

**DOES IT START IN THE HOME? AN ANALYSIS OF THE EFFECTS OF
FAMILY STRUCTURE ON ACADEMIC ACHIEVEMENT**

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I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts with a major in Sociology.

Dr. David W. Wright, Committee Chair

We have read this thesis and recommend its acceptance:

Dr. Twyla J. Hill, Committee Member

Dr. Brien Bolin, Committee Member

DEDICATION

This thesis is dedicated to my husband Ken, who has supported me throughout my educational endeavors. I know it has not been easy. I'm done now! To my boys, Daniel, Jason, and Joshua, you are my inspiration. I would also like to dedicate this to the memory of my mother, who always believed in my ability. I know she would be more proud than usual.

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ABSTRACT

This study examines the influence family structure (two parent or single parent) has on academic achievement as measured through student test scores. In addition, an alternative model comprised of student role performance, school, and other family factors is used to examine various influences on academic achievement. This study employs a secondary data analysis of the Educational Longitudinal Study of 2002. Two hypotheses from each model segment are presented to test the relationship of each segment to academic achievement. Univariate, bivariate, and multivariate analyses are used to determine the relationship between the independent variables and the dependent variable by family structure. Analysis reveals that although family factors, including family structure, contribute more toward test scores than school factors, it is student role performance factors that influence test score outcomes the most, when controlling for other factors. Student Role Performance factors account for 18.3% of the variance in test scores while Family factors, including family structure account for 6.8%.

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1. Introduction

Academic achievement is one of the most important aspects of an adolescent's life. It can ensure entry into college as well as future employment. It is important to understand the factors that promote or hinder adolescents' academic achievement in order to affect the changes necessary to bring about success. The passage of the No Child Left Behind Act of 2001, a reauthorization of the Elementary and Secondary Education Act of 1954, sought to secure academic achievement for all children by giving greater flexibility in spending federal funds to states and local public school districts while requiring greater accountability at the same time (United States Department of Education). States are now accountable for yearly progress in the areas of reading and math, through testing of children in grades 3 through 8. Schools and districts not meeting yearly progress goals are subject to improvements, corrective action and restructuring in order for them to meet state goals. Students attending low performing schools are given options for attending better public schools within their district. The act calls for progress analysis to be broken down by poverty level, race/ethnicity, limited English proficiency, and disability to ensure inclusion of all groups (United States Department of Education).

Although legislation can strengthen school systems and presumably enable all students to achieve their educational goals, other factors influence the outcomes of educational pursuits. Personal characteristics of the adolescent such as sex, race/ethnicity, and involvement in homework/after school activities can influence academic achievement. Also, the family, its structure, and the school environment are integral parts of an adolescent's life, and as such, can exert influence on academic achievement. As adolescence is one of the most trying times in life, understanding and

perhaps eliminating obstacles to academic achievement can greatly enhance this life stage and help smooth the transition to a successful and productive adulthood.

As the family, and more specifically parents, are typically the first educators a child comes into contact with, it is important to understand the influence this relationship can have on a child's educational outcomes. Parents often unknowingly lay the foundation for which the rest of the child's education is built upon through words and actions. In later years, parents can serve as the support system guiding the child throughout his/her school years when various issues arise. The influence a parent can have over a child's future can have repercussions well into the child's adult life, such as college or job choices. Therefore, it is important to understand which family factors have the greatest effect on academic achievement.

The purpose of this research is to examine the effects of an adolescent's personal characteristics, family structure, and school environment on academic achievement. Using data from the 2002 Educational Longitudinal Survey, it is hypothesized that family structure will have a greater influence on academic performance than personal factors or the school environment. Once this relationship is better understood, parents, schools, and policy makers can implement programs, techniques, and actions that will aid adolescents in achieving the greatest possible educational outcome that is vital not only to their futures but to society's as well.

2. Literature Review

2.1 Student Role Performance

Student role performance is based on behavior acted out by the student based on the expectations of the agents of the educational institution (i.e. teachers, principals). It

can be measured by many factors, though grades and test scores continue to be the markers for academic achievement. Factors that can influence student role performance include the sex and race/ethnicity of the student, as well as time spent on homework. Other factors include disabilities, language (barriers), grade retention, and extracurricular activities.

It is important to understand that an adolescent's sex can influence academic achievement. In a study by Downey (1995), the sex of a child was factored into an analysis of academic achievement. A significant difference was found only for educational expectations, not achievement, and only when the sex of the child and parent were the same. Akos and Galassi (2004) found there were significant sex differences in students' views of their school connectedness, with middle school girls scoring a higher measure of connectedness than boys. These results were reversed for high school students. A sense of belonging and connectedness can ease the pressures of school and possibly lead to more positive educational outcomes.

There is little contention that race/ethnicity can play a factor in educational achievement. In a study on the effects of race, Oates (2003) found that African American students scored higher on tests based on their teachers' positive perceptions of their ability. It should be noted that these results were not significant. Similar work studying ethnicity carried out by McCoy (2005) found that a student's ethnicity (in combination with socioeconomic status), factored alone or when combined with attitudes, affected algebra test scores. Being at a disadvantage due to race/ethnicity, combined with a subject matter that is often difficult for many students, can make achievement doubly difficult for minority students.

Research on the advantages of homework has produced mixed results (Bempechat, 2004). Keith and Cool, (as cited in Bempechat, 2004) found that as the amount of time devoted to homework increased, so did students' achievement, irrespective of their ability. Similarly, Cooper, Lindsey, Nye, and Greathouse found a positive link between the amount of time spent on homework and overall grades for middle and high school students (as cited in Bempechat, 2004). However, this was not the case for students in lower grades. In a review of research conducted by Cosden, Morrison, Gutierrez, and Brown (2004), it was presented that structured, after school academic assistance in homework correlated with positive changes in students' self-confidence (Beck, 1999 as cited in Cosden et al., 2004). A positive change in self-confidence can lead to greater belief in one's abilities, which in turn can lead to higher achievement.

Another factor that can influence academic achievement is the presence of disabilities or emotional and behavioral disorders. In a study of learning disabilities and emotional and behavioral disorders and their effect on academic achievement, Anderson, Kutash, and Duchnowski (2001) found that greater progress was made by students with learning disabilities than those with emotional or behavioral disorders. These results were measured through reading and math achievement scores, and attributed to the environment in which the students were placed for learning. Inclusion in a general educational environment was found to be more beneficial than pull out programs for special education. Similar findings were also reported by Waldron and McLeskey (1998) in a study of students with mild to severe learning disabilities. Participation in an inclusive school program produced stronger achievement in reading and math than

participation in resource (non-inclusive) classes for those with mild learning disabilities, while the progress of those with severe disabilities was similar in both settings (Waldron & McLeskey, 1998).

