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The relationship between parental educational level and academic success of college freshmen

by

Yasan Gooding

A dissertation submitted to the graduate faculty

in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Education (Higher Education)

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For the Graduate College

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ABSTRACT

This study determined the difference in the level of academic potential/achievement across five populations of freshmen during an academic school year at Iowa State University. It examined students whose parents' highest education was: (1) high school diploma, (2) one or two years of college, (3) two-year associate or technical degree, (4) four-year degree, and (5) graduate or professional degree. Other factors that might impinge on student academic achievement are: poverty, socioeconomic status, and family structure/or marital status. The study investigated whether students whose parents attained higher levels of education beyond the high school diploma were more successful academically than students whose parents did not.

Eleven factors were used to analyze the relationship between parent educational level, and student academic achievement and performance. The findings of the study indicated that parent educational level, family structure/marital status, and income range have a positive influence on their student's academic potential and achievement. Students whose parents had higher educational levels performed higher on standardized tests than parents with lower educational levels. The results from this research showed that socioeconomic factors weigh heavily on the potential and academic achievement of first-time freshmen at Iowa State University.

CHAPTER 1. INTRODUCTION

Summer is ending, and students A and B are recent high school graduates who are preparing to attend the same university. These prospective freshmen may be considered equal as they plan for higher education, but are they?

Student A's parents did not attend college. While getting their daughter ready for school they are not sure how or what to pack. They search through the university's admission packet for a list of clothes, toiletries and school supplies. When everything is purchased, the family still feels apprehensive because they have no idea about what to expect in a college environment in terms of academic requirements and the different student support services available to their daughter. They have no previous experience and there is no measure because their child will be the first person in their family to attend college. She will be a first generation college student.

On the other hand, student B's parents attended college. Upon acceptance to the university, they buy her a footlocker and pack it with books about study methods, prepaid phone cards, microwave meals, towels and sheets—items they know she will need. They even buy a computer with an e-mail account, a mini refrigerator and microwave. In addition, they open a local checking account in which they can deposit money when she needs it. Their child may have an advantage over the first generation student.

This study compared the potential success of these hypothetical students. Does a parent's previous college experience or educational attainment have a correlation to the academic success or grade-point average of their children who attend college?

The United States presents many dynamics of family development that take place based on cultural background, environment, and ethnicity, income and parents' educational attainment. Because backgrounds vary to a large degree across families, our nation's educational system—primary, secondary, and post-secondary—faces many unique challenges as it commits to providing equal opportunities to all students regardless of race, ethnicity, gender, sexual orientation, or origin. These factors will heavily impact a student's educational opportunities.

Today, there are approximately 4 million babies born each year in the United States. One out of eight will be born to a teenage mother, one out of four will be born to a mother with less than a high school diploma, and nearly one out of three will have parents who live in poverty. In addition, one out of four will have an unmarried mother. These factors are linked in one way or another to children who experience problems while attending school, such as repeating a grade, requiring special education services, being suspended, or dropping out of school.

If one pays close attention to the demographics of families across the U.S., it is apparent that students from racial/ethnic minority backgrounds and lower socioeconomic levels are more at risk than white and upper-class students, and the numbers are increasing. Since the 1960s, researchers have attributed a correlation

between the educational disadvantage of minority students to a combination of out-of-school factors. Those factors center on family characteristics, such as poverty and parents' education. One cannot begin to examine this topic without involving socioeconomic variables such as income, education, and the structure of the family unit. This study took an introspective look at these variables and how they impact students' academic performance.

It is crucial to understand several components of the family structure when determining the likelihood of academic success of students. Social factors that involve race, ethnicity, English proficiency, family income, parental education, and family are significant when it comes to educational opportunity and access to it. Other contributors to college student success include preschool and primary-level education. In addition, incidents of early childhood academic and behavioral problems, or the level of student achievement, dropping out of school, or completing high school and going on to college are each associated with social background factors. Because these factors are interrelated they cannot be overlooked when attempting to determine the relationship between any of the factors and education. Research indicates that when elements such as family structure, size, and parents' educational level are controlled, the variation in student academic performance disappears (Young & Smith, 1997).

Based on current studies, children of well-educated parents perform, on average, perform better on academic assessment tests than children of high school-educated parents. In 1994, 13- and 17-year-olds whose parents had at least one or

more years of college had higher math and science proficiency scores than those whose parents did not finish high school (Young & Smith, 1997). In the same study, parents' educational attainment was positively related to reading and writing scores as well.

A discussion of parental educational attainment cannot take place without considering family income levels. Keeping these factors separate is difficult because both are used as proxies for socioeconomic indicators. However, the factors can also be studied independently of one another. For example, parents' educational attainment is independent of income because parents' level of education may influence the value that parents place on education, which could, in turn, influence their children's educational goals (Young & Smith, 1997).

According to Young and Smith (1997), since the 1970s the average educational level of parents has been increasing. This is an indication that there is a change in the family's ability to support and encourage education for their children. For example, recent statistics show the percentage of fathers with less than a high school education decreased from 43% in 1970 to 19% in 1990. During the same 20-year period, the percentage of students' fathers with a bachelor's degree or higher increased from 13% to 23%. The percentage of mothers with less than a high school diploma decreased from 38% to 17% between 1970 and 1990, while the percentage with a bachelor's degree or higher doubled. This increase had an impact on student academic achievement.

Young and Smith (1997) also found that on family characteristics and test scores parents' education was the family characteristic most closely related to student achievement. Despite an increase in the average highest education level, Black and Hispanic children remain less likely than White children to have parents who graduated from college. In 1995, 16% of Black and 27% of Hispanic children aged 3-5 had parents who had not finished high school, compared to 4% of their White counterparts.

Statement of the Problem

The purpose of this study was to discover the influences of parental educational levels on students' ACT scores, cumulative grade point averages, and parental income levels. The study was conducted to gain an understanding of the impact that different parental educational levels have on the three dependent variables. In addition to adding new literature to the field, it was expected that this study would spark more interest in how parent-student dynamics heavily influence student academic achievement.

Past research has shown clearly that parental possession of a college degree leads to higher incomes, higher educational attainment, and a choice of more selective colleges for their children (Gruca et al., 1989). It is hypothesized that student-parent dynamics are important to the success of a child's academic career in college. Currently, few studies specifically address the relationship between parental educational attainment and student academic achievement. Few retention

programs could ever substitute for a parent's influence on the likelihood of student retention. Parental educational level, parental marital status, and parents' socioeconomic levels affect students academically.

Purpose of the Study

The purpose of the study was to examine the effects of distal variables (i.e., parental educational attainment, parental influence, achievement and socioeconomic status, poverty and achievement, and family structure), and proximal variables (i.e., home environment and parent-child interaction) on the academic achievement of freshmen students. Two other factors that might impinge on students' academic achievement were also examined: poverty and socioeconomic status. Specifically, the study was conducted to determine the difference in the level of academic achievement across five populations of freshmen during the 1998-1999 academic school year at Iowa State University. Students were categorized into five groups based on whether their parents possessed: (1) a high school diploma, (2) one or two years of college, (3) a two-year associates or technical degree, (4) a four-year degree, and (5) a graduate or professional degree.

Objectives

The objectives were to:

1. Determine the level of academic achievement among freshmen, measured by their cumulative grade point average in an academic school year, compared to others.

2. Examine the percentage of freshmen whose parents either earned a high school diploma, attended college or technical school, or studied toward a graduate degree.
3. Determine whether students whose parents attended college are more successful academically than students whose parents did not graduate from college.
4. Provide a demographic description of the freshmen subjects studied.
5. Determine whether poverty, socioeconomic status, and family structure have an impact on the academic achievement of freshmen students at Iowa State University.

Hypotheses

The following hypotheses were formulated for the study:

1. Students whose parents obtain higher educational attainment past high school will earn a higher cumulative grade point average their first academic year than students whose parents obtained only a high school diploma.
2. Students whose parents obtain higher educational attainment past high school will score higher on the ACT/SAT than students whose parents only attended high school without earning a diploma.
3. Students whose parents have higher incomes will achieve a higher cumulative grade point average than will students whose parents who have lower incomes.

4. Students who have both parents in the household will have greater achievement than students from single-parent homes.

Significance of the Study

This study has potential value to the field of higher education. Because there has been limited research on the impact of parental educational level on student success, the study sought to:

1. Provide a measurement of academic success and insights into parent and student relationships.
2. Determine whether the educational level of parents is a significant factor in the academic success of students. If students whose parents had earned only a high school diploma achieved academic advances as great as students whose parents attended college, this would indicate that the parents' educational level would not be a factor in students' academic performance.
3. Indicate the role that poverty, socioeconomic level, and family structure play in the categories in which each student is classified.
4. Indicate how poverty, socioeconomic status, and family structure impact students' academic achievement at Iowa State University.

Population

The population of the study was comprised of 1,784 first-time freshmen who were accepted and enrolled at Iowa State University (ISU) in 1998-1999. Iowa

State University is a Big 12, Research Comprehensive University, located in Ames, Iowa, in the Midwestern region of the United States. Ames is a predominantly White, middle-class, college town with a population of nearly 50,000, including Iowa State University with a student population of over 25,000.

The participants in the study were classified into five distinct categories based on whether their parents received or completed: (1) a high school diploma or its equivalent; (2) one or two years of college; (3) an associate or two-year degree; (4) a four-year degree; and (5) a post-graduate or professional degree.

Sample

The sample of the study was comprised of 1,784 (48%) out of a total of 3,733 freshmen who enrolled for the 1998-1999 academic year at Iowa State University according to the Office of the Registrar's records and voluntarily completed the 1998 Cooperative Institutional Research Program (CIRP) Questionnaire administered in this study. Each student was classified into one of five groups based on his or her responses on the CIRP Questionnaire for the 1998-1999 academic school year.

The CIRP Questionnaire

The Cooperative Institutional Research Program (CIRP) Questionnaire is a widely-used instrument that has been determined to be appropriate for students in all institutions (Office of Institutional Research, 1998). The four-page survey instrument covers a broad array of issues:

- demographic characteristics;

- secondary school experiences;
- college finances;
- orientation toward college;
- expectations of the college experience;
- degree goals and career plans; and
- attitudes, values, and life goals.

The instrument repeats items from previous years to help institutions assess changes in the characteristics, attitudes, values, and aspirations of entering freshmen. At the same time, the freshman survey is revised annually to reflect the changing needs of institutional participants. Moreover, the survey form provides space for participating colleges to add up to 15 local option items to those that already appear on the questionnaire.

Assumptions

The following assumptions were made concerning this study:

1. The population would yield a fair representation of parents in each educational category (high school diploma; one to two years of college; associate, or two-year, degrees; four-year degree; and post, or professional, degree).
2. Students accurately reported their parents' highest education completion level.
3. Students answered the items on the questionnaire accurately, knowing that they would remain anonymous.

4. All information obtained from the Office of Institutional Research, the Office of the Registrar, and the Office of Admissions is correctly identified with the population of the study.
5. The parent with the highest level of education will be used in determining the classification category of the participant.

Limitations

Participants in the study remained anonymous due to the sensitive nature of data requested, such as the SAT/ACT scores, CIRP questionnaire responses, and personal expectations of first-year academic performance. It was necessary to rely on statistical data gathered from existing sources such as the university's institutional research, registrars, and admissions offices for accurate data.

Obtaining data by any other means would jeopardize the validity of the study and its findings. Information that students are required to supply when admitted tends to be more accurate and truthful than traditional interviewing techniques. Students' academic achievement was based solely on the results of standardized SAT/ACT examinations and students' cumulative grade point averages. However, grade-point averages and standardized tests are not always representative of the student's true ability because these tests do not measure non-cognitive and environmental factors that may contribute to achievement.

The results of the CIRP questionnaire from Iowa State University's Institutional Research Office are vitally important because students are grouped into

this study's five categories based on students' responses. There are two questions students must answer to be classified: (1) What is the highest grade level completed by your mother? and (2) What is the highest grade level completed by your father? Other questions that are crucial to understanding the non-cognitive factors of academic achievement are: estimated income levels of parents, martial status of parents, race, and father's and mother's occupation. It is important that each student answers the first three questions regarding parents' educational level. If these questions are not answered, the students cannot be classified into a group for further analysis. Reasons why questions may not be answered include the following: students inadvertently may skip the question; the student is a non-traditional student, or the student does not know the highest grade level of completion for both parents. Other questions that are not answered will be handled accordingly, and adjustments will be made to the number of responses.

Definition of Terms

The following terms were defined for use in the study:

Academic achievement: The cumulative grade point average (GPA) made during the 1998 fall semester and the 1999 spring semester based on a 4.0 grade-point-average system.

First generation: Students whose parents never earned a post-secondary degree.

Microsystems: The inclusion of all the environmental factors that influence an entity, in this case, the student and the familial process (i.e., father, mother, relatives,

relationships between and among members of the immediate as well as the total family, the environment, and so on).

Parental educational attainment: The highest grade level completed by parents, measured from high school to professional school.

CHAPTER 2. LITERATURE REVIEW

This study focused on parental educational attainment and student academic success. The literature review is divided into eleven sections that address factors related to parental and student relationships: (1) Parental Education Attainment and Student Academic Achievement; (2) Parental Influence and Student Achievement; (3) Family Structure and Academic Achievement; (4) Socioeconomic Status and Family Structure; (5) Socioeconomic Status and Student Development; (6) Socioeconomic Status and Cognitive Development; (7) Socioeconomic Status and Academic Achievement; (8) Blacks, Socioeconomic Status, and Academic Achievement; (9) Non-Black Minorities, Socioeconomic Status, and Academic Achievement; (10) Internationals, Socioeconomic Status, and Academic Achievement; and (11) Socioeconomic Status, Other Influences, and Academic Achievement.

Parental Educational Attainment and Student Academic Achievement

Dornbusch, Ritter, Leiderman, Roberts, and Fraleigh (1987) purport that parental education level affects parenting style which, in turn, affects children's academic success. Dornbrusch et al. added that families with higher educational levels are likely to be more permissive and less strict in parenting. According to Mullis and Jenkins (1990) and White (1982), parental education shows a strong correlation to students' academic achievement.

Other researchers have debated the correlation of parents' educational attainment and students' academic achievement. DeBaryshe, Patterson, and Capaldi (1993) argued that parental education is directly related to styles of parenting and not student's academic performance. In their study, parents with lower educational attainment used coercive strategies for discipline which, in turn, predisposed their children to antisocial and abnormal behaviors. Such children performed poorly in the lower grades (DeBaryshe et al.).

Melby and Conger (1996) found that a mother's and father's educational attainment link positively to parenting and adolescents' academic performance. Stevenson and Baker (1987) reported that well-educated mothers who have a predisposition to information about school are more likely than less educated mothers to discuss their child's school performance. The same study showed that well-educated mothers' expectation levels are higher and they have more demands of academic achievement for their children.

Smith (1989) examined the difference between paternal and maternal influence on students' academic performance and educational goals, and concluded that 6th, 8th, 10th grade students were greatly impacted by parental educational attainment. A parent's educational level influenced the realistic expectation and the ideal educational aspiration of the student. The results of this study found that paternal education had an effect only on students' educational expectation.

Other studies indicate that a father's educational attainment has a direct bearing on children and a mother's attainment has an indirect effect. Oh-Hwang

(1994) found that fathers' educational attainment levels had a significant relationship with intelligence and achievement scores in American and Korean samples. Other significant results were that fathers who had higher educational levels had children who were more intelligent and higher achievers. Conclusions drawn from the study were that high levels of achievement are indicators for children who had highly educated fathers. On the other hand, mothers' educational levels were not as influential to students' academic achievement. In fact, the results indicated that mothers' educational attainment levels did not affect students' academic achievement. On the other hand, the educational attainment indirectly affected the psychosocial maturity of adolescents and children of American and Korean samples. Well-educated mothers were more involved in their children's activities, and their involvement led their students to be more self-reliant.

Although Oh-Hwang's (1994) cross-cultural study found that mothers' educational attainment levels did not have an impact on student academic achievement, educational attainment indirectly affected the psychosocial maturity of the student, which in turn determined levels of achievement. Parents who attended college had children who also attended college.

In a study of nearly 25,000 8th graders, Lee and Peng (1994) found that students whose parents only attained high school diplomas where five times more likely than their peers to drop out of high school by the 10th grade. Authors such as Hudson (1991), and Staats, Bowman, and York-Anderson (1991) noted that the influence of parental education and income has an impact on the college experience

of their children. Parents who have college degrees tend to have higher incomes and higher educational attainment, and their children attend selective colleges more frequently than their first-generation college peers. Hudson (1991) and Staats et al. (1991) agree that parental educational attainment has long-term influences on student educational attainment. Students whose parents have degrees are often predisposed to environments of academic preparation and achievement which reinforce the retention of first-year college students. The studies by Hudson (1991) and Staats et al. (1991) also revealed that first-year academic performance is closely related to academic preparation, whereas retention to graduation is associated with friends and family.

Parental education also affects standardized test scores. According to The College Board (1992), Standard Aptitude Test (SAT) scores are strongly linked to parental educational levels. The results of this study indicated that the higher the academic degree earned by parents, the higher the students' test scores. Other findings revealed the correlation between family income and test scores. Those students from families with high incomes and high educational attainment had the highest SAT scores.

Gruca et al. (1989) and MacDermott et al. (1987) noted that first-generation college students were likely to choose less selective colleges. Thus, the current researcher concludes that, because first-generation college students do not have parental collegiate experience to help them, either in preparing for college or in preparing for the academic challenges that lie ahead during their college career,

they are not as likely to succeed. If universities are serious about meeting the needs of first-generation college students, they must probe what differentiates first-generation college students from second-generation college students. Research should be conducted to determine the differences in their academic preparation, aspirations, and first-year academic performance when compared with other college freshmen.

