a household with an alternative type of parental structure (see figure 4.2). The mean total combined SAT scores for students living in an alternative type of parental structure was 1720, while students living with another relative guardian were much lower, totaling 1280. Students living with their mother only had a mean total combined SAT score of 1615, and students living with their father only had a mean total SAT score of 1510. Students living with two biological parents had a mean total

SAT score of 1580, and finally, students living with one biological parent and one step-parent achieved a mean total SAT score of 1618.

Figure 4.2 Mean total combined SAT scores for varying types of parental structures.



In regards to gender, females scored a higher average cumulative GPA than males, obtaining average scores of 3.45 and 3.24, respectively. However, males outscored females in every other category. Males scored higher in their total combined SAT scores than females, obtaining an average score of 1621, while females scored 1555 on average.

In regards to SAT math scores, males again outscored females, averaging 551 and 515, respectively. In addition, males scored higher on average than females on the SAT verbal test. On the SAT verbal test, males scored an average of 537 while females scored an average of 524. Finally, males outscored females in the SAT writing section as well. Males averaged a score of 533 while females averaged a score of 519 on the SAT writing section.

### Summary

In summary, there were 83 participants in this study who each completed a survey regarding their cumulative GPA score, their type of parental structure, their gender, and their math, verbal, writing, and total SAT scores. A two-way analysis of variance was performed to test for significance, and no significant findings were yielded. Additionally, a correlation matrix was used to analyze relationships between variables. This correlation matrix also yielded no significant results and showed no statistically significant relationships between variables. Finally, the means of the variables were calculated by gender. It was found that males outscored females on all SAT categories; however, females achieved a higher average cumulative GPA than males in the study.

## CHAPTER V: DISCUSSION

### Review of Results

After reviewing the data, it was found that no significant results were yielded from the analyses conducted. There was not a significant relationship between type of parental structure and cumulative GPA. This finding fails to support the hypothesis that students who live in two-parent homes would have a higher cumulative GPA than those students who live in single parent homes or live with another relative or guardian. This result does not support the current research being conducted in the field. Recent research has shown that students from single-parent and alternative families show significantly lowered performance in the classroom for myriad reasons (Gennetian, 2005; Jackson, Brooks-Gunn, Huang, & Glassman, 2000; Pong, 1997). While mean cumulative GPA was highest among students with other types of relative guardianship, there was not a significant difference between this type of parental structure and any other.

Additionally, no significant relationship was found between type of parental structure and cumulative SAT performance. This finding also fails to support the original hypothesis that students who live in two-parent homes as well as single-parent homes, with either the mother or father, would have higher combined SAT scores than students who live with another relative or guardian. This result also fails to corroborate recent research in the field. Pong, Dronkers, & Hampden-Thompson (2003) found that American students from single parent homes scored an average of 28 points less in math and 32 points less in science than do children who live with

both parents (p. 691). The findings in the present study do not support Pong, Dronkers, & Hampden-Thompson's results. In addition, while the mean total combined SAT scores were highest by far among students living in a household with an alternative type of parental structure, there was not a significant difference between this group and any other type of parental structure.

Although the present study yielded no significant results in regards to the type of parental structure, it should also be noted that males outscored females on every SAT subtest and the combined total SAT score. However, females outscored males in cumulative GPA. While neither of these findings is significant, it is important that they be noted. These findings support current research that shows females more often outscore males on classroom performance while males outscore females on standardized tests (Downey & Vogt Yuan, 2005).

#### Limitations

There are a number of limitations in the present study that should be noted. First, the location in which the study took place may have had an impact on the lack of significance yielded. The study was performed at a Catholic high school in suburban New Jersey. It is possible that students attending a Catholic school would have higher rates of living in dual biological parenthood situations when compared to a public school in the same area. Catholic teaching supports marriage of parents before bearing children, as well as the idea that marriage is a sacred vow that should never be broken once entered into. Of the participants in the study, over 75% were living with two biological parents. A possible reason for such a large number in this group may be the location where the study took place.