Language barriers and differences can impede progress across the educational spectrum. Without proper language understanding, even the simplest of concepts can be difficult to master. Wang and Goldschmidt (1999) studied language proficiency and its effect on learning opportunities. It was found that in standard mathematics courses, students with limited proficiency in English experienced a lower level of achievement than those who spoke only English. The suggestion is that placing students with limited proficiency in less challenging courses inhibits their opportunities for learning, and that those who are able to improve their proficiency and are placed in standard courses are able to raise their achievement levels. Blair et al. (1999) found in their research of racial/ethnic differences in achievement that the use of a language other than English in the student's home did not correlate with higher achievement.

Grade retention can be an indicator of future academic achievement in that it may set the stage for an unstable foundation in education. Anderson et al. (2001) found that for learning disabled students and those with emotional and behavioral disorders, early retention was a predictor of lower academic achievement. For students with behavioral disorders, retention in kindergarten or first grade was associated with lower reading scores later in their educational careers. For learning disabled students, higher math scores were associated with a lack of retention. The researchers noted that their findings were in line with others' that found early retention is also a predictor of dropping out of high school. In a review of research on grade retention, Jimerson and Kaufman (2003)

also found that retention is a predictor of dropping out of high school as well as low academic achievement. It was noted that retained students and low achieving students do not differ significantly on their levels of intelligence, suggesting that other factors play into retention (Jimerson, Carlson, Rotert, Egeland, & Sroufe as cited in Jimerson and Kaufman, 2003).

An additional factor to be investigated with regard to academic achievement is the participation in after school activities. Typically, busy children do not have time to get into trouble, and after school programs can ensure participation in positive activities. In their review of research, Cosden et al. (2004) found that participation in nonacademic after school activities is associated with lower drop out rates and higher achievement. It was also noted that at risk (for school failure) youth benefited more than those not at risk (Cosden et al., 2004). Participation in after school activities not only takes children and adolescents out of potentially negative circumstances, it improves their feelings of belonging at school, which can serve to enhance achievement. Similarly, in an analysis of the effects of extra curricular activities, it was found that students' involvement in school clubs, coupled with high academic achievement, lessened the likelihood of teenage motherhood, thereby allowing them the opportunity to stay in school and continue their success (O'Connor, 1999).

2.2 School

Various facets of the school environment can serve to support or discourage academic achievement. School expenditures, the school environment, and teacher attributes have an impact on students' school life daily. Schools design and configure an

environment that is meant to be conducive to learning thereby allowing students to achieve academic success to the fullest extent possible.

It would seem obvious that the more money pumped into a school, the better the outcome for students. Results are mixed, however. In an analysis of school variables relating to student performance, Jaggia and Kelly-Hawke (1999) found that higher spending is not a consistent predictor of student performance. For fourth and eighth grade students, the opposite was found to show a significant relationship (Jaggia and Kelly-Hawke, 1999), meaning that lower spending levels were associated with increased student performance. However, increased administrative spending was correlated with a decrease in student performance (Jaggia and Kelly-Hawke, 1999).

In contrast, Jacques and Brorsen (2002) found that school expenditures were positively related to higher test scores when the money went toward direct instruction and instructional support rather than administrative support. These results correspond in part with the Jaggia and Kelly-Hawke study of 1999. In similar research, Bohte (2001) also found that a higher level of administrative spending was correlated with a decrease in state test scores, even when controlling for race and income. These results suggest overall that quality, not quantity, is a predictor of increased achievement.

The general school environment (i.e. policies and procedures) can have a positive or negative affect on learning as well. In a study of how uniforms affect attendance, problem behavior, and achievement, Brunsmas and Rockquemore (1998) found a uniform policy did not decrease absenteeism significantly, nor did it decrease problem behavior or increase achievement. However, in a review of this research, Bodine (2003) found an

error in the analyses of Brunnsma and Rockquemore and concluded that school uniforms do positively affect achievement.

School discipline policies can affect academic achievement in that they may act as a deterrent to disruptive behavior as well as remove negative influences from the educational environment. The effectiveness of suspension as a deterrent is a topic up for considerable debate. In a study of suspension and detention in urban, low income schools, Atkins et al. (2002) found that for students with rising rates of misbehavior throughout the school year, increased referrals for detention and suspension were not effective means of discipline. It was felt that with time the students and teachers viewed the student's removal from class as a reward not a punishment.

A similar area of contention is the effectiveness of summer school and/or remedial courses. In a study of Chicago public schools, Jacob and Lefgren (2001) found that for students in sixth grade, summer school had but a small positive effect on academic achievement. This research, though not specific to adolescents, can provide information on trends for those entering adolescence. Similarly, in a review of summer school statistics from several states, Piphio (1999) found some districts reporting positive progress, but not enough to meet diploma standards, and others making only small gains as well. In researching the effects of after school tutoring on at risk and learning disabled students, Hock, Pulvers, Deshler, and Schumaker (2001) found in general, students were able to raise and maintain their math test and quiz scores. These students were taught problem-solving strategies that they could carry with them after tutoring had ended thus enabling them to be more independent in the learning process.

As teachers are the primary pathways to learning within the school environment, their attributes can serve to influence students' behavior, learning ability, and achievement. Wentzel (2002) found that teachers who were more motivated and displayed higher expectation levels, more fairness, and rule setting, had students with more positive outcomes with regard to behavior, goals, and grades. Similarly, Crosnoe (2004) found that acquisition of social capital at school, defined as student-teacher bonding, was positively related to academic achievement. Again, as teachers and students interact daily in the school environment, it is noteworthy that a positive relationship between the two is conducive to higher achievement.

Also deserving of consideration is the ratio of students to teachers in the classroom. It would seem that the more students in a class, the more thinly spread the teacher's resources (i.e. time, attention). Theoretically, students would receive less of these resources, possibly interfering with their progress. In research exploring the relationship between school size, student-teacher ratio, and school efficiency, Alspaugh (1994) found that based on test scores as a measure of achievement, a low student-teacher ratio did not lead to higher achievement. It was suggested that small class sizes promote more social interaction and therefore less instructional time, whereas larger classes call for the teacher to be more organized and strict with time spent on instruction (Alspaugh, 1994). In similar research, Nye, Hedges, and Konstantopoulos (2001) followed up on participants of a Tennessee project that involved the study of class size and achievement for children in kindergarten through 3rd grade. It was found that, even after six years, those students who had been placed in small classes were reaping the benefits as

measured by math achievement. These results were even more strongly associated with the minority students of the project (Nye et al., 2001).