A study was conducted by Riehl (1994) at Indiana State University to determine the academic preparation, aspirations, and academic achievement of first-year college students. As a result of this study, six null hypotheses were formulated:

1. There is no significant difference in the mean SAT scores of first generation students and the mean SAT scores of other freshmen;
2. There is no significance in the mean high school class rank of first-generation students and the mean high school class rank of other freshmen;
3. There is no significant difference in the self-prediction of first-generation college students and the academic degree aspiration of other freshmen; and
4. There is no significant difference in the freshman-year academic performance of first generation students and the academic performance of other freshmen.

The population sample in Riehl's (1994) study consisted of 2,190 freshmen who participated in the fall 1992 New Student Advisement and Registration Program at Indiana State University. It represented 93% of the entering freshmen class who were identified through responses to a questionnaire. Question 19 on the Student

Information Questionnaire prompted students to answer the highest educational level for each parent. Of the 2,190 students, 774 responded that neither parent had attended college. The questionnaire also included questions regarding family background, choice of college, and college plans. By using a method known as the static group comparisons design, the study grouped first-generation college students with others based on a series of responses.

Academic achievement and performance was measured by comparing the statistics of first semester dropouts, first semester grade point averages, and those students returning for the second year. Group differences in mean test scores, grade point averages, and class ranks were measured using two-tailed, pooled t-tests and chi-square analysis. Based on the results of the study, five of the six null hypotheses were rejected. There were obvious differences in the means of SAT scores, grade point averages and class ranks between first-generation college students and other freshmen. First-generation college students had significantly lower SAT scores and high school and first-semester college grades. There were no significant differences in high school rank. Based on these results, first-generation students were found to have significantly lower test scores and grade point averages than students whose families had at least one parent who attended college (Riehl, 1994).

Prior research indicated that first-generation college students have weaker academic preparation and lower degree aspiration. Riehl's (1994) study validates and supports the literature in the field. Thus, it is not surprising to note that first

generation college students in Riehl's study were also less successful academically during their first semester of college. Programs are currently being designed to help first-generation students with special needs such as advising, study skills, and orientation programs. Thus, the current researcher concludes that it is imperative that universities across the nation address the needs of first-generation students so that faculty, staff, and administrators can meet their special needs.

Are there significant differences in the academic preparation and college success of first-generation students? Current research indicates that there are differences, and programming for this growing population will increase the rates of retention and provide better academic experiences for these students (Riehl, 1994).

Hushak (1973) studied several factors that have a major impact on learning inputs and student achievement. Among the inputs studied, it was discovered that lower-achieving students depend more on teachers than higher-achieving students because they have less-educated parents and limited access to other learning inputs. This is indicative of why low- achieving students study more and obtain more help from their less-educated parents. To these students, the teacher is the primary skilled teaching input rather than the parent.

The parent's educational attainment level was used as a basis to determine the educational atmosphere of home environments. In this regard the parent is the educator in the home, and since students spend the majority of their time at home, their parents are the primary learning inputs for these students. The findings state that parents who have at least a bachelor's degree are private teachers to their

children, and are better qualified in one or more subjects of knowledge than any of the teachers in the school (Hushak, 1973). In such an environment, a student is less dependent on the ability of the teacher than a student with less educated parents. Information was gathered from both mother and father concerning highest educational attainment level. In this study, the father's education was used because the results showed a stronger statistical relationship than with the mother's educational level academic achievement.

The results of the study by Hushak (1973) clearly showed that the father's education variable has the greatest effect on student success. Highly-educated parents provide more or higher-quality teaching input for their children. A child with less-educated parents does not have access to alternative skilled teaching inputs, and the teacher is the most skilled teaching input to which the child has access regardless of the teacher's qualification. Other results also indicate that the father's educational level is the leading determinant of the high quality of the teaching input. Thus, children with well-educated parents are not as dependent on school inputs, nor do they spend much time studying outside of school. The correlations between study time and father's education, and between study time and achievement test scores, are consistent with this finding. Less-educated parents tend to compensate by providing more help in terms of time, but the children of less-educated parents are still more dependent on the teacher as their primary skilled input.

Based on studies by LeVine (1980), Stevenson and Baker (1987), and Youniss and Smollar (1985), the education of the mother affects many areas of the

child's educational endeavors. First, educated mothers are more likely to adopt parental investment strategies designed to maximize the life chances of the student, such as their probability of survival, health, and economic success. Second, a well-educated mother might be more concerned and knowledgeable about obtaining educational credentials for her children by supervising their school attendance, transferring them to better schools, and providing supplementary tutoring when necessary. Third, more educated women might be more likely to choose husbands who share some of the tendencies mentioned above. Their spouses may also be wealthier and, therefore, would be better able to provide the resources needed to attain their children's education goals. Finally, the more educated mother can provide her child with more useful forms of instruction, self-perception, encouragement, interaction, and exposure, thus transmitting skills and shaping his or her psychological development in distinctive ways (Majoribanks, 1979).

Laosa (1975, 1977, 1982) found that mothers who are well-educated affect the cognitive abilities of children more regardless of their occupation. When socioeconomics is compared to maternal education, it becomes a salient family determinant of students' scholastic and academic achievement. A mother's praise or verbal approval of a child's activity is linked directly to her schooling. Hannan and Luster (1993) cited that maternal education has both a direct and indirect effect on student educational attainment.

Stevenson and Baker (1987) found that educated mothers tend to manage their children's school career from elementary school through the high school years.

This becomes very important at the high school level, when the mother aids in the selection of college preparatory courses. The researchers also found that maternal education, more than employment, was related to the academic achievement of children.

Cultural backgrounds also add an interesting dynamic to parental education and a student's success. Educational attainment among Latinos has increased, but academic success continues to remain low, compared to non-Latinos. According to the 1990 Census, only 1 in 2 Latinos completed high school. In contrast, non-Latinos have an 80% high school graduation rate. Within the Latino community, the Mexican-origin subgroup had the lowest graduation rate (44%), and other groups of Hispanics had the highest graduation rate (69%) (Chapa & Valencia, 1993). Only 9% of adults aged 25 or older attained a four-year college degree, as compared to 22% of non-Hispanics. Among Hispanics, Mexicans or Mexican-Americans had the lowest college graduation rate (5%) and Cubans had the highest (20%). Historically, Latinos have been the most undereducated group in the U.S. Despite a gradual rise, based on statistics from the Bureau of the Census (U.S. Department of Commerce, 1991, 1996), as compared to Blacks and Whites, Hispanics and Latinos have had the lowest levels of educational attainment, highest dropout rates, and highest illiteracy rates.

These differences have persisted over time. For example, in 1940 the median number of years of education completed by the largest Latino group in the U.S., Hispanics aged 25 to 64 who lived in California, was 7.5 years, compared to

10.5 years completed by Whites (Chapa, 1988). The proportions of high school and college graduates have doubled despite the gap between Latinos and Hispanics. Latinos and Hispanics continue to lag behind their non-Latino counterparts in college admission and college graduation. The number of Hispanic high school graduates going on to college peaked at 36% in 1976, but Hispanic enrollment has been less than 36% since then (American Council Education, 1990).

Why is there a lack of interest in graduating from high school and going on to college among Hispanics and Latinos? According to Nieves-Squires (1991), Hispanic or Latinos who go to college experience a tremendous amount of pressure from their family due to cultural expectations. Melendez and Petrovich (1989) reported that the values on which most universities and colleges build their mission and culture are at odds with Hispanic culture and values. Melendez and Petrovich (1989) found several cultural attributes that may affect the academic achievement of Hispanics the most. In the Latino culture, tolerance of differing thoughts and philosophies is welcomed and accepted by Latino students, but challenging points of view could be seen as controversial. Hispanic students, thus, may be seen as reluctant to participate in free exchange of thought and dialogue. Most faculties would misconstrue such behavior as being not interested or as a lack of independent thinking. Academia produces an environment that is conducive to competitiveness and individualism, which is in direct conflict with Hispanic cultural values of cooperation and group cohesiveness. For Hispanics to be successful, they must learn to adapt to the academic environment.

Major studies have shown that cognitive factors (intellectual ability and scholastic aptitude) and psychosocial factors (attachment, locus of control, optimism, androgen, and self-esteem) are significant predictors of academic achievement at all levels of education. These factors and others predict the vast majority of academic achievement, as do other factors like parental education and family socioeconomic status. All tend to influence students' academic success.

The research also suggests that the more educated one's parents are, the more likely they are to support and encourage their children's educational endeavors (Brown & Robinson Kurpius, 1997; Lin, 1990; Winfield, 1991). Finn and Rock (1997) found parents' educational attainment is one of several factors that contribute to academic resilience among minority students from low-income homes. Researchers have reported that students who come from environments where both parents have degrees have fears of failure and disgrace if they were unable to graduate from college (Peng, 1994).

Parents' employment also dictates internalized values related to academic performance (Bank, Slavings, & Biddle,1990). Family income is a significant variable of academic achievement (Finn & Rock, 1997), but low-income families with parents who have little or no education may create a less enthusiastic atmosphere concerning education and children's futures (Bell et al.,1996; Galambos & Silbereisen, 1987). A parent's educational attainment is often reflected in the offspring's academic achievement. A Louisiana study by Williams (1963) found that there was an inverse correlation between parents' years of education and the

dropout rate of their children. The higher the parents' education, the lower their children's dropout rate. Other studies support this finding. One study in Maryland showed that most dropouts' parents (70% of the mothers and 80% of the fathers) never finished high school (Williams). Among these parents, 25% of the mothers and 30% of the fathers had never completed sixth grade. The parents were asked to give their opinions about the importance of a high school education. More than 90% of the parents of in-school students thought that it was a great disadvantage for students not to finish high school, while only 60% of the parents of dropouts had the same view.

Parental Influence and Student Achievement

Much interest has been generated regarding the relationship between social interaction and cognitive development (Miller, 1988). Based on extensive study of parent belief and cognition, Miller concluded that the primary concern in the relationship is what parents value as well as their general knowledge.

Do parents' beliefs affect the way they treat their children? It is significant in terms of cultural norms and in terms of how those ideals do or do not affect adolescent educational attainment. Hill (1979) cited that understanding parent/child interaction promotes the most essential insight with regard to the continuity of cultural tradition. The majority of western theories of child development are usually based upon research with suburban White middle class families (Garcia Coll, 1996; Gottfried & Gottfried, 1984; Hewlett, 1992; Laosa, 1977; Ogbu, 1988; Sternberg,

1988). Applying Western theories to other cultures can be problematic because levels and stages in student development are not universal (Dixon, Tronick, Keefer, & Brazelton, 1992; Hewlett, 1992; Sternberg, 1988). Keeping this in mind, it is important to realize the differences between minority and cross-cultural groups and to research this topic with caution.

Interaction between parent and child starts long before the child emerges from the mother's womb (Garbarino, 1982). All children, regardless of color, ethnicity, or socioeconomic background, need to know they are loved (Field & Widmayer, 1981; Garbarino, 1982). There are variations in the kinds of interactions between parent and child. Research suggests that the parents' own experience in the social system is reflective in parent-child interactions (Hoffman, 1984). Those interactions are also based on culture.

In the American culture, mothers see their children as being totally dependent on their parents to make them independent. On the other hand, Japanese mothers believe that their children are independent biological beings that have to be incorporated into the culture and made interdependent (Dixon et al., 1981). The actual time that the parent spends with the child is the process by which a child develops a sense of herself/himself as an individual within the family and culture (Kohut, 1971; Whiting & Whiting, 1975). Values and beliefs are infused by interactions with parents and family (Caudill & Weinstein, 1969).

Child development from infancy is also important in academic success later in life. Parents work toward developing a relationship with their new infant. During this

time of discovery, both parent and infant make discoveries about one another. The infant strictly relies on parents for care and nurturing. The infant is quickly socialized to send messages when in need of food or a diaper change, and the parent eventually learns to communicate (Garbarino, 1982). As the infant develops into childhood, the role of the parent becomes intricate. Parents have to help children develop a sense of self-worth, acceptance, independence, and a positive identity while enforcing reprimands and discipline (Collins, 1990).

Adolescence is marked by variations in interaction and modes of communication. During this time, adolescents go through personal and biological changes. Students become more independent, and challenge the values and morals that were innately theirs. The three stages of adolescence (young adolescents, middle adolescents, and late adolescents) are stages that lead to an evaluation of self and the meaning of adulthood (Garbarino, 1982).

The majority of the studies conducted regarding adolescents and their families have included white, middle-class families. Little is known about Asian, African American, Native American, or Latino families and their relationships (Hill, 1979). Until recently most subjects involved in similar studies had been middle-class White Americans (Carter & Middlemiss, 1992; Laosa, 1977). The reasons noted by Carter and Middlemiss (1992) were ethnocentric biases by researchers as well as a statistical concern regarding the homogeneity of the sample.

An added element to the developmental process of adolescents from ethnic minority groups is their acculturation into mainstream society. Ethnicity is an

important element because one's social identity is derived from the culture to which the person belongs. This gives an individual a sense of clanship in an ethnic group. That clanship is made of self-identification, feelings of belonging, and commitment to that group. Identifiers that link an individual are language, food, traditional customs, and religion.

Development of identity is included in family and community variables for adolescents. These influences often validate and assure ethnic group membership. According to Garcia Coll et al. (1996) and Phinney and Rosenthal (1992), a strong sense of ethnic identity is correlated with high self-esteem and positive self-concept. This could contribute to higher levels of academic achievement for minority adolescents.

According to data acquired by Findley and Cooper (1983), there is no significant difference in relation to the cognitive and non-cognitive variables by ethnicity. The averages for the locus of control are significantly different among the different ethnic groups and are consistent with current literature (Findley & Cooper). This is inconsistent with the findings of a recent study by Zea, Jamara, and Bianchi (1995), which found Latinos and African Americans to be more internal than their White counterparts. Among the ethnic groups, Hispanics or Latinos were the most internal of all the groups. Surprisingly, from this study, Asian Americans were less internal than the other ethnic groups.

In other studies, these results would have been contrary to current literature that implies that individuals from certain cultures that emphasize collectivism over

autonomy would display higher levels of attachment (Harrison, Wilson, Pine, Chan, & Buriel, 1990). Two conclusions were made by Liang and Bogat, 1994: (1) The Asian American sample was small, and therefore may not be generalizable to the Asian population; and (2) Asian students' reliance on acclamation strategies may have lessened their need for support.

The results of the study by Liang and Bogat (1994) reinforce the notion that parental educational attainment levels influence students' levels of achievement (Lin, 1990; Peng, 1994; Winfield, 1991). The findings on father's educational levels and mother's educational levels showed minor differences among the ethnic groups. The educational level of both mother and father was significant, but only between the High-High Group and the Low-High Group. Based on the results of Liang and Bogat's (1994) study, these students are the children of parents who attained high levels of educational success as exhibited by their high school graduation rates and high rates of attending college. Explanation for the variance of college grade-point averages could lend itself to the parental education attainment levels, which could be a subtle influence on this group of students. Parental educational attainment levels were a factor that protected weakly attached students from academic downfalls. In the low-low group's means for mother's educational attainment was the fourth highest (m=14.08). The female composition of the group was an important factor which may have led to the influence of modeling the mother's academic achievement/ attainment.

Many studies have shown that parental influence exerts a much more powerful impact on the importance of students' academic achievement when compared to the influence of their peers. In a study by Spenner and Featherman (1978), academic achievement is encouraged more strongly by parents and peers than by any other factor. These influences are said to overweigh one's scholastic attitude or previous academic achievement.

Davies and Kandel (1981) found that even though parental and peer influence was a factor in the overall academic performance of the student, parental influence was greater for adolescents at all ages. They also found that as the adolescents aged, parental influence grew stronger, particularly with boys' goals and ambitions. Conclusions from the results indicated that a high correlation between parental influences and boy's goals and objectives may be due to a greater lack of achievement responsibility among boys, leaving this area wide open for parental encouragement. The findings also may have indicated that educational plans and parental expectations simply show a wider variation for boys than for girls.

Research has reported that parental encouragement impacts the educational endeavors of their children more than the student's direct social origins (White, 1982). The research also concluded that actual academic achievement is more highly correlated with family characteristics, such as "home environment," than with family income, which is more closely related to academic achievement than to parental occupations (White).

Nowicki and Segal (1974) examined the correlations of locus of control for 162 white 12th graders from lower middle-class family backgrounds who live in a suburban area of a large city in the southeastern United States. The students were asked to complete a Nowicki-Strickland scale that measures students' perceived control over the outcome of academic achievement in school. The correlation between students' locus of control and the perceived locus of control of their parents were significant.

Two important questions lend themselves to continuous research on the topic of parental expectation and student academic achievement. Do intelligent students affect parents' achievement expectations, or vice-versa? Do parental expectations create a motivation in students to achieve? This cross-lagged panel analysis investigated the relationship between home environment and cognitive development (Bradley, Caldwell, & Elardo, 1979). From the findings, the main environmental measure was maternal involvement. Mothers and children from low -to middle-class backgrounds where studied when their children were ages 6, 12, and 24 months. The mothers' encouragement toward their intellectual and social development was recorded. Children were administered the Bayley Scales of Infant Development as a measure of cognitive development.

The Bradley et al. study (1979) also found that bright children at 6 months influenced maternal involvement at 12 months (rather than the reverse) and that maternal involvement at 12 months led to brighter children at 24 months. The correlations of the measurements between 6 and 12 months and 12 months to 24

months were high, but all were below .33. The researchers suggested that a study using a larger sample of children would have provided a clearer connection between achievement and expectations.

It is still unclear whether parents' expectations are in any way dependent upon the child's early achievement or whether the home environment is influential. A study by Jackson (1983) studied 21 preschoolers from lower-income black families living in New York City. They were observed in their homes and their verbal interactions were tape-recorded. Fourteen of the 21 children had been the subjects of home observation at 24 to 42 months. The researchers observed the reading achievement of 1st and 2nd graders and found that the successful ones differed from the unsuccessful ones in their preschool IQ. They had participated in more verbal interactions with their families as preschoolers. They also noticed more encouragement and less discouragement accompanied their verbal initiations. Parts the study indicated that it did not examine parental attributes such as reading preferences or intelligence. Such entities as the literacy of parents may create an atmosphere that is conducive to literate children, or it could be that children of literate parents would be literate regardless of variation in verbal stimulation.