Another possible limitation in this study could have been the small number of participants. It was mentioned earlier that while there was a total of 245 students in the senior class that was surveyed, only 112 of this group returned his or her parental/informed consent form on the day the study was conducted. Additionally, of the 122 students who did return their consent forms, only 83 of those completed the survey in its entirety. Those surveys that were missing information were unable to be counted. The small group of students who fully completed the survey could have had an impact on the results of the study.

Another limitation relates to that mentioned above. Prior to the study taking place, students were instructed by their religion teachers that they would be questioned about their SAT scores and cumulative GPAs. Students were told if they did not know these scores definitively, they should look them up and keep them in their memory for the survey. Many of the incomplete surveys were missing this information, and were unable to be included in the study.

Regarding the participants in the study, there are limitations that could have affected the final results. Due to the limited time allowed for conducting the study, many factors were not taken into account that may have an effect on student academic performance, such as siblings in the home, being employed, effects of divorce, town of residence, current socioeconomic status in the home, and many others. Because parental structure was the sole independent variable in the study, academic performance was analyzed based on this variable.

Additionally, limited time was allowed for students to complete the surveys. Because the survey was conducted during a class period, the teachers of those classes had set aside a limited amount of time for the study before they had to begin the



lesson for that day. While adequate time was allowed for students to complete the survey, the students may have left answers blank due to the time constraint. This would have had an impact on the final number of participants.

### Conclusion

In conclusion, the results of this study showed no significant differences between type of parental structure and cumulative GPA or SAT score. Specifically, no significant findings were yielded when parental structure was analyzed for its impact on student performance in the areas of cumulative GPA, SAT math score, SAT verbal score, SAT writing score, and total combined SAT score.

Although there were no significant findings in regards to type of parental structure, it is important to note that males outscored females on every SAT subtest and the combined total SAT score, while females outscored males in cumulative GPA score. While these findings were not significant, they support current research by Downey & Vogt Yuan (2005), which indicates that females more often outscore males on classroom performance while males outscore females on standardized tests. The limitations in this study were numerous; the population studied, time constraints imposed, possible compounding factors unaccounted for, and limited return rate each had a definite impact on the results of the study.

### Implications for Further Research

There is a definite need for further research in the area of parental structure as it relates to academic performance. Future research needs to focus on multiple grade levels and a variety of school types. It would be interesting to examine the effects of varying parental structures on a group of students over a longer period of time. This would allow for analysis of changes in student performance as they arise.

Furthermore, any future research done on this topic should take into account the many factors that are involved in student academic performance. While time did not allow for complete control of all variables, further research may focus on controlling for socioeconomic status and other confounding variables.

Future research may also be focused towards studying students in a public school setting. Because the present study was conducted at a suburban Catholic high school, those values in place at this or any religious-based educational institution may have had an impact on that make-up of the population studied. Further research would be beneficial if focused on a more religiously diverse group of students. Whichever direction future research happens to take, it will undoubtedly contribute to the growing literature on the impact of varying parental structures and their relationship to student academic performance.

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APPENDIX

Research Survey

*Please respond to the following questions by circling the answer that best identifies you.*

1. Grade level:

Freshman      Sophomore      Junior      Senior

2. What is your gender?

Male                      Female

*Please check the box of the type of parental structure that you currently live in.*

- Two biological parents
- One biological parent and one step-parent
- One biological parent and that parent's significant other who lives in the home
- One parent only (please circle mother or father)
- Other relative guardian(s) (please explain) \_\_\_\_\_
- Other type of parental structure (please explain) \_\_\_\_\_

*Please respond to the following questions by filling in the answers to the best of your knowledge.*

4. What was your cumulative GPA at the end of last semester (as of January 2007)?

GPA: \_\_\_\_\_

5. What is your best SAT score so far?

Math: \_\_\_\_\_      Verbal: \_\_\_\_\_      Writing: \_\_\_\_\_      Total: \_\_\_\_\_

6. What is your age?

Age: \_\_\_\_\_