2.3 Family

The family serves as the primary agent of socialization, encouraging academic achievement through student/family interaction. Previous research has pointed to a direct link between academic achievement and the structure of the family with regard to parental marital status, family size, socioeconomic status, and the educational environment of the home.

Downey (1995) found that children living in households with a stepparent present had fewer parental resources available, which can directly affect educational outcomes. These parental resources included talking about school with children, attending school functions, and knowing some of the children's friends. This research also took into consideration the parents' background characteristics, such as, education, race and the household income. Once adjusted for these factors, the differences between stepparent families and biological families diminished (Downey, 1995). Downey (1995) concluded that most differences in academic performance stem from the parents' background characteristics. In related research, Brown (2004) focused on the various scenarios of parental partnerships, from cohabiting biological parents to married stepparent families, to single mother families. It was found that adolescents living in families other than married two-parent biological situations were less engaged in school, though the difference between married and cohabiting biological parents was not significant (Brown, 2004). In married stepparent families versus cohabiting stepfamilies, school engagement

was roughly the same. These results suggest that a traditional nuclear family is more conducive to school engagement and in turn positive academic achievement.

Family size also appears to affect achievement. A smaller family size generally indicates that there are more resources, both personal and economic, available to each member. Therefore, it is possible for parents to spend more time with their child with regard to school, as well as have more money to spend on educational materials, better schools, and the like. One study found that the number of siblings a child has is negatively related to that child's educational attainment, though the effect was less for older children's achievement (Garasky, 1995). Downey (1995) as well, found that family size affects educational achievement. This research found that the majority of measured parental resources available to any one child are related to family size. The more children the more thinly spread the interpersonal (time) and economic (money) resources were. Downey (1995) found that the negative relationship between family size and educational achievement could be replicated, though lessened with parental resources controlled for.

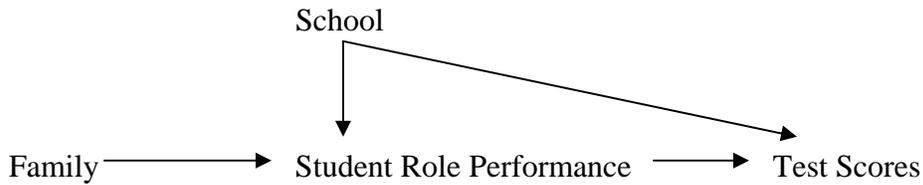
With regard to socioeconomic status (SES), adolescents living in families with a higher SES generally have more positive outcomes in education. A higher standard of living can provide for more educational opportunities in the form of better schools, more educational materials in the home, and because of higher parental educational attainment, more parental involvement/influence on the adolescent's experiences with school. Orr, (2003) in a study of black and white students' achievement, found that the development of social and cultural capital by means of wealth acquisition (including aspects such as property ownership) affected test scores on standardized measures of reading and math.

Orr (2003) concluded that since blacks traditionally have less wealth available to them than whites, they are unable to provide their children with the opportunities to develop social and cultural capital and hence their children's achievement lags behind that of white students. These results would be in line with the notion that because of race, the resources are not available to facilitate academic achievement. Similarly, Blair, Legazpi-Blair, and Madamba (1999) set out to examine race/ethnicity as an influencing factor of educational achievement. Though there were differences found across different racial/ethnic groups and standardized test scores, the greatest predictor of achievement across these groups was socioeconomic status. However, this can play back into the notion that minority students, often because of their race, do not have access to the same resources as non-minority students.

In conjunction with SES, the educational environment of the home is a consideration. Students with a computer and access to the internet have more of an opportunity for achievement than those who do not. Also, the presence of educational materials in the home such as encyclopedias or others books can strengthen the foundation of learning for a child. Downey (1995) measured the presence of a computer in the home, a physical environment conducive to studying, and other educational materials in the home to assess achievement in step-households. As an element of parental economic resources, the presence of these items affected academic achievement in a positive manner. As part of a mediating variable element in a study on black and white students achievement, Orr (2003) found that the presence of educational resources (i.e. books) in the home is positively correlated with academic achievement. These

results support the notion that the educational environment in the home supports positive academic achievement.

2.4 Alternative Model



(Adapted from Wright, 2005)

This study examines factors related to adolescents' academic achievement, as defined by test scores. Test scores serve as the dependent variable. The independent variables include student role performance, the school, and family factors.

Student role performance is defined as the expectations of students' achievement from within the educational institution. It is measured by means of a student's personal characteristics such as sex and race/ethnicity, and their interplay with such factors as the presence of disabilities or language barriers, grade retention, and time spent on homework or extracurricular activities, on achievement. It is expected that increased student role performance will increase test scores.

The school environment is defined as the physical condition and social forces operating within the educational environment. The school environment and its relationship to achievement is examined through factors such as school expenditures, internal policies and procedures, remedial coursework, and student-teacher ratios/class size. It is expected that greater expenditures and fewer stringent internal policies will lead to an increase in student role performance, which in turn will lead to an increase in test scores.

Family is defined as the persons living with the student in the home that are related to the student by blood, law or common law. Family structure is measured by the marital status of the parents, and by the number of siblings. The home environment is measured through the presence of available parental/economic resources, for example, educational materials in the home such as a computer or encyclopedias, or set rules for studying/homework, as well attendance at cultural events outside the home. It is expected that students living in a two-parent household will have higher levels of academic achievement than those living in single parent households.

2.5 Hypotheses

The following hypotheses will be tested for this study:

- 1a. Net of other factors, racial or ethnic minority students will display decreased academic achievement.
- 1b. Net of other factors, for those who commit deviant acts, test scores will decrease.
- 2a. Net of other factors, the more negative the school environment, the lower the level of academic achievement.
- 2b. Net of other factors, the greater the increase in students in a school's ESL classes, the lower the level of academic achievement.
- 3a. Net of other factors, students living in a family with two parents will display higher levels of academic achievement than those who do not.
- 3b. Net of other factors, students from homes with a higher SES will display higher levels of academic achievement.

3. Data and Methodology

3.1 Data

This study incorporates data from the 2002 Educational Longitudinal Study (ELS). The ELS is supported by the United States Department of Education's Institute of Education Sciences and conducted on behalf of the National Center for Education Statistics. The ELS is a national probability sample of tenth grade students incorporating data on the student, family, and school levels. The ELS was administered on site to students, school faculty and administrators, and by mail to parents. The ELS surveyed students, parents, and school faculty and administrators on such factors as student demographics, involvement at school, family activity and communication, and school rules and regulations.