Family Structure and Academic Achievement

For the purpose of this research, family structure may be defined as the internal make-up of a family unit, which may include a parent and/or parents, a child or children and other family members who interact as a part of the unit, such as a

live-in relative(s) (i.e., grandparent(s), uncle(s), cousin(s), etc. Bloom (1964) concluded that most children's basic intellectual development is completed before school age attendance, which stimulates the search from similar features in the home environment that facilitate intellectual performance. Wolf (1964) was able to postulate a number of environmental process variables on the basis of his findings. In his investigation, Wolf (1964) found a multiple correlation of .79 between environmental measures and academic achievement. Meanwhile, Wolf (1964) found a multiple R of .80 for the relationship between environmental process measures and IQ.

Because these results were replicated with highly consistent results, one variable remained clear in both findings. The achievement element refers to the goals and aspirations parents hold for themselves and for their children. It involves the academic achievement standards they hold and their standards of reward for educational achievement. Parental involvement is reflected in the kinds of concrete knowledge they have of the developmental or educational status of their student and the specific plans and preparations they have made to ensure that the educational goals they hold for their student can be attained. Another variable considered to impact academic achievement is the educational and occupational level attained by close friends and relatives.

It often has been hypothesized that parents who provide stimulating environments produce bright students. Research also has founded that students who are raised in stimulating environments learn intellectual skills that enable them

to profit from instruction in school to a greater degree than is true for students from less active homes. In some situations, parents influence students to value the kinds of learning activities that are provided at school. Other researchers support the notion that the educational level of the parent or parents shows the highest relationship (Bradley, Caldwell, & Elardo, 1977), and that Mexican-American/Anglo-American differences in mother-child interaction styles disappear when the level of formal education is controlled. The more parents have been exposed to the culture of higher learning, the more they transmit it to their students. Therefore, it is possible that educated parents go further in school and also pass their ability on to their students through heredity.

Based on the number of theories and hypotheses about environmental factors and intellectual development, none can give a clear and accurate answer to which one factor causes academic achievement. During the 1960s, the popular interpretation was that a stimulating home environment produced mental acumen. It was also assumed that the homes of lower socioeconomic status and poor minority students were unable to provide the kinds of experiences required to activate intellectual growth. This was indicative of the assumption that socialization practices of disadvantaged families were seen as contributors to intellectual deficits in their students.

Much research has been generated about the positive parental guidance that contributes to the fostering of academic achievement across the entire educational spectrum in both high-and low-risk samples. Most current literature emphasizes the

positive parental support that promotes higher grade point averages, high educational attainment, and academic persistence among children, early adolescents, and late adolescents (Bell, Allen, Hauser, & O'Conner, 1996; Clark, 1983; Finn & Rock, 1997; Gloria & Robinson, 1994; Hoffman & Weiss, 1987; Kobak & Sceery, 1988; Peng, 1994).

Cutrona et al. (1994) found that parental support can be used to predict college grade point averages among first-year and second-year university students who are not in daily contact with their parents. In two independent samples, parental support was a dominant factor in college grade point average. In their study, parental support accounted for a large proportion of the total variance in academic achievement. It was a determining factor of grade point averages. Other factors like social support from friends or romantic partners were not significant predictors of college grade point averages. The authors believed that parents who encouraged and coached their student's abilities directly were able to use adaptive behaviors in the academic arena.

In contrast to positive parental support linking to academic achievement, negative or no attachment to parental support has been found to exacerbate the academic risk for some adolescents. Several factors have been identified to examine the facets of parent-child interactions as vital signs for poor academic performance. Students who have poor relationships and communication with their parents about feelings and thoughts (Eskstrom, Goertz, Pollack, & Rock, 1986; Finn 1989), have parents with low educational expectations (Dornbusch et al., 1987) and

lack of encouragement from parents to persist in academics (Bean & Metzner, 1985; Okun, Benin, & Brandt-Williams, 1996). They have all factors in place to be at risk for poor academic outcomes.

Lopez (1991) examined how students classified themselves. Students categorized themselves in one of four alignments (non-coalition, mother-coalition, father-coalition, or triangulation) where different scores were taken to measure college acclimation including academic adjustment. Significant results among the four groups were found for personal adjustment and academic adjustment. The findings indicated that a triangulated family alignment, which occurs when a child is conflicted and dependent on both parents, may place the student at a higher risk for poor academic adjustment.

It is well noted that supportive parents are an important predictor of academic achievement among students, but there are other types of conceptual family dynamics that impede the academic success of the student. As recent research as shown, non-involvement by the parent is a risk factor for adverse outcomes among both children and adolescents (Cowan, Cowan, & Schulz, 1996).

Recent studies have indicated that the quality of the interactions between parent and student is vital to the student's success. Studies of family relationships of bright, high-achievement versus low-achieving high school students show that the high achievers more than low achievers describe their parents as sharing, understanding, approving, trusting, affectionate, and encouraging with respect to achievement. In the study, matched pairs of white students revealed some

interesting facts about successful graduates who had different family lives than dropouts. The majority of the dropouts saw their family members as failing to accept each other and failing to accept and understand them. Meanwhile, the majority of the graduates saw their family members as accepting and understanding each member as a complete person. The dropouts received less encouragement from their families in their educational and career plans than the graduates (Rice, 1978).

A number of studies have found that the quality of interaction in the student's family of orientation has the greatest impact on school behavior. In all cases, dropouts ranked significantly lower than their peers. Out of 84% of the dropouts, 18% reported "very little" or "little" intrafamily understanding and acceptance. Eighty-one percent of the dropouts had "very infrequent" or "infrequent" communication within the home, while only 20% of the graduates fell into these categories (Cervantes, 1965). Another important variable in small group interaction is the degree of consensus among members concerning behavior expectation. The degree of intrafamily consensus is significantly related to the academic success of boys. Boys who were well-adjusted in school came from families with high consensus (Myerhoff & Larson, 1965).

There are strong correlations between family size and achievement motivation (Hetherington, 1992). Students from larger families consistently displayed lower achievement motivation than did children of smaller families. Evidence suggests that since large families are typically of lower-income status,

they have low expectations for educational success. These studies have revealed that larger families produce lower achievement motivation in their children.

Family structure also plays a vital role in the achievement of students (Hetherington, 1992). Broken homes are strongly related to students dropping out of school. Students whose parents are divorced or separated are twice as likely to leave high school earlier than their peers from two-parent households.

The question of how family influences to which students are exposed seems to be convoluted with many intervening variables. Researchers have argued how family impacts children. Researchers such as Hetherington (1992), Bronfenbrenner and Crouter (1983), and Steinberg (1990) have examined the different effects of family status, while others investigated the importance of family process (Featherstone, Cundick, & Jensen, 1992; Walters, 1998). When such researchers examine families, they often refer to their conditions, family structure, ethnic background, socioeconomic status, and size.

Hetherington (1992) examined the effects of family status adopts a social address paradigm. This paradigm is an environmental label indicating the ecological niche, or atmosphere, in which the student is raised. Because the social address paradigm has limitations, many researchers have shifted their focus from the study of family status to the family process. This process refers to behavior or interaction that occurs between family members, such as parenting styles, parental discipline, and parental involvement in the education of their children.

In the family process paradigm, researchers focus on the impact of various family processes on a child's development. Family process and family status are variables that cannot be independent of each other. It is also important to incorporate both sets of factors in family research. To view family status and family process as polarized influences would not be meaningful unless we combined both paradigms together for analysis. Both paradigms combined would provide a more powerful analysis of the affects of family status and process on student academic achievement.

In contemporary America, single-parent households have become a phenomenon. Hetherington (1992) cites statistically that half of American couples married after 1970 will divorce. Recent U.S. Census Bureau figures report nearly one-fourth of children under 18 years old live with only one parent, typically their mother (Walters, 1988). Because the traditional family structure is eroding and no longer homogenous, it is important for educators to understand the complexities of family structures and its monumental impact on a student's academic performance.

Subsequently, after divorce, lifestyles change and families headed by single-mothers descend into poverty. U.S. Department of Commerce, Bureau of the Census (1991) reported that 37.2% of single-parent families live below the poverty level, compared with 12% of all families with children.

The correlation between socioeconomic background and student's academic achievement gets the attention of many researchers (White, 1982). However,

researchers need to look at how factors affect student academic achievement in a new perspective.

As examined previously, the social address paradigm was considered by researchers to be the way to study student development in context (Bronfenbrenner & Crouter, 1983). Using this primitive paradigm, researchers compared the academic performance of students living at different social classes or in different environments. Bronfenbrenner and Crouter (1983) argue that this paradigm has limitations. No consideration has been given to intervening variables that might affect the development of children.

Examining the effects of family structure or socioeconomic status on students' academic achievement is often indicative of the mechanisms and factors that might affect academic performance. Using the social address paradigm, researchers argued and found ambiguous differences in academic achievement among students from different family structures and socioeconomic levels (e.g., Featherstone et al., 1992; Eagle, 1989).

When other factors like family characteristics and children's achievement are included in observations, achievement-related family processes are reduced. The British Psychological Society (1986) reported that material circumstances and social position are not important compared to what may be referred to as family climate. Family climate includes parents' aspirations and attitudes and the family's support and encouragement for a child's school. The weakness of the social address paradigm convinced Dornbrusch and Wood (1989) to argue for a shift from the

examination of social address to the study of family process. The argument is that if focus is put on family status such as family structure, parental educational level, ethnicity, and socioeconomic status, other factors will be overlooked. Factors that may be overlooked are the acquired intellectual advantages that fall within lines by class, ethnicity and household structure. Dornbrusch and Wood (1989) note that family processes are far more important than family status. They suggest that more research should be done to identify specific family processes that produce differences in educational achievement. If these processes are identified, the results may suggest alternative ways of relating to students that will foster academic achievement.

Because family status has been a litmus test for student success in previous literature, Dornbrusch and Wood (1989) suggest setting aside family status and identifying elements of family processes. Dornbrusch and Wood (1989) have examined the dynamic relationships between environmental factors and student academic achievement. Halsey (1975) reveals that in much of the family research the concept of social status is minimal because parental attitudes are conceived as separate factors rather than an integral part of work and children's environment condition. Kohn (1979) points out that American parents' values and child-rearing practices can be seen in terms of the realities parents face. Family processes are conducive to educational experiences that are usually not independent of the effects of family status.

Researchers such as Milne (1989) purport that neither family status nor process factors should be excluded from future research models. The interactive effects of family status and family processes on the student should be incorporated to involve both sets of variables in any study. Instead of studying a social address paradigm or a family process paradigm separately, both need to be integrated to study the effects of family factors on student academic achievement (Lam, 1997).

It is important to distinguish the treatment of family processes as mediators, from the use of moderator variables in social science. A moderator "partitions" a focal independent variable into subgroups that establish its domain of maximal effectiveness in regard to a given dependent variable (Baron & Kenny, 1986).

Steinberg, Mounts, Lamborn, and Dornbusch (1991) used socioeconomic status, family structure, and ethnicity to partition 10,000 high school students into 16 subgroups. The authors found authoritative parenting to be linked with better academic achievement among children across all subgroups. This means that SES, family structure, and ethnicity did not moderate the influence of authoritative parenting on students' achievement. The difference between moderating influence and mediator influences is that a mediator represents the generative mechanism through which the focal independent variable is able to influence the dependent variable of interest (Baron & Kenny, 1986). For example, Milne et al. (1986) used parental expectations, other processes, and SES as mediators to explain the effects of family structure on children's academic achievement that decreased significantly when these mediators were taken into consideration.

Because there are interactive effects of family status on student academic achievement, there is a desperate need to investigate how much of the effect of family status on students' academic achievement is mediated by family processes (Steinberg, 1990). There is a need to shift from exclusively using family status as a moderating variable to incorporating family processes as mediating variables. There are three questions that need to be answered:

1. Are there mediating affects of a specific family process that will influence how family status affects students' academic performance?
2. Are there direct effects of a specific family status on student's academic achievement?
3. Are there indirect effects of a specific family status through specific family processes on student's academic achievement?

Steinberg (1990) examined the effects of the family on students' academic achievement with each of the three research paradigms. He examined family influences first with a social address paradigm and then with a family process paradigm. An integrated paradigm that incorporates both social addresses and family process paradigms will be implemented. Both processes will be included in the current study. Family status variables included in the current study are family structure and socioeconomic status.

Steinberg (1990) is interested in the comparison between intact families and single-mother families. The family variables Steinberg studied included three dimensions of authoritative parenting style: (1) parental monitoring/supervision; (2)

parental supportiveness and warmth; and (3) psychological autonomy. These three dimensions are incorporated as mediating variables. Parental monitoring, parental supportiveness, and psychological autonomy granting mediated the affects of socioeconomic status and family structure on students' academic performance.

Bronfenbrenner and Crouter (1983) showed that the century-old social address paradigm continues to characterize the majority of contemporary research on this topic. They observed this in many studies of children from single-parent families. A study of children from intact versus non-intact families (Amber & Saucier, 1984) is a representative example of studies based on the social address paradigm.

The researchers surveyed a large sample of Montreal teenagers and found that students from separated/divorced families were less successful in school, liked school less, and expected to drop-out of school earlier than students from intact families. The weakness of the study was that there was a lack of control for socioeconomic or ethnic factors. It is not known if the findings were influenced by these factors or due to family structure, as the authors suspected. Studies that are based on the social address paradigm have varied considerably in controlling confounding variables.

The most common form of statistical control in existing literature is to have social class, race, grade level, or age controlled. In a recent study by Featherstone et al. (1992), school behavior and achievement were compared among students from intact, reconstituted, and single-parent families. Using race, grade, and age as

covariates in the analysis, they found that students from intact two-parent families had better attendance, higher grade point averages, and fewer negative and more positive behavioral ratings by their teachers than did students from reconstituted and single-parent families.

A weakness in the Featherstone et al. (1992) study is that socioeconomic status was not considered as a distinctive confounding variable. Walters (1988) notes that family structure and socioeconomic status are closely related. The median income of single-mother households is one-third that of two-parent households. One-fourth of White single-parent families and nearly one-half of Black single-parent families live in poverty. Herzog and Sudia (1973) concluded that the effects of a father's absence on juvenile delinquency and academic achievement outlines the importance of controlling for SES in research dealing with the effects of father absence. Viewing the restrictions, they found that father absence in itself had a lower correlation with poor school achievement if SES and type of fatherlessness were controlled (Herzog & Sudia, 1973).

Other researchers such as Mueller and Cooper (1986), and Acock and Kiecolt (1989) investigated the long-term effects of family structure during adolescence on adult adjustment. When SES was not controlled, both men and women who lived in intact families at age 16 scored significantly higher than students from single-parent families on all aspects of adjustment.

When examining single-parent families, it cannot be generalized that all single-parent families are homogenous. There is a need to consider all subtypes of

single-parent families in student's achievement research. Zimiles and Lee (1991) compared students from three different types of families (intact, single-parent, and step families) with respect to high school grades and educational persistence. Based on a sample size of 13,532 from a national data set (High School and Beyond Study), Zimiles and Lee found that differences among the three groups with regard to achievement test scores and high school grades were slight but statistically significant.

Students from both single-parent and step families lagged behind students from intact families but were unrecognizable from each other. This trend continued after SES was taken into account. Group differences were found in educational persistence and dropout behavior in Zimiles and Lees' (1991) study. What was most interesting was that students from single-parent and step-family households were three times as likely to leave high school before graduation as those from intact families. Other striking findings were that adolescents who lived in single-parent homes were likely to dropout when they had an unlike-gender custodial parent. A similar pattern of interaction was found among stepfamilies, but the pattern was reversed. Students who lived with their same gender custodial parent were more prone to drop out.

With the understanding of the effects of family structure on students, we need to understand the processes or mechanisms responsible in different environments for the academic performance of students. Milne et al. (1986) introduced processes in the study of the educational achievement of students from single-parent families.

While accessing two national databases (Sustaining Effects Study of Title, and High School and Beyond), Milne et al. investigated the effects of living in a one-parent not only family on children's academic achievement. Their findings examined the effects of SES, race, and age, but also the effects of many variables including their custodial mother's educational expectations, number of books in the home, homework monitoring, and time spent at home.

Milne et al. (1986) found that parents' educational expectations for students were significant mediators of the effect of family structure. They also found that students from two-parent families had higher scores on reading and math achievement tests than children from one-parent homes. They found that the effects of family structure were almost entirely mediated by other variables, particularly income. Because this factor was isolated, the direct effects of family structure were much smaller. Results also revealed that parents' educational expectations for students were significant mediators of the effect of family structure. Based on the nonsignificant effects of family structure on academic achievement, Milne et al. concluded that the effects of living in a one-parent family work primarily through other variables, such as SES and parent's educational expectation.

Reviewing data from the High School and Beyond study, Milne et al. (1986) found that students who lived with single parents or step parents during adolescence received less encouragement and less assistance with schoolwork than did students who lived with both natural parents. They also found that parental involvement had positive effects on students' school achievement.

Blum, Boyle, and Offord (1988) found that children of single-parent families were more at-risk for student psychiatric disorders and poor school performance. Amato and Keith (1991) also studied family and academic success. They conducted a meta-analysis on 92 studies about parental divorce and the well-being of children. The researchers found that students of divorced families scored lower than students in intact families across a variety of outcomes. Their findings from the meta-analysis revealed that family conflict strongly influences the relation between family structure and the well being of students.

A study by Dornbusch et al. (1985) found that adolescents in single-parent families were more likely to make decisions without direct parental input and were more likely to exhibit deviant behavior than were students from intact families. This behavior crosses over into the academic setting.

Socioeconomic Status and Family Structure

There is much evidence to support the conclusion that poverty has an effect on children and families, and that impression is usually a devastating one. Poverty often is linked to employment, mental, and physical health, and education. There are also other ways that poverty touches people's lives. According to Brooks-Gunn, Klebanov, Liaw, and Duncan (1985) because poverty is used as a measure, it is unrealized if poverty is permanent or temporary (McLeod & Shanahan, 1993). McLeod and Shanahan (1993) defined persistent poverty as the percentage of years of life during which the student lived in poverty. Current poverty is defined as

poverty that occurs as a result of immediate financial problems (e.g., unemployed or with out a job). McLoyd (1990) suggests that greater attention should be focused on family processes in the study of poverty outcomes in order to understand what variables mediate the effects of poverty.

According to statistics, it is estimated that by the year 2000 the population of the U.S. will grow to 275 million, and that by the middle of the 21st century the population will reach 375 million (Fitzgerald, Lester, & Zuckerman, 1995). In 1991, the Census Bureau reported that 35.7 million people (roughly 14% of the population of the United States) had incomes below the federally defined poverty level. By the end of the century the number of people living in poverty will be 38.5 million, and by 2050 it will surpass 50 million (Fitzgerald et al., 1995). The National Center for Children in Poverty (1990) reported that 14 million of America's poor are children, with approximately 5 million under six years old. The 10 worst cities for children under age six in 1989 had poverty rates ranging from 52.4% (Detroit, Michigan) to 44.8% (Laredo, Texas). In 1990, The National Center for Children in Poverty statistics estimate that among minority children living in large metropolitan areas 42.1% of Blacks, 35.3% of Latinos, 34.4% of Native Americans, and 22.9% of Asian American were poor. According to NCCP, Erie, Pennsylvania, ranked first among the 10 worst cities in the U.S. for poverty among African American children (62.0%) and for Latino children (68.5%).

Several factors have contributed to the causes of increased poverty rates among children. Some of those increases include but are not limited to: (a) fiscal

changes in the economy, that may include elimination of unskilled and semi-skilled jobs, stagnation, recession or inflation of the economy, job migration from inner cities to the suburbs; (b) budgetary constraints on federal programs like AFDC, continued increases in inequalities between the affluent and the poor; and (c) shifts in the number of children born out of wedlock, increases in the rates of divorce and single parent households, and increase in maternal employment without the possibility of quality child care (Chase-Lansdale, Lindsay, & Brooks-Gunn, 1995; Danziger & Weinberg, 1986)

Children from Latino or Hispanic backgrounds are much more likely to grow up in poor families, with rates double or triple that of non-minority families (Chapa & Valencia, 1993; Rivera-Batiz & Santiago, 1994). These statistics are alarming when compared to the life situations of White, African American, and Hispanic American children. In 1991, the poverty rate for Hispanic children was 40% compared to 17% of White children (U.S. Bureau of the Census, 1991).

Poverty is devastating for all those who experience it, but for Hispanics or Latinos the effects of poverty on developmental outcomes could be mediated or moderated by other variables present in Hispanic culture that might exacerbate or change the effects of poverty (Garcia Coll, 1996; Vazquez Garcia, 1995). Cultural attributes interfere with the socioeconomic variables and complicate pinpointing the direct affects of poverty.

According to Pallas (1989), there are factors associated with a student's exposure to inadequate or inappropriate education resources and experiences.

Because these factors do not in any way suggest that a student is automatically doomed to failure, the probability increases if one or more of these factors are present.

One factor is poverty. Poverty is an indicator of why students perform poorly in school. Others are race, ethnicity, and single-family composition. Race and ethnicity often indicate that Black and Hispanic students frequently score lower on tests than whites and are more likely to drop out of school. Family composition makes a difference, too. Many children who come from single-parent homes live in poverty. Students affected by these factors tend to score lower on tests than do children living in two-parent homes (Natriello, McDill, & Pallas, in press).

Other indicators are the mother's educational level and language background. When a mother's educational level is high, she will provide her students with more educational resources than will less educated mothers. Language background can be a strong indicator, particularly for refugees from other countries whose primary language is not English.

Much research has been conducted on familial processes and how they affect academic achievement, but very few investigations have been done regarding specific populations such African Americans, Hispanics, Native Americans, and immigrants. Because many ethnic groups have come to the U.S. and prospered despite language and culture barriers and maintained a strong ethnic identity, Hispanics and African Americans have to be studied while considering historical,

social, and discriminatory issues. These issues are paramount to the foundation of ethnic identity and self-identification (Phinney & Rosenthal, 1992).

Minority groups are not homogenous. Substantial differences are seen in the number of Latino families and subgroups who live in poverty. Approximately 17% of Cubans live in poverty, compared to 41% of Puerto Ricans (Garcia Coll, 1996; Meyer, & Brillon 1995). It is important to know that common characteristics exist between Hispanic and Latinos, but generalizations cannot be made on the basis of ethnicity. There are some basic generalizations to be made, however.

Martin and VanOss Marin (1991) suggest that culture and not demographic traits are shared among subgroups. This is what makes it possible to generalize certain phenomena. Certain factors that affect the interpretation of most studies involving culture and ethnicity are familialism and simpatia. These are typical extraneous variables that interfere with the accuracy of the findings. Familialism emphasizes a strong affiliation of loyalty, reciprocity, and solidarity among members of the family. Simpatia serves as a way of promoting empathy, conformity and pleasant social relationship (Marin & VanOss Marin, 1991).

It is important to understand the socialization processes of minority children (Alvarez, 1986; Delgado-Gaitan, 1983; Gallimore & Goldenberg, 1993; Goldenberg, 1987; Vasquez, 1990). Research shows that the family ecology of ethnic minority families is different from mainstream culture (Harrison et al., 1990; Slaughter-DaFoe, Makagawa, Takanishi, & Johnson 1990). As a prime example, the interaction style or rules for interacting with adults are taught through socialization at

home. At home, that child learns expectations and how to behave toward adults. For example, researchers study how the child responds to an examiner or a teacher during a typical testing situation in school.

Unfortunately, how a child is socialized at home is not a part of measuring a child's competence. Instead, a child's test scores are used to only measure competence. According to Getzel (1974), most researchers argue that performance and competence are synonymous, but they are not. Performance in any given situation is determined by a number of factors, including socialization variables that children learn in the home.

According to Laosa (1977, 1982, 1984), a mother's teaching principles has a positive influence on the child's learning development. This provides credence that a mother's level of educational attainment will have a bearing on her child's academic success. She influences how her child responds to the instructional strategies found in traditional school settings and helps to determine if her child will adapt easily to the familiar environment.

Researchers have proven that successful achievement also depends on an intact family (Astone & McLanahan, 1991). Aston and McLanahan (1991) found that when families were intact completion of high school more likely compared to non-intact families where children were less supervised or monitored. This also may prove that there may be other factors that contribute to academic achievement besides economic security or family structure.

Current research purports that successful academic achievement depends on an intact family and on economic stability (Astone & McLanahan, 1991). Astone and McLanahan (1991) found that family structure and home life were an important variable when studying high school completion. They found that the educational expectations of students from non-intact families were lower. Students also received less coaching on their schoolwork and overall received less supervision than children from intact families. Considerations must be taken for other reasons beside economic security or family structure, which could affect the results of the study.

Other researchers contributed interesting studies about educational attainment, poverty, and family structure. Hines (1992) found that being poor was not a predisposition to low academic achievement. Hines' study of gifted Puerto Rican children proved that although families had low educational attainment, they were able to provide support and encouragement, which led them to excel in school.

Researchers such as McLoyd (1990) believed that family structure and poverty should be considered as a distal influence and a not primary effect on low academic achievement. McLoyd (1990) argued that the negative affects of poverty should be viewed as a weak variable and is dominated by the support and assistance students received from parents. It is believed that this fosters parental nurturing and stability, which guides the student to function well emotionally and academically.

Bronfenbrenner (1979) constructed a conceptual framework model that is beneficial in examining the relative contribution of proximal and distal variables to the academic achievement of Hispanic and Latino students. When viewing Bronfenbrenner's model, it is important to understand the student's behavior by learning how the student perceives the activities, roles, and interpersonal relationships that exist in his or her environment. To support the argument of what affects distal and proximal variables, analyses were done that compared the interfamilial processes of African American, Hispanic, and White families with adolescents. According to the framework model, the processes of maternal intelligence, maternal education, maternal employment, and poverty would apply to all three groups equally. Differences in interfamilial processes are due to like culture, socialization and interaction within the home environment.

Bradley and Caldwell, (1984) and Bradley et al. (1977), concluded that specific environmental processes are more accurate variables of quality of the home environment than one socioeconomic status or family structure. The variance related to environmental processes was so significant that SES and family structure had very little influence on the findings. The findings indicated that in the United States SES is confounded with race and that there are significant differences in child-rearing practices among various ethnic groups.

As a vehicle of socialization, family heavily influences the educational attainment of children, along with other forms of support. Vygotsky (1978) emphasized the parent-child relationship in the socialization of cognitive

development. Vygotsky (1978) suggested that learning should take place for children when tutoring occurs in the "zone of proximal development." These zones are found in stages where the student is not yet able to perform tasks autonomously with success, but is able to perform units of the task with direct support and guidance from the adult. This zone of proximal development occurs when parents support students' learning through interventions that provide information for that task at different levels and abilities.

According to Sewell and Hauser (1975), Hill (1979), and Rollins and Thomas (1979), parents affect their child's academic goals and achievement. Parents promote higher academic success and educational goals by serving as role models of achievement (Hill, 1979; Rumberger, 1983; Shaw, 1982) and concretely defining specific objectives for the student (Cohen, 1987; Sewell & Hauser, 1975). By reinforcing with praise (Rollins & Thomas, 1979), importance of achievement and performance are validated to the child.

Similar results reported by Forehand, Long, Brody, and Fauber (1986) showed that the relationships between parent and child are influential and are indicators of performance and achievement. Hess and Halloway (1984) found five unique processes regarding family and school achievement based on the findings of the study of preschool, elementary, and middle-school children: (1) verbal interaction between mothers and children; (2) parents' expectation for achievement; (3) positive affective relationships between parents and children; (4) parental beliefs and attribution about the student; and (5) discipline and control strategies.

Interestingly, among these five processes, discipline and control strategies appeared to have a primary influence on school achievement (Baumrind, 1991; Hess & McDewitt, 1984).

A study by Watson, Brown, and Swick (1983) found that parents' physical and mental contributions made a great significance to their children's school performance. The factors that contribute greatly to this finding are the amount of support given to a child by the parents and the child's performance in early school years. This study also revealed the kind of interaction that must take place for some degree of success to happen.

Stevenson and Baker (1987) also noted that students' school performance was enhanced by parental involvement in their schooling. Based on the significant results of the study, parental involvement in school activities influenced students' academic achievement and encouraged success explicitly and implicitly. In essence, students whose parents are more involved in their education earn higher grades in school (Stevenson & Baker, 1987).

Other studies also contribute to the literature about how parental involvement influences a child's academic success. Evidence from research has supported how higher levels of student achievement are associated with greater parental encouragement (Seginer, 1983). Sewell and Hauser (1980) state that parental support and encouragement is the primary mediator between social class and student performance. This study also suggests that for adolescents, high achievement during the adolescent years is associated with higher identification with

parents (Weinhert & Trieber, 1982). As students become acclimated from elementary school to high school, their readiness to work hard becomes an important indicator of academic achievement (Eccles & Midgley, 1989). Research has shown that parental influence is one of the factors that strongly affect students' achievement, and that the degree of readiness is influenced by parental involvement.

Naylor (1986) argues that there are two lines of research dealing with family influences on achievement in early adolescence. The first line of research deals with parent-child relationships. The second line of research emphasizes the influence of parental achievement related attitudes and beliefs on their student's attitudes and beliefs.

According to Naylor (1986) the topic of family influence on occupational and educational attainment have been of great interest to career educators and researchers. Based on Otto and Call (1985), researchers in such diverse fields as child development, sociology, demography, and career development have recognized that parental influence on employment and education drives the majority of decisions by students. Splete and Freeman-George (1985) show seven factors that influence the decisions of students educationally and vocationally: (1) geographic; (2) genetic inheritance; (3) family backgrounds; (4) socioeconomic status; (5) family composition; (6) parenting style; and (7) and parent work-related attitudes. The first four factors have an impact on the student's physical and mental

abilities. The last three have a monumental effect on a student's personality type, interpersonal style, work ethic, and the pursuit of nontraditional careers.

Parents play an important role in the educational process of their children. Because students spend more time at home than school, parents know their children intimately and interact with them on a one-on- one basis. Therefore, there are times when "teachable moments" happen that some teachers wished they had the insight to create. Children whose parents are involved in their student's formal education have better grades, test scores and, long-term academic achievement than do children with disinterested mothers and fathers (Henderson, 1988). Numerous studies have noted that parents' participation in education is very closely related to student achievement. Henderson (1988) reported that a Stanford University study revealed that when parents serve as tutors for their children, their children's IQs increase significantly.

Socioeconomic Status and Student Development

Since 1980, there has been an onset of interest in how the development of students is affected by socioeconomic factors at the family level. Researchers have emphasized that socioeconomic status, in contrast to income status, is multidimensional (e.g., parental education, occupation, income). There is a distinction between socioeconomic status and income status. Both are imperative to studying a student's development (Duncan, Yeung, Brooks-Gunn & Smith, in press).

Researchers have found that poverty and income status affect a student's development and that their effects are independent of and stronger than the effects of parental education (Duncan et al., 1994). In White's (1982) meta-analysis study, approximately 100 studies indicated family income is a stronger indication of academic achievement than either parental occupation or parental education. The study also states that measurements of socioeconomic status that combine income and occupation, or education and occupation, or all three components, are highly correlated with academic achievement than is income alone.

Socioeconomic Status and Cognitive Development

Socioeconomic status has affected students cognitively in a detrimental way. There are factors that mediate the effects of poverty on development. Based on demographic data and SES, the majority of poor children in the United States are of European ancestry, while the rates of childhood poverty among African American children are two to three times that of non-Latino, White children (U.S. Bureau of the Census, 1996).

In an analysis of longitudinal data from the 1968 to 1982, Duncan and Rogers (1988) gathered results from the Panel Study of Income Dynamics (PSID). They found that African American children, who accounted for 90% of all children studied, were poor for 10 to 15 years of their lives. It was also discovered that persistent poverty consistently had more detrimental affects on cognitive development,

academic achievement, and socioemotional functioning than transitory poverty (Duncan & Brooks-Gunn, 1997; McLoyd, 1998).

The subject of whether race differences exist during childhood poverty remains convoluted particularly when race is a factor. According to data from the PSID, Duncan et al. (1994) found that poverty during the first five years of life was far more influential on years of completed schooling than was poverty during middle childhood and adolescence. This period was particularly pronounced among African Americans, compared to whites. Other findings indicated that timing of poverty appeared to have no effects on achievement scores (Smith et al., 1997) or classroom placement (Pagani, Boulerice, & Tremblay, 1997).

Socioeconomic Status and Academic Achievement

During the late 1960s, state, federal, and local governments made many efforts to offset the affects of economic and social disadvantages of students entering the public education system. The purpose of these programs is to prepare preschool children of lower socioeconomic backgrounds for the social and scholastic experiences that they will encounter. Other programs were designed to help already at-risk students who fall in the category of low-SES and who are struggling in schools that lack the educational resources to help these students with special needs. The underlining scope of these programs is to equip, educate, and transform these students beyond their poverty level to productive, working adults.

In the United States, the number of children living in poverty is increasing at alarming rates. The United States is the largest nation to have higher incidents of children living in poverty (Cohen, 1993). Young people in this country account for more than 25% of the population. Children represent 40% of citizens categorized as poor. Statistically, most of the children in poverty are Black (43.1%) or Hispanic (39.6%) (McCormick, 1989). In 1987, 31% of children who lived in poverty under six-year-old lived in large cities (National Center for Children in Poverty, 1990). According to Renchler (1993), the circumstances by which these children pay for being poor are devastating. Carter (1991) reports several sources that support the conclusion that students who are socially and economically disadvantaged are more likely than children from higher income backgrounds to be damaged educationally. This factor puts low-SES students at-risk for obtaining substandard levels of achievement. Consequently, low-SES students drop out of school far more frequently than their higher SES counterparts. One million at-risk students drop out of school each year (McCormick, 1989).

Some conservatives argue that spending on social programs is wasteful, but the cost of not acting to assist low-income students is enormous. According to one statistic, the lifetime personal income lost as a result of dropping out of school ranges from $20,000 to $200,000 per person. The total cumulative lost income as a result of dropping out of high school is staggering. For example, in 1981, the high school dropouts had lost income estimated at more than $238 billion, with lost tax revenues of $68 billion. The benefits of keeping economically disadvantaged

students in school, according to financial experts, are well worth the human investment. Programs that will keep at-risk students in school and graduate them will yield a long-term savings of $4.75 for every dollar spent (McCormick 1989).

According to Drazen (1992), data were collected between 1972 and 1988 by the National Longitudinal Studies Program to examine the changes in the link between student achievement levels in reading and math and other factors like SES, family income, and community. Drazen found that few changes happened regarding the correlation between academic achievement and family income over the 16 years of the study. In a sample of 900 children born with low birth weights (Duncan, G., & Brooks-Gunn, 1997) found that those who lived in poverty during their first five years had IQs averaging 9.1 points lower than the IQs of the children in the sample whose families were not in poverty (Duncan & Brooks-Gunn).

Students from lower-income levels do not realize how much they are disadvantaged. They generally attend schools that are grossly underfunded, while their counterparts attend schools that receive substantially more funding and higher amounts of tax-based dollars per pupil (Hanushek, 1989).