The ELS used a dual stage sample selection process. First, schools were selected through a probability proportional to size technique resulting in contact with 1,221 eligible public, private, and Catholic schools. From that number, 752 schools participated in the study. Next, approximately 26 students were chosen from each school from current enrollment listings for a total of 19,218 participants. For the purposes of this research, only those respondents whose questionnaires were fully completed (i.e. students, parents, and school faculty and staff) were included for analysis. This resulted in 11,481 cases for this research.

Weights are a necessary element of data analysis because they allow for results to be reflective of the target population. The ELS employs weights, therefore they must be used in order to make findings generalizable. However, the weight used in the ELS cannot be used for bivariate and multivariate analyses because it may bias statistical parameters by reducing the sampling error. In order to correct for this a relative weight is created to reduce bias and make findings more generalizable. The relative weight is

obtained by dividing the standard weight by the mean of the standard weight (compute $relwgt = stdwgt / \text{mean } stdwgt$).

3.2 Variables

3.2.1 Dependent Variable

Math and reading scores for the ELS were obtained on site through multiple stage group testing by qualified test administrators. Students were initially tested to determine their level of ability followed by a second stage test based on their initial scores. The dependent variable for this study is the standardized test composite of students' math and reading scores. The range of values for the dependent variable is between 20.91 and 81.04. For comparison purposes, a centile measure is used to compute values for the dependent variable.

3.2.2 Independent Variables

3.2.2.1 Student Role Performance (SRP)

For the purpose of this study, the student role performance model segment includes a student's sex, minority status, native language, retention status, remedial course status, handicap status, homework participation, class preparation, deviant behavior, extra curricular activities, college preparatory classes, employment status, hours worked, and time spent viewing television/DVDs.

Student's sex is coded as a binary level variable with 0 representing males and 1 representing females. It is expected that female students will have lower composite test scores than male students.

The student's minority status is coded as binary level variable. Minority status is coded as 0 for non-minority, (including Caucasian and Asian) and 1 for minority (all

others). The purpose of including Asians in the non-minority category is that they tend to score higher on tests than other minority students. In general it is expected that non-minority students will score higher on tests than minority students. Language refers to whether or not the student's native language is English. A 0 indicates a 'no' response, and a 1 indicates 'yes'. It is expected that students whose native language is not English will have lower test scores than native English speakers.

Retention status is coded as a binary variable with 'no' responses coded as 0 and 'yes' responses coded as a 1. It is expected that students who have been held back a grade (retention) will have lower test scores than students who have not been held back.

Remedial course status, is also coded as binary with 'no' responses coded as 0 and 'yes' responses coded as a 1. It is expected that students who have been placed in remedial courses will have lower test scores than students who have not.

The variable handicaps is an indexed, binary variable that measures whether a student has one or more handicaps, with a 0 response indicating "no", and a 1 response indicating "yes". Handicaps are measured via physical, mental or learning impairments. Included are specific learning disabilities, speech/language impairments, mental retardation, emotional disturbance, hearing, visual or orthopedic impairments, and/or the presence of some other disability. It is expected that the presence of any single handicap or a combination of these will contribute to lower test scores.

Whether or not a student works for pay has been coded as 0 for 'no' and 1 for 'yes'. The number of hours worked per week is coded as binary with a 0 indicating no hours worked and a 1 indicating at least one hour worked. It is expected that as a student's work hours increase, test scores will decrease.

A student's college preparatory classes are coded as a 0,1 binary with 0 indicating none taken and 1 indicating at least one course taken. It is expected that students who have taken college preparatory classes will have higher test scores than those students who have not.

Time spent on homework is coded as an interval level variable with values indicating the number of hours a student spends on homework per week. It is expected that the more hours a student spends on homework, the higher that student's test scores will be.

Deviant behavior is also coded as an interval level variable with values indicating the number of occurrences the student has been involved in. This variable is an index of various behaviors including being late for school, cutting/skipping classes, absence from school, getting into trouble, and in-school suspension. It is expected that the more deviant behavior a student is involved in, the lower the test scores of that student.

Involvement in extra curricular activities is coded as an interval level variable with values indicating the number of hours per week the student is involved in these types of activities. It is expected that the more hours a student is involved in extra curricular activities, the lower that student's test scores will be.

Television/DVD hours are coded as an interval level variable with values indicating the number of hours the student has engaged in television viewing on a weekly basis. It is expected that the greater the number of hours the student watches television, the lower the score the student will achieve.

In addition, class preparation is also measured as an interval level variable with a high score indicating poor class preparation. The components of this scale include how

often the student comes to class without pencil/paper, books, or completed homework. It is expected that the less prepared a student is for class, the lower that student's test scores will be.

3.2.2.2 School

This model segment includes school classification (i.e. public or private), school size, 10th grade class size, the percentage of students in college preparatory classes, the percentage of students in English as a second language (ESL) classes, the percentage of students in the free lunch program, school problems, the presence of a negative school environment, and school rules.

School classification is the only variable coded as binary for this model segment with a 0 indicating a public school and 1 indicating a private or religious school. It is expected that attendance at a private school will increase students' test scores.

School size, as measured by total school enrollment is coded as an interval level variable. It is expected that students who are enrolled in larger schools will have higher test scores than those enrolled in small schools. Tenth grade class size is coded as an interval level variable. It is expected that being in a small class will not have a positive affect on test scores.

The percentage of students in college preparatory classes is an interval level variable where it is expected that schools with high participation in these classes will have students with higher test scores.

The percentage of students enrolled in a school's ESL classes is coded as an interval level variable. Due to the fact that ESL students are receiving additional

instruction in English, it is expected that ESL students will score higher on tests than those non-native English-speaking students not enrolled in ESL classes.

A school's percentage of students enrolled in its free lunch program is also coded as an interval level variable. It is expected that eligible students enrolled in the free lunch program will score higher than those eligible students who do not participate in the program.

School problems, such as absenteeism or vandalism, and the presence of a negative school environment, such as lack of space or poor lighting, and school rules are variables used to examine the effectiveness of the school environment. The variable school problems is coded as an interval level variable where a higher value indicates more problems present in the school. It is expected that the higher the number of problems, the lower students' test scores will be. Negative school environment is also coded as an interval level variable with a high value indicating a more negative environment. It is expected that the more negative the school environment is, the lower students' test scores will be. The school rules variable is also coded as an interval level variable and indicates the number of rules in effect at the school. These rules include such conditions as wearing uniforms and the use of security cameras on campus. It is expected that the more rules a school has, the higher student test scores will be.