Legislators and policy makers are urging that financial restructuring take place to help low-income students overcome the disadvantages that are currently exist in the infrastructure of school finance (Harp, 1993). It is evident that if low-income students attend poorly-funded schools they will not have the same opportunities to achieve as their high-income counterparts who attend better-funded schools (Renchler, 1993).

In a recent study, rural students are vulnerable to inadequate schooling and lower educational goals. The correlation between socioeconomic status and academic achievement has been documented in educational and psychological literature. The impact of this relationship is more imperative than school locality or school size (Marion, Mirochnik, McCaul, & McIntire, 1991; Center for Research and Evaluation, 1991). Wherever students go to school, students from low-income families have lower aspiration than do their high-income peers.

The poverty rate among rural communities is higher than it is anywhere else. According to O'Hara (1988), even rural families with two parents working are falling into poverty at a high rate. Because of tuition increases and low wages, college is an unrealistic choice for many rural students. Another circumstance that influences the goals of rural students is the educational attainment of both parents. High school seniors attending schools in urban and metropolitan areas are 1.5 times more likely than non-metropolitan area students to have a parent with at least a bachelor's degree than non-metropolitan area students (Pollard & O'Hare, 1990). These circumstances are unlikely to change since students who stay in rural areas have the lowest educational aspiration of America's youth and are more likely than those who leave to earn less education (Cobb, McIntire, & Pratt, 1989). Higher education and higher earning potential have drawn many young people out of rural areas. The lack of quality jobs will keep young people in rural settings. During the past 25 years, job requirements for managerial and technical positions have

required college degrees and have shifted job location to urban and suburban areas (McGranahan, 1988).

College represents only one aspiration for rural students. The analysis of data from the High School and Beyond Study (McCaul, 1989) revealed that rural dropouts as well as urban and suburban dropouts had several things in common. Like dropouts from urban and suburban schools, rural students made lower grades and scored lower on achievement tests than peers who graduated. Other findings concluded that rural students had low self-esteem and lacked self-actualization as compared to peers who stayed in school. The rural students who dropped out cited job offers, economic duress of family structure, or personal problems like pregnancy, marriage, and illness, or incorrigible behavior at school as reasons. McCaul (1989) also found that a higher proportion of minority rural students dropped out of school more than did rural white students, specifically Hispanics. Approximately half of rural dropouts were from the bottom quartile of the socioeconomic scale.

There is a considerable amount of literature regarding the differential affects of school inputs on student achievement. There are conditions that determine that educational inputs weigh more heavily than socioeconomic factors on student achievement, and in these cases environmental cultural variables are present. Studies that focus on the educational inputs on academic achievement in other educational systems are scarce. Different variables are considered when determining what affects students academically in Latin America and the Caribbean.

The countries have made great strides to improve their educational systems by the year 2000.

During a decentralization process in 1978, Mexico's school system used academic achievement scores to streamline public school graduates who were applying to public secondary education in the Mexico City metropolitan area. Based on the standardized achievement scores, students were allowed to choose the school shift of their choice, which naturally meets supply and demand. The majority of students with higher achievement scores preferred the morning shift. So, under this policy students with higher scores attended morning shift school and students with lower scores attended the afternoon shift. This procedure was implemented in large metropolitan areas in 14 states. Between 1991 and 1992 tests were administered to more than 352,000 secondary freshman applicants, 32% of whom were applying to enter first grade in federally financed secondary schools nationwide.

A questionnaire was distributed with information about the student's educational and family background, including gender, age, the number of elementary grades attended, size of the household, the educational attainment of both parents, and the shift of the public primary schools attended. According the section that the student attended, this variable was indicative of the type of students attending the morning shift. These students tended to be from a higher socioeconomic status and were higher achievers than their peers who attended the afternoon shift. As expected, there was a positive significant ($p<.001$) correlation of

father's (r=.275) and mother's (r=.287) education with the day school shift. When certain variables were controlled in this study, males had a significant advantage in ability while older students at the time of primary completion displayed lower ability. Mother's education was more significant than father's education as a cometate of ability. Students who live in two-parent homes attained a better ability score, but students from large families received lower scores. School inputs like preschool attendance and day school shift and locality were closely, but not significantly, related with ability.

The educational attainment of both parents was correlated with student achievement. Parents' income is used as a variable to determine socioeconomic levels that are strongly related to student cognitive achievement. Family structure was found to have a strong correlation with student achievement with less time far and exposure to parental simulation possible in large families.

In the 1960s researchers wanted to take an in-depth look at why there was a high percentage of minority students performing poorly in the school system. It was assumed that there was a deficiency in these children (Garcia Coll. et al., 1996; Laosa, 1977). It was believed that minority children could not learn as a result of a genetic deficiency. They were labeled as being incapable of performing. Laosa (1977) and Lopez (1991) concluded that minority children's difficulty in learning was due to the middle orientation of the school system, which contributed to the negative perceptions an ethnic minority child had of school. Other findings indicated that there were differences between minority and non-minority children and among and

within sub-culture communities (Laosa, 1977; 1980). It also was noted that as the student progressed through the school system, results did not completely eliminate cultural differences (Okagaki & Sternberg, 1996).

Current literature concludes that minority parents are to blame for their children's poor performance. Parents are supposed to be responsible for helping to educate their children. Instead, their children are not motivated and dedicated enough to make the system work for them (Dunn, 1987). Studies have reported that the lower socioeconomic status (SES) minority parents view their student's teachers as pedagogical experts and are unlikely to confront, question, or interfere in what they view as the teacher's domain (Carasquillo, 1994). Complacency of the parent often results in a misleading interpretation by the teacher that minority parents are not concerned about their children's education. In reality, these families are highly concerned and willing to help their children succeed in school, but they are unsure how to help (Delgado-Gaitan; 1990; Goldenberg, 1993; Goldenberg & Gallimore, 1991).

In contrast to low-income families, Hines (1992) found that families of high achieving minority students provided a strong family support system for their students. This support often is displayed during informal conversations related to everyday events, family decision-making policies, monitoring and supervising free time, parental explanation and counseling, and helping the children establish and reach long term objectives.

(SES) serves as a measure for the home environment and is closely linked to intellectual development (Gottfried & Gottfried, 1984). Factors that are included in the SES measure are parental occupation, parental education, and family income. Significant limitations of socioeconomic status being used as a measure for home environments have been noted (Bloom, 1964). Socioeconomic factors predict a family's social standing as well as other demographic information but, there is not a strong relationship between home environments and cognitive development (Bloom, 1964; Garcia Coll et al., 1996; Laosa, 1982). Velez (1989) found that Hispanics from lower-SES often force tend to dropout of school most often as well as economic constraints forcing them out of school. He states further that the higher the SES, the richer the cognitive environment. However, this is always not the case. Gottfried and Gottfried (1984) found that students from middle class backgrounds did not ensure or promote cognitive growth. In other studies, specific income levels such as middle class status have resulted in variability in student development. .

Trotman (1977) found that in past studies, Blacks were categorized as inferior in SES positions. This was based on the assumption that traditional variables like occupation, source of income, and neighborhood, represent for Blacks and Whites, factors of home environments, that are positively related to intelligence test scores and academic achievement. What is overlooked in most studies is the presence of significant environmental and attitudinal differences that are not present in traditional socioeconomic indices, but are reflected in the performance of Blacks on tests and in educational institution (Trotman, 1977). Trotman (1977) stated that Blacks' and

Whites' cultural differences, home experiences, parent-child interactions, and income levels might explain the differences in intelligence test performance by members of both groups. This supports and reiterates the findings from Gottried and Gottfried's (1984) study.

Laosa (1979, 1984) found that each environment has its own set of characteristics and a student's achievement or failure depends on the degree of competencies required to negotiate in those environments. To understand the relationship between specific family environments and intellectual achievement among populations whose members are disproportionately represented among low achievers on intelligence and achievement measures, one must examine the discrepancies between the competencies minority students acquire in their homes and those valued in the school.

Education has always been used as a means of upward mobility especially for the disadvantaged (Rivera-Baitz & Santigo, 1994; Smith, 1995). Minority students are more likely to be at an educational disadvantage as compared to whites for several reasons, including high chances of poverty and low educational attainment levels of parents.

Many factors have pinpointed dropout rates among ethnic minority groups. The socioeconomic variable is a complex factor that usually contributes to much of all circumstances. Researchers have continued to argue that low socioeconomic status of families is the primary cause of low academic achievement in children (Hetherington, Camara, & Featherman, 1983; Shinn, 1978; White, 1982). In most

cases, it is assumed that children from middle SES families are participants in the learning process, as compared to being passive vessels of direct knowledge (Harwood et al., 1996; Menaghan & Parcel, 1991). These differences, cited by Harwood et al. (1996), are more indicative to social competence among the middle-class compared to lower-class children.

Other researchers purport that SES be viewed as a distal influence on academic outcomes (Bronfenbrenner, 1986; Felner & Felner, 1989; McLoyd, 1990). Distal factors are variables that do not directly describe the life conditions and demands that result from those variables, nor the processes they require (DuBois, Eitel, & Felner, 1994). Several studies have found that aspects of distal variables of the family process were closely linked to school adjustment, even though there were controls for duplicates between family type variables and socioeconomic status or family structure (Dornbusch et al.,1987).

Other researchers believe that the greater emphasis should be placed on proximal variables. They are interpersonal systematic processes that define daily experiences of students within the context of the family (Bronfenbrenner, 1986; Felner & Felner, 1989; McLoyd, 1990). Laosa (1980) and LeVine (1980) state that mothers in their day-to-day interactions with their children function teacher whether they care to take on this role or not. Bronfenbrenner (1979) cites that it's important to consider the influence of the family environment on the success of children when the home is the major ecological setting. Many families, especially first-generation U.S. citizens, consider successful integration of children into mainstream culture as

their measure of success as parents (Garcia Coll et al., 1996; Zayas & Palleja, 1988). Acculturation may be represented in various ways (i.e., higher social status through employment and or education).

Luster and McAdoo (1994) found that family characteristics and processes of high-achieving African American students are different from those of their low-achieving peers. Based on many studies, most of which have negative results found that poverty and maternal education were not imperative to a student's cognitive outcomes and that the quality of the home environment served to mediate the effect of poverty.

Extraneous variables are important because socioeconomic factors are often used in many studies that do not have the same meaning across entire populations and sub-culture populations. Volk (1994) discovered that many families who were considered working class were able to offer support and encouragement to their children.

A conglomerate of research has substantiated that there's a strong correlation between family relationships and the intellectual, occupational, and economic attainments of those individuals as adults. Scarr and Weinberg (1978) concluded that family backgrounds have an effect on scholastic achievement and economic accomplishment into adulthood. Many researchers have tried to pinpoint the exact functional element in this relationship. Some have attributed it to educational and occupational attainment and family elements such as family size, birth order, and spacing intervals between siblings. Still others find explanation for

the differential academic performance among children in socioeconomic status, while others favor the behavioral-genetic interpretations (Henderson, 1981).

Since 1929, social scientists have been researching the various ways in which social stratification influences American life. Population studies have been conducted to demonstrate the ways in which students from different socioeconomic status levels receive differential treatment in school and institutions of higher learning (Brophy & Good, 1974). The question of how social class membership influences the socialization and development of students has captured the interest of social scientists everywhere. Measures of socioeconomic status are gross and undifferentiated, but research consistently has shown that socioeconomic status accounts for between 6 and 25% of the variance in IQ and academic achievement measures (Lavin, 1965; Miner, 1957).

A predictive element in the measurement of socioeconomic status is attributed to a variety of variables, attitudes, and motives relating to academic performance (Lavin, 1965). Among the proposed predictive elements are the neighborhood of residence, value placed on education, typical leisure-time activities, amount of reading done, and the nature of reading material (Deutsch, 1973).

The difficulty in using socioeconomic status as a standalone variable is that it limits the explanation of the construct itself. For example, several characteristics such as formal education and occupation may appear to summarize a number of important life-style variables, but may obstruct the variation among these characteristics in a general socioeconomic status level.

For lower-class adolescents, the view of "masculine values" leads students to reject the middle-class norm of respecting authority and middle-class achievement orientation. The lack of success among lower- class students does not necessarily mean low IQ's. According to Hollingshead's, *Elmtown's Youth*, academic failure of lower class students was viewed in this way: bias of the educational institution, that deliberately or inadvertently showed more attention to higher ability students. According to Cicourel and Kitsuse (1963), academic development and interest of the pupil is significantly influenced by counselors, who spend more time and effort helping students go on to college. The students' parents also supported this plan and frequently asked about their children's progress. These parents tended to belong exclusively to the middle and upper social classes.

Other conditions are present among lower-class living. Feelings of anti-intellectualism and antic-abstractionism are pervasive in this social class. This is a disadvantage because most institutions' efforts are aimed at middle-class views and beliefs. Upon these values this system makes high demands to individuals who cannot meet its requirements. As an example, linguistics among the lower class has been examined. Based on a number of research studies, the lack of abstract reasoning is noticeable in of verbal functioning. Without measuring relative intelligence, the lower class student is characterized as intellectually retarded in the abstract dimension of verbal functioning.

Montague (1964) observed the social class condition concerning the ability to think in abstract terms. The research highlights the differences that socioeconomic

backgrounds make on kindergartners' arithmetic concepts. Eighty-two pupils from four kindergarten classes were divided into socioeconomic categories and were subjected to a number of tests. As a result, a significant difference of .01 α level was found between the children from low and those from high socioeconomic backgrounds. A study of similar hypothesis selected three groups of students and paired them based on age, gender, grade placement, and experimental variables. Racial and regional factors were included, too. It was found that white students scored higher than African American students and that Northern African Americans scored higher than Southern African Americans, which was indicative of the educational climate.

Abstractness plays a crucial role between social classes. Its link to motivation and academic achievement can stem from influences of material gain or symbolic orientation. The examination of both social classes and their level of motivation is paramount to this study.

Some individuals are gratified primarily from material wealth, while others strive for symbolic attainment and others seek both forms of gratification. Most research studies have found that lower and higher socioeconomic classes differ with respect to the values they seek in personal achievement. The study noted that middle-class parents rear their children with the notion of value of individual achievement. As a result of this reverence, achievement becomes a value for its own sake and often loses its meaning. As an example, the middle-class students seek to master their curriculum subject regardless of whether it leads to practical

application or material wealth. The actual mastery of the subject is viewed as success in itself and may give the student both the motivation to embark on the academic process and great satisfaction if he/she succeeds. This concept is abstract since the attainment may not be associated with material or concrete gains of any kind. Lower-class students tend not be abstractly oriented. The effort for the sake of achievement as a concept is a foreign idea that is oblivious to students in this category. Motivation for students of this social class often is based on the promise of material or concrete things.

Douvan (1966), wanted to prove her assumptions that a high level of concreteness is needed to motivate lower class students, and that middle class students would be less likely to change their levels of aspiration with immediate rewards. High school students in both social classes were asked to complete a series of anagrams and motor tests under two different reward conditions. In the first condition, a reward was limited to the feeling of having accomplished a norm. In the second condition, a material reward of money was the prize for the greatest number of correct answers. As a part of the experiment, all students were told they had failed. At that point, Douvan assumed failure aroused achievement want, a reaction correlated with achievement motivation. Then McClelland's Achievement Test, and a projective Thematic Aperception Test (TAT) were given. Douvan's (1966) results supported the original hypothesis. Both groups responded to the material reward condition, but the lower class participants striving for material wealth

dropped drastically when the material reward was absent, while the motivated upper middle class participants remained at the same level.

From this study, achievement motivations of middle-class students were significantly more generalizable, consistent, and abstract-proof. Many researchers have omitted the factor of abstractness from their research and have focused mainly on motivation and aspiration instead. Sewell, Haller and Straus (1957) sampled more than 4,000 high school seniors in Wisconsin, to explore the relationship between socioeconomic status and students' educational and occupational aspiration levels. As a result, the study yielded a high correlation between social class and aspiration for both sexes. The researchers could not overlook other variables that may have played an important part in the study, but they were confident that the socioeconomic status of the student's family made an independent contribution to their aspiration level. Looking at those factors that played an important role in the aspiration level of the participants, these variables are intervening variables that compound the results of the study.

Polk (1965) examined the Lane County Youth Project in Eugene, Oregon, to explore the relationship between social class and academic aspirations and discovered a varied amount of variables that offer a more in-depth and accurate prediction of a student's success level than the simple class-and-aspiration correlation. It was discovered that teenagers' categorization as either the college-bound or non-college-bound type functioned as a more persuasive factor than socioeconomic status. Once a student is classified as college bound, more

attention, counseling, and encouragement are provided to reinforce his/her plans, which then and stimulates continuous effort to work toward the academic goal.

Thoughout the world (e.g., the United States, England, West Germany, Italy, and Mexico), studies have found that parental dominance is a strong factor in the student's desire to achieve. Parental dominance has been found to be a stronger influence on students' achievement than socioeconomic status. Reissman (1953) found that even though a person may belong to the middle class, which encourages academic achievement, the student may not exhibit a high motivational level if his reference group does not stress high achievement.

A number of studies concluded that the socioeconomic factor plays a heavy role in the well-being of the student. It has been shown that students of underpaid or unemployed families may suffer a loss in peer group status. Children often look for the support of a family to play an active role in their lives, but in many situations the family income cause those wishes to deteriorate among students. These situations are characteristic of family members being unavailable to their students for moral and psychological support. Without fully recognizing the total effects of socioeconomic factors and their relationship to parents' financial resources, students lose both a measure of security and leadership. They have little or no desire for ambition and commitment.

The student's schoolwork suffers, and according to Eisenberg and Lazarsfeld (1983) the younger students suffer more than the older, probably because they are more dependent on their parents and have had less opportunity to build up

resistance to devastating situations. For the older student, a crumbling parental situation may occur at a time when parental assistance could have meant a decision about what major to choose in college or what occupational career to pursue. For students to take a first-hand look at the financial perplexities that their family experiences and, at the same time strive for material wealth, could exasperate the students' future endeavors.

Elder (1974) found that middle-class families that lost substantial income during the Great Depression had children who started experiencing behavioral problems like stealing and destructiveness. The socioeconomic change affected the boys at a more significant rate than girls. The findings indicated that because the father was the head of family during the Great Depression lower income status jeopardized the boys' view of their primary role model. This may have had a greater effect on boys' social development and occupational aspirations than on girls. Boys from deprived, destitute backgrounds fared worse than did those from middle-and upper-middle class background.

The influence of economic arrangement and responsibilities has been an interesting topic for most researchers. What perceptions do students have in regard to their parents' economic situation? Does a student's predisposition to poverty expose him/her to greater risk of failure? Several studies have indicated that students of all ages are not always aware or knowledgeable of the plights of economic hardships that others have experienced unless they're predisposed to such an environment.

During adolescent years, there's an understanding of social structure, fairness, and balance of rights among individuals in society (Turiel, 1983). As children grow older, particularly males, there's a slow decline for the concern of others, which may lead to a male adolescent perception of economic arrangements focused on an individualistic. Hoffman (1975), the pressure of males to achieve and succeed often conflicts with concerns for the welfare of others. Boys are socialized to model their fathers and fit the traditional sex-role toward career pursuits and achievement. What if boys expressed the desire to be more like their mothers instead of their fathers? Would they have a different attitude toward occupational success and achievement?

In the Winocur and Siegal (1982) study, some questions were addressed to two age groups of middle-class Australian adolescents, aged 13 and 16-18 years. They were asked to allocate rewards between make-believe male and female workers in four separate cases. In one case, a male with no children was contrasted with a female with three kids. In the second case, a male with three kids was contrasted with a female who had none. In the third and fourth cases, both male and female had no children and both had two children.

For each case, participants in the study were asked to divide a pile of twelve $50 monopoly bills between the two workers. The total of $600 was fixed so that if it was divided evenly, each worked would receive $50 above the industry standard wage for males, which was $250 at the time of the study. The findings of the study were as expected. The concern for financial need declined with age. Older

adolescents were more likely than younger ones to base their allocation of money on the norm for equal work for equal pay, ignoring the family needs of individuals.

McClelland (1975) and McClelland and Pilon (1983) concluded that if the father is the breadwinner and the primary agent in his son's life the boy will experience what is known as imperial power syndrome, a high need to achieve and a low need for support from others. According to Bem (1974), boys and girls with fathers that possess masculine attributes rather than androgynous or feminine ones are determined, according to the Bem Sex-Role Inventory, as socially and cognitively competent. McClelland (1975), found a correlation between the imperial motivational pattern in men and a self-reported dislike of childcare and enjoyment of work. This explains the male's orientation toward a morality of separateness and individual rights and principles whereas females move toward a morality of interdependence.

In a typical family setting, perceptions of a powerful father will entice children to achieve. Tesser (1980) concludes that when fathers' achievements are seen as good and are relevant to the son's self-definition, comparison processes occur. This often causes the relationship between father and son to be strained because closeness between the two will be seen as threatening to self-esteem. The son will be motivated to decrease closeness with the father.

Biographical information was taken from eminent scientists and compared to that of their fathers. Scientists indicated that the closeness between their fathers was strained because of similarities in occupations. Based on this observation of

successful sons and their fathers, boys who are oriented toward serious academic and economic success perceive their fathers as a powerful masculine image that is consistent with society's image.

Research continues to provide evidence that ready acceptance and active involvement in society is influenced by one's socioeconomic background. It has been found that social leadership scores of children in middle-class schools are higher than scores of children in working-class schools. The average scores for aggressive, maladjusted students are lower in middle-class than in working-class schools.

Middle-and upper-middle-class students are more involved often than are in attending athletic events, dances, plays, and musical activities those from lower socioeconomic backgrounds. This, however, does not mean that every student from lower socioeconomic backgrounds will become social rejects. Research has shown that students whose fathers are college graduates are far more likely to be successful than students whose fathers have only a high school diploma.

Subcultures of the collegiate realm are often divided into groups based on their socioeconomic status. Children of middle-and upper-middle-class families often are interested in the college world of football, Greek letter societies, cars, drinking, dates, and card parties, than courses and professors. Students in this subculture are not insensitive to college life, but this is characteristic of middle and upper- middle-class students in this group. The vocational subculture are children of parents who are classified in a low socioeconomic status and live in the urban

centers of the United States. Their children attend urban colleges and universities and tend to be married students putting themselves through college. The academic subculture is usually children of parents who are upper-middle-class and are heavily involved in their academic pursuit of a college of education. Their achievement goes strictly beyond passing a course or graduation. Their views are linked closely with their college and faculty.

The nonconformist subculture includes children of all socioeconomic levels. These are intellectual, radical, anarchist protester type, scholarly, but social rebel, deviant, longhaired, but peaceful, isolationist students. When students fall in this category, their political, social, and cultural norms are at odds with their teachers, parents, and school. They form their own nonconformist cultures (Rice, 1978).

Research consistently reveals that being of low socioeconomic status is correlated with early withdrawal from school. Students from these families are more likely to lack positive parental influences and role models. In many cases, one will find that parents want their children to have more education than they completed. If a parent finished the fifth grade, maybe their goal for their son or daughter will be to finish high school. This sentiment often breeds drop-out students. In other cases, parents discourage their children from attending school.

Other variables enter into the picture when dealing with lower-class students. Schoolteachers often show prejudice against students from lower socioeconomic backgrounds. They show preferential treatment to students from middle and upper-middle class backgrounds. Students from these classes generally are chosen to run

errands, monitor, and chair committees, while students from lower classes receive more than their share of discipline and are labeled learning disabled. Because teachers are from the same middle-class strata, they often find it difficult to understand and accept the goals, values, and behaviors of students from other economic levels. In effect, this is indicative of their ethnic and social biases, which prevents them from treating and teaching every student equally. Instead, teachers expect less from lower-class students, making them resent differential treatment and to feel inferior. These students received fewer rewards for doing well and for staying in school than did students from higher-status families. Rewards are in the form of academic grades, favor by teachers, social acceptance by peers, and offices held. Lower-class students receive fewer rewards than higher status peers do. They're not recognized for their academic performance and do not enjoy the social acceptance and prestige of their peers (Rice, 1978).

In the past, the focus of achievement has been centered on reinforcement and attributions for past performances rather than others' expectation for the future. Students' perceptions on economic justice have been perceived as cognitive developmental stages. Their opinions and ideas have been overlooked.

Siegal (1985) notes there is a shift away from examining constructs dealing with children's self-definition, identification, and perceptions of others. Researchers have gone as far as saying the current generation of parents is not as concerned as their parents were about increasing quality child care. Instead, parents are more

concerned with developing themselves. Bronfenbrenner (1985) concluded that children are raised by television instead of by their parents.

Parenthood today has become more difficult. Students now place physical and emotional demands on parents. Time and financial restrictions make it difficult for husband and wife relationships, which is not a new concept. Bronfenbrenner (1985) points out that today's student expects to possess more material goods. Financially unstable parents cannot meet the expectations of their child easily. From an early age, children are accosted with values and interests that potentially could collide with the parents' own values, morals, and beliefs. As family size has decreased, adults are unaware of what it means to raise children because they had no younger siblings to help raise, which was common for large families.

A person's reference group impacts the relationships between social class, background, and aspiration level, which operate as an intervening variable. Generally, a student's reference group tends to be of the same or similar socioeconomic status as that of his/her family. It is also possible that a student can identify with certain aspects of a reference group of a different socioeconomic status. Merton and Kitt (1950) argue that each social class is characterized by a different value system that emphasized different beliefs, morals and motivations for success. A student who identifies with morals and values of a different reference group will adopt the same characteristics of that group as his own, even if he does not belong to that group. This process is called anticipatory socialization and it implies the acclamation of norms and behavior traits of a higher stratum.

Anticipatory socialization is an exception and can be attributed to a student's socioeconomic background as a foundation for the building of aspiration levels.

According to Richard Whitmire (1999) SAT and ACT scores lag behind that of Whites, the performance level of black and Latino middle-class high school students. The performance gap among middle-class minorities was highlighted when a College Board task force reported in most school districts middle-class Black and Latino students performed about the same as whites who grew up in poverty. Because the Black middle class is ever increasing, there will be continuous debates over admission policies as more Black and Latino students seek four-year degrees and compete with White and Asian students who have higher SAT and ACT scores. In a study to boost minority achievement, places like Evanston, IL, and Chapel Hill, NC, experimented with a network of fifteen school districts with a sizable middle-class Black population. Preliminary findings indicated that African American students exceeded state and national norms for African American students, but the disparity between Whites and Blacks and Latinos is substantial. In 1997, the average ACT score in Evanston for Whites was 26.2% and 18.7 for Blacks. In 1998, the year's graduating class, 20 of the 100 top ranked students were minorities. Suggestions were to improve academic achievement among minority students by creating ACT prep classes specifically for Black and Latinos a new pre-calculus course; and a program specifically designed to build college-bound minority students' motivational and organizational skills.

Much of the research has linked socioeconomic status to student academic achievement. It also has been linked to academic failure across all levels of educational standing. A family's social condition has been associated with dropouts on all levels. Dropouts from lower the socioeconomic strata make up a significantly higher proportion of dropouts than do middle-and upper-class student.

Hollingshead's (1949) study of high school youth found a correlation between socioeconomic background and school adjustment, academic achievement, college orientation, and dropout rate. Hollinghead (1949) found that regardless of relative intelligence, one-third of students from lower classes received failing grades, as opposed to only 5% of the combined middle-and lower-class students.

Toby (1957) found that the social class status of the family has an impact in patterning a student's basic orientation to education and that the middle-class student has a definite advantage over her lower-class peer group in academic achievement. The student's parents are better educated, and therefore are more capable of helping him/her with schoolwork.

With parental involvement in his or her education, parents are more enthusiastic about making schoolwork meaningful to him/her by indicating explicitly the career or occupational application to life. Verbal skills which he/she acquires as a part of child training on the middle-class level prepare the student for academic training and give her an initial advantage over lower-class students in a classroom situation. The pressure of family, parents, friends, and neighbors reinforces his motivation for academic achievement and increases the probability of success.

Based on a study conducted in Louisiana, 77% of farm youth remaining in high school had fathers who were laborers. Forty-eight percent of the dropouts among rural students had fathers who operated or owned a farm, while 52% had fathers who were laborers. Among the students with non-farm or laborer backgrounds, 30% had fathers who were businessmen or professionals, and 70% had fathers who were wage laborers. Of the dropouts with no farm background, 100% had fathers who were wage laborers. This finding has been validated by the Minnesota Multiphasic Personality Inventory, which is an effective measurement of personal and social characteristics. Hathaway and Monachesi (1963) constructed a research design that used more than 15,000 Minnesota high school students in a follow-up study lasting through several high school generations. The findings indicated that among laborer families, 38% of the boys and 32% of the girls dropped out of school, while among professional families only 5% of the boys and 5% of the girls left before graduating.

There have been well-established links between socioeconomic status and students' achievement (Blau & Duncan, 1967; Flanangan et al., 1971; Eagle, 1989). In a sample of more than 20,000 males between the ages of 20 and 64, Blau and Duncan (1967) found that the educational level and occupation of the father accounted for 28% of the variance in years of education. Flanagan et al. (1971) cited that the probability of a student from the lower SES quartile entering college within five years of high school graduation was .32 for males and .18 for females. Meanwhile, the probability for students from the highest quartile was .86 for males

and .78 for females. In a study where social class was defined by the income, occupation, and educational level of the parents, Eagle (1989) concluded that students from the 90th percentile in social class distribution may be expected to receive over four and a half more years of education than students from the 10th percentile.

The data from the National Center for Education Statistics provide support for the association between socioeconomic status and educational attainment. In this study, approximately 45% of high school seniors from high-SES backgrounds completed postsecondary education, while only 15% of high school seniors from low-SES backgrounds completed college. When scholastic scores rather than college entrance scores are used as outcome measures, SES accounts for less of the variance. Parental social background accounted for 6% of the variance on math, slightly more than 16% of the variance on working knowledge, and 13% on word comprehension.

In a study of 868 Black and White elementary school children from two-parent and single-mother families, Paterson, Kupersmidt, and Vaden (1990) discovered that income level and ethnicity were better overall predictors than gender or family structure of children's academic achievement. White (1982) challenges evidence that supports the association between SES and academic achievement.

White (1982) conducted a meta-analysis of 200 studies that investigated the relationship between SES and academic achievement. He found that income, education, and occupation of the head of the household defined SES. When

individual students were the unit of analysis, SES and academic achievement were only weakly correlated (r=.22).

White (1982) also found that when an aggregated unit (such as school or district, in which all students were given the same SES and achievement rating) was the unit of analysis, the correlation between SES and academic achievement increased drastically to .73. White (1982) also discovered inconsistencies in the various measures of SES used in the studies he reviewed. With the traditional measures of SES, of income, education, and occupation income was found to be the highest single correlate of academic achievement.

White (1982) found that measures of SES that integrate two or more indicators were more highly correlated with academic achievement than was any single indicator. In the past, defining SES by family process has been a controversial issue, but White found that when SES was defined by measures of home environment, such as parents assisting children with homework, SES correlated much higher with academic achievement than when it was defined by single or combined groups of the traditional indicators. White (1982) indicated that in addition to parental education, occupation, and income level, there were many other characteristics of families that could affect the academic performance of students.

Other researchers, like Clark (1983), supported White's (1982) conclusions. Clark found that sponsored independence, high support, high expectations, close supervision, and respect for their student's intellectual achievement identified poor

black parents of high scholastic achievers. There is a need to go beyond the SES and to look into how SES should be ignored.

Halsey (1975) points out that socioeconomic class should not be thought of as a single factor independent of family processes. He perceives there are complicated interactive relationships between SES, family processes, and students' achievement.

Kohn (1979), a pioneering researcher who discovered the effects of social class on family process, believed that the higher a parent's social class, the more likely he or she was to value characteristics indicative of self-direction. He or she is also less likely to value characteristics indicative of conformity to external authority. Kohn concluded that this pattern was linked to the variety of conditions of life faced by parents in different socioeconomic circumstances. Parents with high socioeconomic status were more independent, free from close supervision, more likely to work at non-routine tasks, and did more complex work than parents with low SES.

A longitudinal study by Majoribanks (1988) found that parents' aspirations had differential linear and curvilinear associations with the educational and occupational outcomes of young adults from different social-status groups. Young adults living in middle social-status families had parental aspirations that were not related to their educational attainment. On the other hand, subjects in lower-social-status families had parental aspirations that had curvilinear association with educational attainment until a level of aspiration was attained.

Datcher-Loury (1988) attempted to link SES and family processes with school achievement of students. Based on data from the ETS Head Start Longitudinal Study, it was discovered that parental behavior and attitudes such as reading to children several times a week, attending PTA or Head Start groups, and having high educational expectations had important long-term effects on students' academic performance. It is also noted that these achievement-related actions of parents are usually associated with SES.

Eagle (1989) cited that among high school seniors, the advantageous home environment in high school, parents reading to the student during early childhood, and having a special place in the household for the student to study, were more common in higher-than in low-SES households. These results are consistent with that of a qualitative study on family-school relationships by Lareau (1987). She discovered that social class status provided parents with unequal resources to comply with teachers requests for parental participation. With this mind, middle-class and working-class students had more differences in the ways they encouraged educational success than in their educational values. Lower-working-class parents gave their responsibility for education to teachers, but middle-class parents did not. Middle-class parents had capital (i.e., educational skills, occupational prestige, and the necessary economic resources, to manage child, transportation, and time needs required to meet with teachers) to facilitate compliance with teachers' requests for parental participation.

To what extent does an individual's achievement depend on factors other than her ability, aspiration, and effort? In this country, individuals are paid for their performance of an occupational role and not for some extrinsic considerations. Are there other factors that can be identified as having an influence on earnings and may account for the wide discrepancies in earnings among the members of any particular social group?

Does an individual's social background provide favorable or unfavorable conditions for future employment? Why? Based on the history of humankind, it has been assumed that people from higher-status backgrounds achieve more because they possess superior God-given capacities because of either natural-born or learned talent, a biological inheritance, or both. It is a highly complex subject that should be explored and then understood by all. How does one's social origin influence capacities and achievements in educational, occupational, and economic arenas?

The answer may lie in examining individuals and their different characteristics. Numerous studies report that individuals with higher- status origins on average score higher on ability and achievement tests, earn better grades in school, have higher educational and occupational aspirations, are likely to obtain the education that will make them eligible for demanding, high prestige occupations, and will earn more income.

It is believed that much of the impact of social background on earnings and socioeconomic achievement is due to the superior cognitive and motivational

environment provided in the homes of higher-status parents. It is also believed to be due to the advantages in schooling and job opportunities that parents can provide for their children. There are ascriptive elements at work that allow the direct transfer of occupational and socioeconomic status, whether high or low, from parents to adult children, despite a son's or daughters' abilities, motivations, and educational achievements.

Because earnings are one source of a number of rewards, occupational roles should be interpreted and understood based on their prerequisites (Sewell & Hauser, 1975). Sewell & Hauser (1975) believe that earnings are a status achievement like educational attainment or occupational achievement. These achievements are interrelated to the extent they are connected with socioeconomic background influences.

In their classic study, Blau and Duncan (1967) discussed the American occupational structure, which is the first status of the attainment process. It was a new approach to study social mobility. The researchers defined social mobility as the process that develops over the life cycle of the individual. Their approach to analyzing social mobility was different from traditional social mobility analysis because it examined the degree that occupational and career status of a person is dependent on that person's social background. It also discussed the degree to which they are explained or interpreted by the person's own experiences or environmental influences that intervene between the students' background and future endeavors.