3.2.2.3 Family

Factors included in this model segment are the number of siblings who have dropped out of school, family structure (i.e. two parent or single parent), residential setting (i.e. rural or urban), the number of siblings a student has, parents' college degree

attainment, socioeconomic status (SES), parental involvement in the child's life and with the school, parental advice, and parental rules.

The number of siblings a student has who have dropped out of school is coded as an interval level variable. It is expected that students who have siblings who have dropped out will score lower on tests than those where high school is completed.

Family structure is measured via the presence of a single or two person parental construct with a value of 0 indicating a two-parent family and a value of 1 indicating a single parent family. A two-parent family consists of married biological, stepparents, or cohabiting partners. It is expected that students from a two-parent family will score higher than students from a single parent family.

Rural residence status is coded as a binary variable with a value of 0 representing 'yes' and a value of 1 representing 'no'. Urban residence status includes suburban dwellers as well. It is expected that students from a rural area will score lower on tests than students from an urban area.

The number of siblings a student has is coded as an interval level variable. It is expected that students from larger families will score lower than students from smaller families.

The parents' (both mother and father) college degree attainment is coded as a binary level variable with 1 indicating 'yes' and 0 indicating 'no'. It is expected that students whose parents have a college degree will score higher on tests than those whose parents did not graduate from college.

Socioeconomic status (SES) is a composite of parental standardized variables measured in centiles. Socioeconomic status refers to parents' income, education, and

occupational prestige. Students from high SES households are more likely to have greater educational and cultural resources available to them than those from lower SES households. Therefore, it is expected that students from high SES households will have higher test scores than those students from low SES households.

The time a parent has spent with the student is coded as an interval level variable with an increasing value indicating more time spent. This variable is coded in scale form with a Cronbach alpha of .80. Its components include attending school activities with the student, helping with homework or school projects, attending concerts, plays or movies with the student, attending non-school sporting events with the student, attending religious services with the student, attending family functions with the student, family trips/vacations, involvements in a student's hobby or sports interest, going to restaurants with the student, talking with the student, or some other leisure activity done with the student. It is expected that the more time a parent spends with the student, the higher the student's test scores will be.

The involvement of the parent with the school is coded as an interval level variable with increasing values indicating increased involvement with the school. This variable is coded in scale form with a Cronbach alpha of .71. The components of this variable are parent membership in a parent-teacher organization (PTO), attending PTO meetings, involvement in PTO activities, volunteering at the school, and membership in other organizations with other parents. It is expected that as involvement with the school increases so will student test scores.

Parental advice to the student is coded as an interval level variable with increasing values indicating a higher frequency of occurrences. This scaled variable has a Cronbach

alpha of .76. The components of this variable are providing advice on course selection, on college entrance exams, on applying for college, on jobs after high school, on community/national/world events, and on issues troubling the student. It is expected that as occurrences of offering advice to the child increase, test scores will also increase.

The final variable in this segment is an index of parental rules for the home and school, for example, completing chores or keeping grades up. This variable is coded as an interval level variable with high values indicating more rules. It is expected that as the quantity of rules increases test scores will decrease.

3.3 Methodology

A univariate level of analysis provides data on frequencies, mean, median, and standard deviation for the selected variables. Bivariate analyses are conducted via T-tests to determine if any significant differences exist between two parent and single parent families. Multivariate level analyses are conducted using Ordinary Least Squares regression (OLS) to determine a relationship between the dependent variable and the independent variables.

4. Results

4.1 Univariate Analysis

Table 1 gives values for the full sample and by family structure at the univariate and bivariate level. An examination of the dependent variable, the composite measure of reading and math test scores, shows a difference in scores between students from two parent and single parent families (51.83 vs. 48.09) at a .001 significance level. Test score

percentiles also show a difference between two parent and single parent families (53.11 vs. 42.33) at the .001 significance level.

The Student Role Performance section shows that students from single parent families are more likely than those from two-parent families to be a minority (46.6% vs. 27.9%), to be held back a grade (18.3% vs. 11.9%), to have a handicap (13.6% vs. 10.6%), to spend less time on homework (9.55 hours vs. 10.46 hours), to come to class unprepared (1.99 vs. 1.86), to be involved in deviant acts (11.10 vs. 9.11), to spend less time in extracurricular activities (3.81 hours vs. 5.05 hours), less likely to have ever taken college prep courses (16% vs. 19%), and spend more time watching television or DVDs (10.33 hours vs. 9.74 hours). These differences are found at the .001 level. In addition, students from single parent families are more likely than those from two parent families to report English as their native language (89% vs. 88%), and more likely to work fewer hours per week than those from two parent families (11.61 vs. 12.26). These differences were found at the .01 significance level. Student sex, remedial class status, and working for pay were found to be non-significant.

An examination of the School section reveals that students from single parent families are less likely than students from two parent families to be enrolled in a private school (5.3% vs. 9.0%), to be enrolled in college prep courses (57.3% vs. 61.5%), more likely to report school problems (2.41 vs. 2.39), to report a negative school environment (1.79 vs. 1.72), and more likely to report strict school rules and access (4.87 vs. 4.62). The differences between these groups are found at the .001 level. In addition, students from single parent families are more likely than those from two parent families to be enrolled in a larger tenth grade class size (355.79 students vs. 346.58 students). This

difference was found at the .05 significance level. The percentage of students in ESL classes was found non-significant.

In the family section, students from single parent families are less likely than those from two parent families to spend time with parents (3.04 vs. 3.15), to receive parental advice (2.25 vs. 2.29), to have a parent involved with the school (1.54 vs. 1.94), more likely to come from a low SES background (40.03 vs. 53.71), and more likely to have siblings who have dropped out of school (.30 vs. .19). These differences are significant at the .001 level. In addition, students from single parent families are less likely than those from two parent families to come from rural residences (18.6% vs. 21.1%), have fewer parental rules than students from two parent families (6.83 vs. 6.91), and more likely to have a greater number of siblings (2.41 vs. 2.30). These differences were significant at the .01 level.

4.2 Multivariate Analyses

This study incorporates the Ordinary Least Squares (OLS) regression method in order to determine which factors (student, school or family) have an independent effect on the dependent variable, and if the effect is significant across the two groups (two parent and single parent families). Table 2 shows the unstandardized and standardized beta coefficients for the test score model and the differences between two parent and single parent families. The dependent variable is regressed onto each independent variable to determine the effect each independent variable has on the dependent variable. An analysis of the full model segment of Table 2 shows that the percent of variance in test scores explained by the factors of the full model is 41.9%. In addition, it can be seen that students from single parent families have -.598 lower test scores, net of other factors.