As an example, they collected and studied data from a 1962 national sample survey of males 20-to 64-years-old. Blau and Duncan (1967) speculated about a causal model of status attainment that began with the educational and occupational status of the father, followed by the son's education, the son's first job, and the son's occupation in 1962. In their model, educational attainment accounted for nearly all of the effects of the father's occupational status and his education on the son's occupational status in that year. Education was more influential than the first job in determining later occupational status. This is because educational attainment is largely independent of family background. It also had a large, independent influence on later achievement. These findings were consistent with the different age groups into which the sample was subdivided. They also indicate the crucial role that education plays in the career attainment process.

Blacks, Socioeconomic Status, and Academic Achievement

African Americans who have succeeded in corporate America have the opportunity to offer their sons and daughters a protective childhood. For African Americans, success is a mixed blessing because parents often worry about the harsh realities their children may or may not face regarding racism. Typically, the children of successful parents are often called "Baby Bumps" (Black Upwardly Mobile Professionals). These students enjoy the fruits of their parents' achievement. Living in upper-middle-class and exclusive neighborhoods, attending

private and public schools in affluent communities, Black students of this caliber often enjoy the privileges that their parents can afford.

These privileges do not come without a cost to affluent Black children. Black children who are more privileged than others often find themselves in predominantly white environments. There are great educational and economic advantages inherent in the life situations of these affluent children, but parents are concerned that there are serious disadvantages for their children who grow up in mainstream society. In this case, Black students are raised in an environment that is race-neutral, which means they grow up without a positive sense of self as an African American. The advantages of growing up in a black community are gaining positive black awareness and self-identity, but what comes with this are the poor schools, older housing, and concern for personal safety. Besides the obvious advantages that Black affluent children experience, they are predisposed to their lack of knowledge of Black culture and community. The negative side is that once Black children reach adolescence, the common characteristics between them and non-Black teenagers decrease. If Black students are not exposed to their African American culture or community, they will not be strong enough or equipped with a positive black identity to battle racism. Black affluent students who are raised in predominately white communities must receive preparations through interaction with the black community and their parents. Although many perceive African Americans to be a homogenized group, they will find that there are vast differences between poor Blacks and middle-class Blacks. The comparisons between groups based on

lifestyles and standard of living can be seen through the kinds of leisure activities in which they are involved.

Non-Black Minorities, Socioeconomic Status, and Academic Achievement

Educational achievement among Asians exceeds that of Whites and other minority groups. Asian groups, with the exception of Vietnamese, completed high school and four or more years of college earlier than whites. Chavez and Roney (1990) suggest that educational beliefs are viewed as the foundation for academic achievement across Black, White, and Latino high school students. They note that, although Blacks and Latino elementary school children achievement did not always equal that of Whites, the beliefs of minority group children and their mothers were those associated with high levels of achievement involving enthusiasm about their successful educational future.

Chavez and Roney (1990) found that Mexican-born parents exhibited higher educational achievement levels than did students with U.S.-born parents. Among college-educated Mexican Americans, they retain integration with traditional Mexican American culture, and they tend to stay in school longer and perform better than did later generations.

Internationals, Socioeconomic Status, and Academic Achievement

Economic diversity exists among the U.S. foreign-born population. Despite opportunities in the United States and the relationships established through The North American Free Trade Agreement to improve the socioeconomic conditions of

other countries, more than one- third of the foreign-born population has not graduated high school, as compared to only 16% of the native-born (U.S. Bureau of the Census, 1997). Immigrants are about as likely as U.S.-born citizens to have received bachelors' (15.9% vs. 14.%) and graduate or professional degrees (7.7% vs. 8.6%). Among immigrants, Asians tend to be more educated and skilled occupationally than those from Latin America and the Caribbean. Disparities can be seen between ethnic groups. Over 40% of Filipinos have received bachelors degrees, as compared to 5% of Salvadorans (U.S. Bureau of the Census, 1993). One-half of all legal Filipino immigrants where employed in professional, executive, or managerial occupations in 1993, as compared to only 2% of those from EL Salvador (Rumbaut, 1995).

Regional differences can be traced back to the status of immigrants from each area when the admission criteria for the United States in 1965 were restrictive. The exclusionary policies prevented mass immigration of Asian immigrants into the United States. In the last 30 years, Asians have been admitted into the U.S. because of their occupational and professional skills.

The socioeconomic status of immigrants is associated with their time of entry into the United States. Immigrants who entered this country in the late 1980s and early 1990s had higher levels of education and were likely to be professionals in their fields than those who immigrated to the U.S. in earlier years (Jensen & Chitose,1994; U.S. Bureau of the Census, 1997).

Studies of immigrant children have cited the potential problems they face in a new land of opportunity. Many of them come from homes in which English is not the main spoken language. Others had their prior schooling interrupted because of poverty or war in their home countries. Parents of these children know very little about the U.S. schools system's infrastructure. The assumption is that most of these students will experience difficulties and barriers at school and in their new surroundings. Other researchers have argued that adolescents and older students from immigrant families perform just as well, if not better, in school than their peers who are native-born (Fletcher & Steinberg, 1994; Fuligni, 1997; Kao & Tienda, 1995; Rosenthal & Feldman, 1991; Rumbaut, 1995). Immigrant students tend to score lower on standardized tests in reading. They receive similar or higher grades than their peers in English and math courses. Refugees from war and destitute countries have been found to attain high levels of educational achievement (Caplan, Choy, & Whitemore, 1991).

Studies have shown that not all immigrant students perform well in school. Findings have indicated consistencies in the differences of achievement among immigrant groups. The results have shown that immigrants from Asian countries, such as Taiwan and Korea out perform students from European countries, who in turn receive higher grades than immigrants from Mexico and other Latin American countries (Kao & Tienda, 1995; Rumbaut, 1994). Among Asian groups, Vietnamese and Filipinos perform well on standardized tests. Other Asian groups, such as the Lao received scores well below the national norms (Rumbaut 1994, 1995).

Observations based on academic achievement among ethnic groups are linked to dramatic socioeconomic and linguistic variations between the immigrant groups. Caplan and his colleagues (Caplan et al., 1991), suggest that socioeconomics alone cannot explain why students from immigrant families perform at high levels in American schools than their native-born peers. Kao and Tienda (1995) found that generational status predicts students' achievement above parental education.

For immigrant students, socieconomics or ethnic background does not impede the notion for families to strongly support academic achievement for their children. Parents from Central America, Indochina, the Caribbean, and India place a great importance on the academic success of their children (Caplan et al., 1991; Fuligni, 1997; Gibson, 1991; Gibson & Bhachu, 1991; Suarez-Orozco, 1989; Waters, 1994). Like all immigrants, they believe education to be the most significant way for their children to improve their status in life. Strong encouragement comes from parents when their child experiences difficulties in school. Often, parents point out the educational opportunities that the United States has to offer, compared to those opportunities available in their home countries (Matute-Bianchi, 1991;Ogbu, 1991). Kao & Tienda (1995) suggest that encouragement and immigrant parents' aspirations are the most important way to influence their child's education.

Socioeconomic Status, Other Influences, and Academic Achievement

Brofenbrenner (1979, 1986) noted that student development is not only influenced by the family, but also by systems that exist independently outside the family's control such as parent's workplace, neighborhoods, schools, and available health and daycare services. He also cites macroeconomic forces that cause stressors such as parental unemployment, job, and income. This work concept taps into a body of research within the developmental psychology field that examines an ecological approach that accounts for multiple levels of influences in proximity to the student.

Based on the body of literature that exists on this topic, there are assessments of economic context at the family level, which is the economic environment closest to the student. When financial resources are necessary to obtain physical and material resources that aid in a student's development (e.g., food, books, learning aids, activities), income becomes the core analysis of family economic context (Coleman, 1988; Entwisle & Astone, 1994).

Incomes exclude other factors required to facilitate development throughout childhood and adolescence. Other factors include human capital, defined as a diverse set of intangible resources (e.g., valuation of education, high education aspiration). These tangible resources are indexed by parental education, and social capital, which involves interpersonal behaviors such as supportive family relationships (i.e., parental attention) and relationships that bridge students to the larger world (Coleman, 1988).

CHAPTER 3. METHODOLOGY

Introduction

This chapter contains a detailed description of the population of the study and the procedures for collecting data. It includes the procedures used to obtain the data from the Office of Institutional Research, the Office of the Registrar, and the Office of Admissions at Iowa State University. The problem of the study was to determine the relationship between parents' educational levels and their children's academic achievement after the 1998-1999 academic school year at Iowa State University.

Population of the Study

The total population of this study was comprised of 3,733 freshmen who were traditional-age college students between the ages of 18 to 25. The sample totaled 1,784 (48%) of the population who completed the questionnaire. They were of all nationalities and ethnic groups who applied to, were granted admission to, and enrolled at Iowa State University for the 1998-1999 fall academic school year. These students were from across the U.S. and other countries, and were first-time freshmen at a research extensive, Big 12 institution located in Ames, Iowa. Before each student applied for admission, certain requirements had to be fulfilled to have a completed application to be considered for admission. Students had to have a high school diploma or equivalent, a completed college application, ACT/SAT

scores, and letters of recommendation indicating the students' likelihood of success in a higher educational setting.

An important part of this research was obtaining the fall 1998 Iowa State University Freshmen Cooperative Institutional Research Program (CIRP) Survey results. A representative from the Office of Institutional Research at Iowa State University was contacted by phone to access the Fall 1998 Iowa State University CIRP for freshmen. This office administers the survey to students during the fall of each academic school year.

Cooperative Institutional Research Program (CIRP)

The CIRP freshman survey was used to gather data for the study (see Appendix). It is an independent questionnaire designed for use by institutions of higher learning (Office of Institutional Research, 1998). Participating institutions receive a detailed profile of their entering freshman class, as well as national normative data for students in similar types of institutions (e.g., public four-year colleges, moderately selective Protestant colleges, highly selective Catholic colleges, public two-year colleges). These reports, together with the national normative profile, provide important data that are useful in a variety of program and policy areas:

- admissions and recruitment
- academic program development and review
- institutional self-study and accreditation activities
- public relations and development
- institutional research and assessment
- retention studies;

- and longitudinal research about the impacts of campus policies and programs.

Although the normative data provided with the institutional reports (and published annually in *The American Freshman*) are based on the population of first-time, full-time freshmen, participating institutions also receive separate reports for their part-time and transfer students. Participating campuses can also obtain supplemental reports profiling students by various subgroups (e.g., intended major or career, academic ability, home state) as part of the basic participation costs.

From the CIRP survey, three questions and responses out of 53 total questions were gathered for data analysis. One of the questions, "What is the highest level of formal education obtained by your parents," was used to group students and their responses. This question has eight possible choices: grammar school, some high school, high school graduate, post-secondary school other than college, some college, college degree, some graduate school, and graduate degree.

These choices were combined into five main groups: high school, technical or two-year degree, some college, college degree, and graduate or professional school. Based on the student's response regarding the highest level of education for both parents, each student was classified into those five distinct groups for analysis. If one parent had a higher degree attainment than the other, the higher one was used to determine categorization for each student. Within those five distinct groups regarding parental level of education, the responses to three questions, in particular, by 1,775 new ISU students were analyzed:

1. Are your parents: (this question relates to martial status)?
2. What is your best estimate of your parent's total income last year? Consider income from all sources before taxes.
3. What were your scores on the SAT and/or ACT?

Another important factor of this study was obtaining the cumulative grade point averages for fall and spring semesters of the 1998-1999 academic school year. The Office of the Registrar was contacted to gather academic grade point averages for the 1998-1999 fall academic school year for first-time freshmen at Iowa State University. The data were obtained by a signed release form. Then the data were sent to the Office of Institutional Research at Iowa State University to streamline and include additional data regarding: ACT scores, estimated family income, parent marital status, and grade point average.

Analyses of variance models were estimated across the five groups, with grade point average, ACT score, and income level as the dependent variables. These models test whether the mean of each dependent variable differs significantly among the five groupings. Crosstabulations were performed to test for significant relation among the five parental educational levels and the three levels of parental marital status.

CHAPTER 4. RESULTS

The purpose of this research was to determine the effect of parental educational attainment on student success. The study examined the effect of five distal variables: (a) parental educational attainment, (b) parental influence, (c) achievement and socioeconomic status, (d) poverty and achievement, and (e) family structure; and two proximal variables: (f) home environment, and (g) parent-child interaction.

Specifically, the objectives were to:

1. Determine the level of academic achievement among freshmen, measured by their cumulative grade point average in an academic school year, compared to others;
2. Examine the percentage of freshmen whose parents either earned a high school diploma, attended college or technical school, or studied toward a graduate degree;
3. Determine whether students whose parents attended college are more successful academically than students whose parents did not graduate from college;
4. Provide a demographic description of the freshmen subjects studied; and
5. Determine whether poverty, socioeconomic status, and family structure have an impact on the academic achievement of freshmen students at Iowa State University.

Hypotheses

Four hypotheses were formulated for the study:

1. Students whose parents obtain higher educational attainment past high school will earn a higher cumulative grade point average their first academic year than students whose parents only obtained a high school diploma.
2. Students whose parents obtain higher educational attainment past high school will score higher on the ACT/SAT than students whose parents only attended high school without earning a diploma.
3. Students whose parents have higher incomes will achieve a higher cumulative grade point average than will students whose parents have lower incomes.
4. Students who have both parents in the household will have greater achievement than students from single-parent homes.

Data Analyses

The Statistical Package for the Social Sciences (SPSS) was used for interpreting the data in this study. Descriptive statistics included frequencies, means and standard deviations for all variables.

Tables 1 present the means, standard deviations and minimum and maximum values for the variables for the parents' educational levels and dependent

Table 1. Mean, standard deviation, and minimum and maximum values for parents' education levels and the dependent variables

Independent variable	Percentage	Mean	Std. Dev.	Min- Max
1. Highschool, n=228				
Parental status				
One or both deceased	2.1			
Both alive – divorced or separated	24.4			
Both alive – living together	73.5			
ACT score		24.42	3.77	
Grade point average		2.80	.885	
Income range*		7.40	2.68	1 – 12
2. Post-secondary other than college, n=94				
Parental status				
One or both deceased	4.0			
Both alive – divorced or separated	10.9			
Both alive – living together	85.1			
ACT score		24.76	3.45	
Grade point average		2.89	.790	
Income range*		7.83	2.53	1 – 12
3. Some college, n=259				
Parental status				
One or both deceased	2.5			
Both alive – divorced or separated	19.2			
Both alive – living together	78.3			
ACT score		24.82	3.91	
Grade point average		2.97	.881	
Income range*		8.17	2.72	1 – 12
4. College graduate, n=709				
Parental status				
One or both deceased	1.9			
Both alive – divorced or separated	14.5			
Both alive – living together	83.6			
ACT score		25.54	3.80	
Grade point average		2.88	.853	
Income range*		9.13	2.41	1 – 12
5. Graduate school, n=399				
Parental status				
One or both deceased	2.4			
Both alive – divorced or separated	17.6			
Both alive – living together	80.0			
ACT score		26.40	3.94	
Grade point average		2.82	.879	
Income range*		10.35	2.25	1 – 12

*Income range: 1=<$6,000; 2=$6,000-$9,999; 3=$10,000-$19,999; 4=$20,000-$29,999; 5=$30,000-$39,999; 6=$40,000-$49,999; 7=$50,000-$59,999; 8=$60,000-$74,999; 9=$75,000-$99,999; 10=$100,000-$149,999; 11=$150,000=$199,999; 12=$200,000+

variables. Based on the first variable, parents with less than or equal to a high school education, 228 students had a mean ACT score of 24.42 and a mean cumulative grade point average of 2.8. Students in this group (2.1%) had the lowest mean grade point average of the entire group. Students in this sample (24.4%) came from homes where one or both parents are deceased. These students (73.5%) were also from homes where parents were both alive and divorced or separated or with both parents alive and living together. This group (24.4%) had the lowest percentage of both parents alive and living together and the highest divorce/separation rate among the group. Among the five groups, the income range for parents with an equivalent of high school diploma had the lowest income mean range of 7.40.

For the second variable, 94 students whose parents had one or two years of education other than college, had a mean ACT score of 24.76, which was equivalent to students whose parents had less than or equal to a high school education. The mean score for the cumulative grade point average was 2.89, which was slightly higher than the first group. This sample had fewer students living in homes where both parents were alive and divorced/separate (10.9%) compared to (24.4%) for the first group. More students in this group (85.1%) were found to have parents who were alive and living with them than any other group. This group had a mean income range of 7.83.

For the third variable, students whose parents had one or two years of college, 259 students had a mean ACT score of 24.82, which was almost equivalent

to the data in variables 1 and 2. The mean cumulative grade point average was 2.967, which was higher than for groups 1, 2, 4, and 5. This group had the second highest incidence of both parents alive and divorced/separated (19.2%) and the highest rate of one or both parents being deceased (2.5%). The mean income range was 8.17.

The fourth variable, students whose parents had a college degree, indicated that 709 had a mean ACT score of 25.54, which was slightly higher than for the first three groups. The mean grade point average was 2.88. In this group, (1.9%) had one or both parents deceased, which was the lowest percentage of all groups. Percentage-wise, there were some differences among all groups concerning both alive-divorced/separate and both alive-living together parental statuses. This group (83.6%) had the second highest percentage of both parents alive and living together of the groups.

The last variable, students whose parents had a graduate degree, indicated that 399 students had a mean ACT score of 26.40, which was the highest of all groups. The mean grade point average for this group was 2.82, which was the second-lowest grade point average of the entire group. This group (17.6%) had the third largest percentage rate of parents both alive/divorced or separated. Among the five groups, this group also had the highest mean income range.

Analysis of variance

To determine if there were significant differences among students for the three dependent variables (grade point average, ACT score, parental income), three separate analysis of variance (ANOVA) variance models where estimated with marital status as the main effect.

Grade point average

Null Hypothesis 1: Students whose parents obtain higher educational attainment past high school will not earn a higher cumulative grade point average their first academic year than students whose parents only obtained a high school diploma.