As expected, students from single parent families fair worse on test scores than those from two-parent families.

Based on the values in the full model segment, net of other factors, females and minorities score lower on tests (-.830 and -4.361 respectively), as do students who have been held back a grade (-4.364), those with a handicap (-7.110), those less prepared for class (-.933), those committing deviant acts (-.116), and those students who work (-.382). The positive increases in test scores is net of other factors, and can be seen in those students whose native language is English (2.154), those who spend more time on homework (.104), and those who spend time in extracurricular activities (.101). Further analysis of the full model shows that net of other factors, tenth grade class size has a positive effect on test scores (.001). The percentage of students in ESL classes has a negative effect on test scores (-.034), in addition to an increase in school problems (-.245), and a negative school environment (-.453). In addition, being from a single parent family has a negative effect on test scores, net of other factors (-.598). Other factors affecting test scores in a negative manner include an increase in the number of siblings (-.294), and an increase in parent/student quality time (-1.760). A family's SES (.102), parental advice to the student (.994), and an increase in parental involvement at school (.024) all had positive effects on test scores, net of other factors.

In a comparison of two-parent and single parent families, factors in the student role performance section show that for students from two parent families, being female does not have as much negative effect on test scores (-.765) as it does for those from single parent families (-1.017). These values reflect the expectation that females will score lower than males on tests. For minority students, coming from two parent families

does not have as much negative effect on test scores (-4.280) as being from single parent families (-4.517). As expected, minority students do, in fact, score lower on tests. For students who have been held back a grade, those from two parent families show more negative effect on their test scores (-4.585) than those from single parent families (-4.203). These values also reflect the expectation that students who have been held back a grade will score lower on tests than those who have not been held back. As expected, students who have a handicap show a decrease in test scores. Those from two parent families show more negative effect on their test scores (-7.151) than those from single parent families (-6.947). Decreased class preparation is also expected to affect test scores in a negative manner. As shown, for students from two parent families, the students' level of class preparation has less of a negative effect on test scores (-.764) than for those from single parent families (-1.350). For students whose native language is English, coming from two parent families has less of a positive effect on test scores (2.069) than for those who come from single parent families (2.366). These values reflect the expectation that native English speakers will score higher than non-native English speakers. For students from two parent families, spending more hours on homework has less of a positive effect on test scores (.097) than for those from single parent families (.125). The positive values are in line with the expectation of increased time spent on homework resulting in an increase in test scores. A positive increase in test scores was not expected as a result of increased extracurricular time. However, for students who engage in extracurricular activities, students from two parent families have less of a positive effect on test scores (.087) than do those from single parent families (.127). These differences are found across the two groups.

Hypothesis 1a states that net of other factors, racial or ethnic minority students will display decreased academic achievement. Data from Table 2 support this hypothesis by showing minority student's test scores are lower than the mean (-4.361). This is true for students from two parent families as well as those from single parent families (-4.280 and -4.517, respectively). Hypothesis 1b states that net of other factors, for those who commit deviant acts, test scores will decrease. This hypothesis is supported by data from Table 2 that shows a difference from the mean on test scores of -.116 for the full sample.

An analysis of the school section shows that there are no significant differences across groups for variables examined. Hypothesis 2a states that net of other factors, the more negative the school environment, the lower the level of academic achievement. Although table 2 does not support this hypothesis, it is noted that a negative school environment has less of a negative effect for students from two parent families than for students from single parent families. Further, hypothesis 2b states net of other factors, the greater the increase in students in a school's ESL classes, the lower the level of academic achievement. The results of table 2 do not support this hypothesis.

An analysis of the family factors shows that for those students from two parent families, the number of siblings they have has more of a negative effect on test scores (-.296) than for those from single parent families (-.277). These findings are in keeping with the expectation that students from larger families will show a decrease in test scores in contrast to those from smaller families. For those students from two parent families, spending quality time with a parent has more of a negative effect on test scores (-1.766) than it does for those from single parent families (-1.732). These findings do not support the expectation that increased quality time will result in increased test scores. As

expected, an increase in SES will result in higher test scores. For those students from two parent families, SES has more of a positive effect on test scores (.106) than it does for students from single parent families (.091). These differences are found across the two groups. Hypothesis 3a states that net of other factors, students living in a family with two parents will display higher levels of academic achievement than those from single parent families. The family factors section in the full sample of table 2 supports this hypothesis by showing that students in single parent families score lower on tests (-.598) than those from two parent families. Further, hypothesis 3b states that net of other factors, students from homes with a higher SES will display higher levels of academic achievement. This hypothesis is supported by the difference in test scores between two parent and single parent families (.106 vs. .091) as seen in Table 2. In addition, although there is no significant difference across groups for the 'parental advice to student' variable, it is noted that receiving advice benefits students from two parent families more than those from single parent families.

Table 3 shows the adjusted R-square values for the full sample with each model segment excluded and by family structure with each model segment excluded. Partitioning of variance is used to test the full sample and each model segment. For the full sample, the adjusted R-square is 0.423. When student role performance factors are excluded, the adjusted R-square becomes 0.240, a difference from the full sample adjusted R-square of 0.183 (43.3%). When school factors are excluded, the adjusted R-square becomes 0.417, a difference from the full sample adjusted R-square of 0.006 (1.4%). Further, when family factors are excluded, the adjusted R-square becomes 0.355, a difference from the full sample adjusted R-square of 0.068 (16.1%). The adjusted R-

square value is lowest without student role performance factors included in the analysis (0.240). Therefore, it may be concluded that although all three sets of factors affect test scores in some way, they affect scores differently, with student role performance factors being more significant than school or family factors.

An examination of values by family structure shows that for the full sample, two parent family, the adjusted R-square is .408. Without student role performance factors, the adjusted R-square becomes .234, a change from the full sample of -42.6%. When school factors are excluded, the adjusted R-square becomes .402, or a -1.4% change. Further, when family factors are excluded, the adjusted R-square becomes .336, a -17.6% change from the full sample R-square. Thus it can be concluded, that although family structure affects each set of factors, single parent family status affects student role performance to the greatest degree at a change from the full sample of .220, or -52.7%.

5. CONCLUSION

This study examined six hypotheses drawn from the alternative model of factors that affect test scores. They are:

- 1a. Net of other factors, racial or ethnic minority students will display decreased academic achievement.
- 1b. Net of other factors, for those who commit deviant acts, test scores will decrease.
- 2a. Net of other factors, the more negative the school environment, the lower the level of academic achievement.
- 2b. Net of other factors, the greater the increase in students in a school's ESL classes, the lower the level of academic achievement.

3a. Net of other factors, students living in a family with two parents will display higher levels of academic achievement than those who do not.

3b. Net of other factors, students from homes with a higher SES will display higher levels of academic achievement.

Hypothesis 1a states that net of other factors, racial or ethnic minority students will display decreased academic achievement. Data from Table 2 support this hypothesis by revealing that minority students from both two parent and single parent families report test scores lower than the mean, -4.280 and -4.517 respectively, with an overall difference from the mean of -4.361 for the full sample. Further, hypothesis 1b states that net of other factors, for those who commit deviant acts, test scores will decrease. Table 2 data supports this hypothesis showing that test scores were -.116 lower for those committing deviant acts.

Hypotheses 2a and 2b were the only hypotheses not supported by an analysis of the data. However, a negative school environment has less of a negative effect on students from two parent families than those from single parent families.

Hypothesis 3a states that net of other factors, students living in a family with two parents will display higher levels of academic achievement than those who do not. Table 1 supports this hypothesis by showing the mean test scores for students from two parent and single parent families (51.83 vs. 48.09). In addition, hypothesis 3b states that net of other factors, students from homes with a higher SES will display higher levels of academic achievement. This hypothesis is supported by data in Tables 1 and 2, which shows the SES percentile for two parent families at 53.71 and single parent families at 40.02 with the differences in test scores at .106 and .091 respectively.

This study focuses on the effect of family structure on student academic achievement as measured through standardized test scores. Family factors seem to affect test scores more than school factors, however, the greatest difference in test scores is seen when student role performance factors are excluded. Although student role performance factors seem to have the greatest impact on test scores, the family also influences educational outcomes to a great extent. Table 1 shows the mean test scores for students based on family type. Students from two parent families scored higher than students from single parent families (51.83 vs. 48.09). In addition, based on the values presented in table 1, two parent families are able to provide more resources (i.e. money, time, communication) than single parent families. This in turn could serve to bolster student role performance in areas such as not being held back a grade or time spent on homework.

Recent studies have focused on family and school factors as being predictors of student achievement (Okpala, Okpala & Smith, 2001, Figlio & Lucas, 2004). While relevant, it is also important to take into consideration the studies focused on student related factors such as health related issues (Taras and Potts-Datema, 2005).

This study sought to establish a relationship between the influence of family structure (i.e. two parent or single parent) and academic achievement. It is clear based on the values shown in Table 3 that student role performance factors have a greater influence on test scores than school or family factors. In addition, being from a single parent family affects student role performance more negatively than being from a two-parent family (-52.7% and -42.6%, respectively).

Taking this into consideration, some possible limitations of this study would include the lack of information about students' health history, illegal drug or alcohol use, relationships with siblings, and/or the history of psychological or substance abuse counseling. In addition, no knowledge of when certain events or activities began in the student's life is available. For example, it is not possible to know if a student recently became handicapped or just began involvement in an extracurricular activity or work. All of these factors could contribute to student role performance. In addition, because the ELS is not designed as a longitudinal study, it is impossible to know if other factors such as a divorce or drop in SES due to a parent's job loss may have affected test scores during the survey period.

Although family factors do not influence test scores to the extent that student factors do, it is clear that single parent families face some challenges in promoting academic achievement in students. As previously stated, students from single parent families score lower on tests than those from two parent families. In addition, students from single parent families are more likely to live in a lower SES household, thereby limiting their in home educational resources. Therefore, a clear need exists for programs and policies to be developed that can aid students from single parent families in achieving a higher level of academic success. Community mentoring programs may be one way to fill the void left by an absent parent, thereby giving the student a role model and confidant to bond with. With the proper influence this relationship could positively affect the student's achievement. In addition, school districts can implement special programs aimed at children from single parent families in order to bolster achievement, such as after school tutoring or recreational activities, while the parent is still at work.

Given that student role performance is the greatest predictor of academic achievement in this study, it is important that parents, teachers, and administrators alike recognize the role of student factors in measuring academic achievement. As discussed in the results, minority students as well as students facing challenges such as a handicap score lower on tests. As such, programs focusing on these and other areas of student need would serve to greatly enhance the learning environment and produce greater measured success. In addition, parents equipped with this knowledge can lobby school administrators to place attention and funds in the areas that would benefit low scoring students the most, thereby increasing future chances at educational success as well as success afterward.

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APPENDIX

APPENDIX A

Table 1
Values for Full Sample and by Family Structure

Dependent Variable:	Full Sample	Two Parent Family		Single Parent Family
		1	2	
Standardized test composite score mean (std dev)	50.95 (9.98)	51.83 (9.88)	*** ^	48.09 (9.79)
Test score percentile	50.57	53.11	***	42.33
Independent Variables:				
Student Role Performance				
% Female student (0,1)	50.4% (0.50)	50.0% (0.50)		51.6% (0.50)
% Minority Student (0,1)	32.3% (0.47)	27.9% (0.45)	*** ^	46.6% (0.50)
% Student's native language is English (0,1)	88.0% (0.33)	88.0% (0.33)	*	89.0% (0.31)
% Held back a grade (0,1)	13.4% (0.34)	11.9% (0.32)	***	18.3% (0.39)
% Took remedial class (0,1)	14.4% (0.35)	14.0% (0.35)		15.5% (0.36)
% Student has a handicap (0,1)	11.3% (0.32)	10.6% (0.31)	***	13.6% (0.34)
Hours per week on homework	10.24 (9.06)	10.46 (9.07)	***	9.55 (8.99)
Class preparation (1-4 hi=poor)	1.89 (0.81)	1.86 (0.79)	***	1.99 (0.85)
Number deviant acts	9.58 (7.91)	9.11 (7.66)	*** ^	11.10 (8.48)
Hours per week extracurriclars	4.75 (5.74)	5.05 (5.83)	*** ^	3.81 (5.34)
% Taken college prep class (0,1)	18.0% (0.39)	19.0% (0.39)	***	16.0% (0.36)
Hours worked per week	11.76 (14.86)	11.61 (14.68)	*	12.26 (15.44)
Hours per week tv/dvd	9.88 (5.17)	9.74 (5.11)	***	10.33 (5.36)
School				
% Private school (0,1)	8.1% (0.27)	9.0% (0.29)	***	5.3% (0.22)
Tenth grade class size	348.75 (201.20)	346.58 (201.57)	*	355.79 (199.86)
% Students in college prep	60.5% (29.84)	61.5% (29.72)	***	57.3% (30.00)
% Students in esl	31.7% (7.67)	31.0% (7.46)		34.0% (8.31)
School problems (1-5 hi=poor)	2.39 (0.34)	2.39 (0.35)	***	2.41 (0.33)
Negative school environment (1-4 hi=poor)	1.73 (0.57)	1.72 (0.57)	***	1.79 (0.58)
Number school rules/access (0-12)	4.68 (2.21)	4.62 (2.18)	***	4.87 (2.29)

Continued next page.

Family				
% Rural residence (0,1)	20.5%	21.1%	**	18.6%
	(0.40)	(0.41)		(0.39)
Number of siblings	2.33	2.30	**	2.41
	(1.52)	(1.50)		(1.58)
SES percentile (1-100)	50.49	53.71	*** ^	40.02
	(28.85)	(28.59)		(27.18)
Parent quality time w/student (1-4 hi=always)	3.12	3.15	*** ^	3.04
	(0.48)	(0.47)		(0.51)
Parental advice to student (1-3 hi=always)	2.28	2.29	***	2.25
	(0.47)	(0.47)		(0.48)
Times parent involved w/school	1.85	1.94	***	1.54
	(2.30)	(2.30)		(2.25)
Number parental rules	6.89	6.91	**	6.83
	(1.25)	(1.24)		(1.29)
Number siblings dropped out	0.21	0.19	***	0.30
	(0.65)	(0.61)		(0.76)
Sample n (weighted):	11,481	8,778		2,703
	100%	76.5%		23.5%

1= ***p<0.001, **p<0.01, *p<0.05

2= effect size greater >.20

Table 2
Test Score Determination Model & OLS Regression Analysis
for Test Score Differences by Family Type
(Dependent variable = test scores)

Variables:	Full Sample			Two Par			Single Parent			
	unstd.	1	std.	unstd.	1	std.	2	unstd.	1	std.
Independent Variables:										
<i>Student Role Performance Factors:</i>										
Female	-0.830	***	-0.042	-0.765	***	-0.039	^	-1.017	**	-0.052
Minority	-4.361	***	-0.204	-4.280	***	-0.194	^	-4.517	***	-0.230
Student's native language is English	2.154	***	0.070	2.069	***	0.069	^	2.366	***	0.075
Held back a grade	-4.364	***	-0.149	-4.585	***	-0.147	^	-4.203	***	-0.166
Handicapped	-7.110	***	-0.226	-7.151	***	-0.223	^	-6.947	***	-0.243
Hours per week on homework	0.104	***	0.094	0.097	***	0.089	^	0.125	***	0.115
Class preparation (1-4 hi=poor)	-0.933		-0.076	-0.764	***	-0.061	^	-1.350	***	-0.117
Number deviant acts	-0.116	***	-0.078	-0.128	***	-0.099		-0.025		-0.021
Number hours extracurriculars	0.101	***	0.055	0.087	***	0.051	^	0.127	***	0.070
Student works	-0.382	*	-0.018	-0.344	*	-0.017		-0.459		-0.023
<i>School:</i>										
Tenth grade class size	0.001	*	0.017	0.001	*	0.020		0.000		0.008
% Students in esl	-0.034	***	-0.026	-0.035	**	-0.026		-0.031		-0.026
School problems (1-5 hi=poor)	-0.245		-0.008	-0.351		-0.012		0.052		0.002
Negative school environment (1-4 hi=poor)	-0.453	**	-0.026	-0.397	**	-0.023		-0.598	*	-0.036
<i>Family:</i>										
Single parent family	-0.598	**	-0.025							
Number of siblings	-0.294	***	-0.045	-0.296	***	-0.045	^	-0.277	**	-0.045
SES percentile	0.102	***	0.296	0.106	***	0.305	^	0.091	***	0.254
Parent quality time w/student (1-4 hi=always)	-1.760	***	-0.085	-1.766	***	-0.084	^	-1.732	***	-0.091
Parental advice to student (1-3 hi=always)	0.994	***	0.047	1.061	***	0.050		0.783	*	0.038
Times parent involved w/school	0.024		0.006	0.026		0.006		0.033		0.008
(Constant)	53.736	***		53.625	***			53.257	***	
Adjusted R-sq.	0.419	***		0.403	***			0.413	***	
n=	11,481			8,778				2,703		

1=*** p<0.001;**p<0.01;*p<0.05

2=shows a significant difference between the two groups.

Table 3
Comparison of SRP, School, and Family Level Models
(Dependent variable=Test Scores)

Variables	Full	w/o SRP	w/o School	w/o Family
Independent Variables:				
Student Role Performance Factors				
Female	-0.041	x	-0.041	-0.053
Minority	-0.203	x	-0.210	-0.272
Student's native language is English	0.072	x	0.069	0.115
Held back a grade	-0.147	x	-0.149	-0.175
Handicapped	-0.225	x	-0.226	-0.228
Hours per week on homework	0.088	x	0.094	0.097
Class preparation	-0.077	x	-0.076	-0.082
Number deviant acts	-0.081	x	-0.080	-0.088
Extracurricular activities	0.056	x	0.057	0.086
Student works	-0.018	x	-0.019	-0.022
School				
Private School	0.032	0.032	x	0.081
Tenth grade class size	0.026	-0.029	x	0.071
% Students college prep	0.040	0.053	x	0.079
% Students in esl	-0.025	-0.044	x	-0.030
School problems	ns	ns	x	ns
Negative school environment	-0.024	-0.049	x	-0.028
School rules/access	-0.039	-0.067	x	-0.054
Family				
Number of siblings	-0.042	-0.095	-0.045	x
SES percentile	0.283	0.410	0.302	x
Parent quality time w/student	-0.082	-0.057	-0.083	x
Parental advice to student	0.047	0.046	0.047	x
Times parent involved w/school	ns	ns	ns	x
(Constant)	52.36	48.16	52.22	51.434
Adjusted R-square*	0.423	0.240	0.417	0.355
Rsq change from Full sample		0.183	0.006	0.068
% change in Rsq.		-43.3%	-1.4%	-16.1%
Two Parent Only**	0.408	0.234	0.402	0.336
Rsq. Change from Full Model (.408)		0.174	0.006	0.072
% Change in Rsq.		-42.6%	-1.4%	-17.6%
Single Parent Only**	0.417	0.197	0.412	0.365
Rsq. Change from Full Model (.417)		0.220	0.005	0.052
% change in Rsq.		-52.7%	-1.1%	-12.4%

*(all Rsq. Changes sig. @ .000)

** standardized betas not shown for two parent or single parent equations.

ns=not significant