The ANOVA model for academic achievement was estimated for comparing mean cumulative grade point average for first-year students across the five levels of parental education: less than or equal to a diploma, post-secondary other than college, some college, college degree, and earned post-undergraduate and graduate education.

As shown in Table 2, students (M=2.85) whose parents had less than or equal to a high school diploma had a lower mean grade point average than students (M=2.81) whose parents have a post-secondary other than college education. The difference between these groups was not significant ($p<.05$) in the Scheffé post-hoc analysis. Students (M=2.97) whose parents had less than or equal to a high school degree, had mean grade point averages that were lower than students whose parents had some college. There was no significant difference between the mean grade point average of students whose parents had less than or equal to a diploma

Table 2. ANOVA for grade point average

Source	Sum of squares	df	F	Sig.
Parent educational levels	3.829	4	1.279	.276
Within group	1324.371	1770		
Total	1328.199	1774		

than students whose parents had some college. Students (M=2.88) whose parents had less than or equal to a high school diploma had a lower mean grade point average than students whose parents were categorized as having less than or equal to a high school diploma. Students whose parents were categorized as having less than or equal to a high school diploma had a lower mean grade point average than those students whose parents fell into the post-undergraduate or graduate level. There was no significant difference ($p<.5$) in all categories when the high school group was compared to all other groups. In summary, these results indicated that students whose parents obtained higher educational attainment past high school did not earn a higher cumulative grade point average their first academic year than students whose parents only obtained a high school diploma; thus, null Hypothesis 1 was retained.

ACT scores

Null Hypothesis 2: Students whose parents obtain higher educational attainment past high school will not score higher on the ACT/SAT than students whose parents only attended high school without earning a diploma.

The ANOVA for the effect of the highest educational attainment by mother or father on ACT scores is summarized in Table 3. The Scheffé post-hoc analysis showed that there were significant ($p<.05$) differences between groups. Students whose parents were categorized into the high school group had the lowest mean ACT of the five groups. Group 2 (24.76), Group 3 (24.82), Group 4 (25.54), and Group 5 (26.40) had higher mean ACT scores, respectively. Comparisons among the high school group (24.42), college (25.54) and graduate (26.40) group were significant at ($p<0.5$). The some college group (24.82) comparison with the graduate school group (26.40) was significant. The college graduate group (25.54) and the high school group (24.42) were significant as well as the comparison between college graduate (25.54) and graduate school group (26.40). The graduate group (26.40) was significant when compared to the high school group (24.42), the postsecondary other than college group (24.76), the some college group (24.82), and the college graduate group (25.54). In summary, these results indicated that students whose parents obtained higher educational attainment past high school did score higher on the ACT/SAT than students whose parents only attended high school without earning a diploma; thus null Hypothesis 2 was rejected.

Table 3. ANOVA for ACT score

Source	Sum of squares	df	F	Sig.
Parent educational levels	750.732	4	12.800	.356*
Within group	24692.548	1684		
Total	25443.280	1688		

Significant at $\alpha=.05$.

Income range

Null Hypothesis 3: Students whose parents have higher incomes will not achieve a higher cumulative grade point average than will students whose parents have lower incomes.

The ANOVA for the effect of the highest educational attainment by mother or father on income range is summarized in Table 4. The Scheffé post-hoc analysis showed that there were significant ($p<.05$) differences between groups. The results showed that there were significant differences in income across parental educational levels. Parents with high school diplomas had an income range of (M =7.44) when compared to parents with postsecondary other than college (M = 7.83), to the some college group (M=8.17), to the college graduate group (M= 9.13), and the graduate school group (M= 10.35). In summary, the results indicated that students achieved higher cumulative scores when their parents had higher educational levels and earned substantially more money than parents with lower educational attainment; thus null Hypothesis 3 was rejected.

Table 4. ANOVA for income range

Source	Sum of squares	df	F	Sig.
Parent educational levels	1612.425	4	66.285	.000*
Within group	10189.527	1677		
Total	11810.951	1681		

*Significant at $\alpha=.05$.

Null Hypothesis 4: Students who have both parents in the household will not have greater achievement than students from single-parent homes.

A crosstabulation for parental education and parental status is presented in Table 5. Parental educational attainment and parental status were significantly associated with one another (p.<.05). There were fewer parents with a high school Degree (7; .02%) who were both alive—divorced or separated (53; 19%). Parents

Table 5. Crosstabulation for parent educational attainment and marital status

Parent educational level	One or both deceased	Both alive– divorced or separated	Both alive – living together	Total
High school				
Count	5	58	175	238
Expected count	5.4	40.7	191.9	238.0
Post-secondary other than college				
Count	4	11	86	101
Expected count	2.3	17.3	81.4	101.0
Some college				
Count	7	53	216	276
Expected count	6.2	47.2	222.5	276.0
College graduate				
Count	14	107	615	736
Expected count	16.6	126.0	593.4	736.0
Graduate school				
Count	10	75	340	425
Expected count	9.6	72.7	342.7	425.0
Total	40	304	1432	1776
Expected count	40.0	304.0	1432.0	1776.0
	Value	DF	ASYMP.SYG	
Pearson Chi-square	17.824	8	.023*	

*Significant at α=.05.

who were college graduates with degrees, had a higher incidence of divorce than any other groups in this study. There were more parents with high school diplomas who were both alive and living together (191.9; 73%) versus parents with high school diplomas, both alive-divorced or separated (40.7; 24%). Fewer parents with post-secondary other than college experience were also deceased. There were substantially more parents with some college who were both alive and living together (216; 78%) than one or both deceased that are deceased (14; 19%), both alive-divorced or separated (107; 14%), and both alive-living together (615; 83%), respectively. Overall, parents with graduate degrees both alive and living together had the greatest numbers (340; 80%) over one or both deceased (10; 2.3%), or both alive divorced or separated statuses. In summary, students who had both parents in the household experienced greater achievement than students from single-parent homes, thus null Hypothesis 4 was rejected.

Findings

Parent educational level did not have an effect on grade point averages. The ANOVA for ACT scores among parents' educational levels indicated effects on parent educational attainment. When comparing the ACT scores for students whose parents have less than or equal to a high school diploma with students whose parents have post-secondary, not college ACT scores, no significant differences existed between groups. There were significant differences between ACT scores for students whose parents have less than or equal to a high school

diploma and scores for students whose parents are college graduates. There were significant differences ($p<.05$) between ACT scores for students whose parents have less than or equal to a diploma and students whose parents have a graduate education. Overall, the results confirmed that the higher the parental educational level, the higher the student's standardized test score as well as income. Even though current research has shown that parental education has an impact on student's academic achievement, the results of this study did not correlate with the many studies conducted on this topic.

Parent education does have a significant main affect on income. There were significant differences ($p<.05$) between parental educational level and the range of income among the levels. The high school level had the lowest mean range ($M=7.44$).

There were significant differences ($p<.05$) between the post-secondary, not college mean range ($M=7.83$) and the high school level range mean ($M=7.44$). These groups had slight income differences based on parent educational level. Comparisons between the high school level and the some college level was significant. The some college category had higher salary ranges than the high school level. The college graduate level had significant differences among the prior levels. There were more students whose parents were categorized on this level than any other level. With a total of 691 and an interval mean of $M=9.13$, this group was considered to be a middle-class socioeconomic status.

There were significant differences between the high school level (M=7.44) and the graduate level (M=10.35). There were 406 students whose parents were categorized on this level. Roughly, 24% of the total student/parent population were considered upper-middle class or wealthy. This level had the second highest total among the five groups. In addition, the significance between income level and parental educational level was meaningful. The results indicated that parental education level was significant when considering the income range. The higher the parental educational level was, the higher the income-range.

CHAPTER 5. DISCUSSION AND CONCLUSION

Discussion

The purpose of this research project was to discover the influences of parental educational levels on students' ACT scores, cumulative grade point averages and parental income levels. The study was conducted to gain an understanding of the impact that different parental educational levels have on the three dependent variables. In addition to adding new literature to the field, it was expected that this study would spark more interest in how parent-student dynamics heavily influence student academic achievement.

Past research has shown clearly that parental possession of a college degree leads to higher incomes, higher educational attainment, and a choice of more selective colleges for their children (Gruca et al, 1989). Student-parent dynamics are important to the success of a child's academic career in college.

No retention program could ever substitute for a parent's influence on the likelihood of student retention. Parental educational level, parental marital status, and parents' socioeconomic levels affect students academically.

ANOVA

Research on this topic has been divided with respect to the treatment of socioeconomic variables and their effect on academic achievement (Bronfenbrenner, 1985; Dubois, et al., 1994). Several researchers have argued that to effectively evaluate distal variables on academic achievement, they must be used

as a conglomerate. Others have argued that it does not capture the processes that take place within the environment. The ANOVA for grade point average resulted in no significant main effects on students whose families were categorized into one of the five parental educational levels. The results indicated that students whose families were categorized as having some college education had a higher mean grade point average than any other group. There were differences between all groups; however, students on these levels were not statistically or significantly different from one another, as shown in Figure 1.

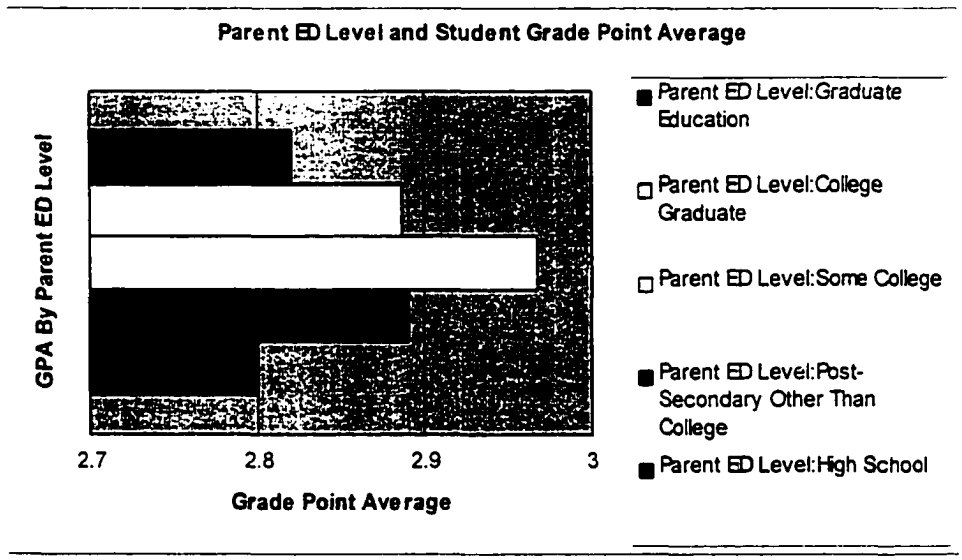

Figure 1. Parental educational level and student grade point average

Contrary to these findings, other studies have found that there is a strong correlation between parents' educational level and student academic achievement. Authors, such as Hushak (1973) say that students whose parents have bachelors or graduate degrees, in a sense have private instructors who are probably have more

knowledgeable in one or more areas than any of the students' high school or college instructors. Conclusions drawn from the results are that freshmen from any parental educational background have an equal opportunity of succeeding academically their first year in college.

The differences in ACT scores across parent educational level were statistically significant. As shown in Figure 2, students whose parents had a graduate degree had the highest ACT scores, followed by parents with a college degree, and parents with some college education. According to The College Board (1992), ACT/SAT scores are strongly related to parental educational levels. The College Board (1992) reported that a recent national ACT/SAT profile showed that the higher the academic degree earned by parents, the higher the test scores of their children. Students with the highest ACT/SAT scores are usually from families with the highest parental degree attainment. Parental income levels were significantly different among parental educational levels. There were no income differences between parents' high school educational level and the post-secondary, not college level.

There were slight but not statistically significant differences between parents' high school educational levels and parents' educational level of some college (Figure 2). There was a statistically significant difference between the great significance between parental education category of high school and the parental educational level of graduate degree. Most research supports these results.

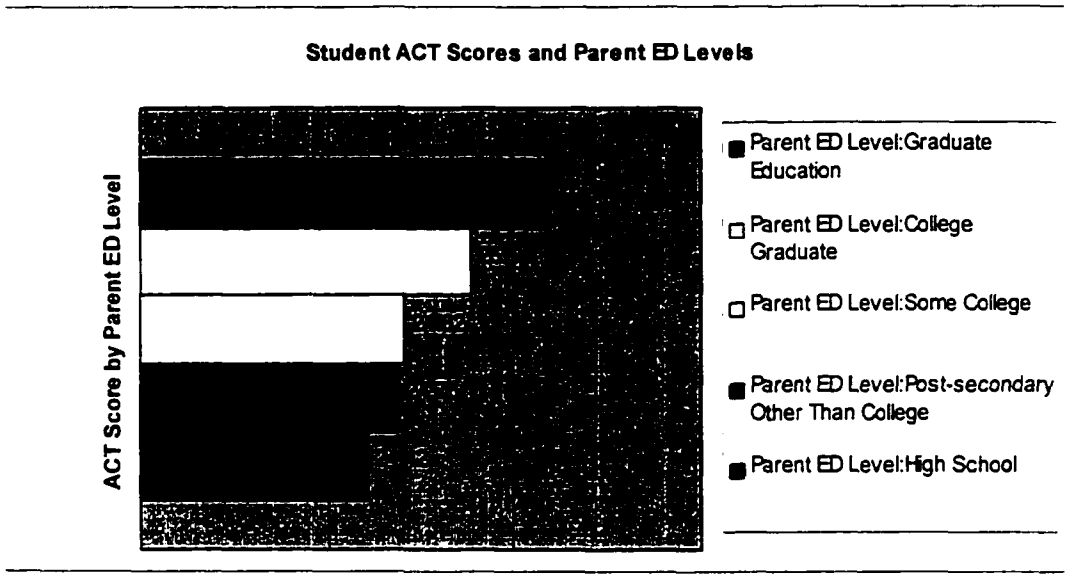

Figure 2. Student ACT scores and parental educational level

According to Williamson (1994), parent's educational levels are strongly related to family income levels. Current research has tried to separate the effects of a parent's education and family income on a student, but it has been difficult to do so. Both variables are used as proxies for socioeconomic status. Because parental educational levels can be independent of income, parental educational level can influence the value that parents place on education. This could possibly influence a child's educational attainment.

There were significant differences between parent educational level and income range among the five groups. In Figure 3, the high school group had the lowest income range.

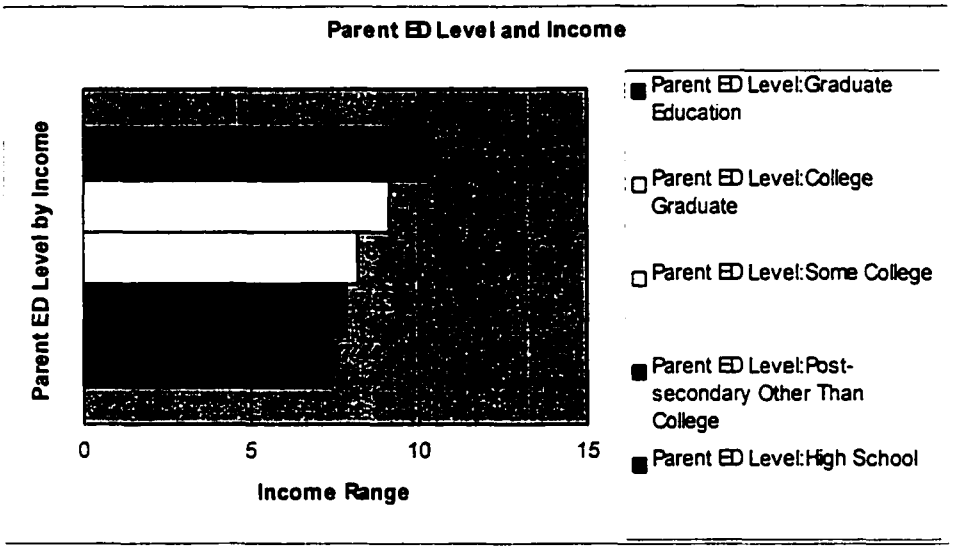

Figure 3. Parental educational level and income

Crosstabulation

Crosstabulations were performed between the five parental educational levels and three levels of parental marital statuses: one or both parents deceased, both parents alive-divorced or separated, and both parents alive-living together. The results indicated that each variable stands independently of each other. Marital status and parental educational level coupled together strongly impacts the academic achievement of students in the household.

According to the U.S. Department of Education, National Center for Education Statistics (1995), different family structures are associated with educational outcomes. More than likely, the effects of family structure are compounded by family income, parental educational level and the amount of time

that parents participate in their child's education. The results from this study have proven statistically what current literature has foretold.

Conclusion

This study provided evidence that home environment and parent-student dynamics would control the affect of distal variables on student achievement. Parents' educational levels impacted ACT scores, income and parental status. These were significant to this study. The implication of this study supports the premise of studying freshmen microsystems and students' environments to gain new understanding of the familial process. This body of research will make universities' services for students from all backgrounds more effective when preparing students to be academically successful at a post-secondary level.

Implications of the Study

The results of this study have strengthened and weakened the argument that distal variables are not important to the academic achievement of first year college students. Based on other studies by Husak (1973), The College Board (1992), Williamson (1994), and Gruca et al. (1989), variables such as parent education level, parental income level, and parental marital status have heavily influenced students' academic achievement during the first year of college. The results have shown that there are some factors that cannot be swayed by academic programming.

A college retention program cannot change factors such as parental marital status, parental educational level and parental income level. These environmental factors either help or hinder a student's academic performance. Bronfenbrenner (1985) suggests looking at environmental agents to predict academic success rather than looking strictly at objective characteristics. Without these environmental factors, certain issues related to culture, language, and belief systems go undetected and valuable information is lost.

This study has presented an extensive literature review integrating psychology, sociology, and educational research with demographic factors that contribute to the academic performance of students from diverse ethnic, racial, and gender backgrounds. While the structural factors affecting students are easily obtainable, it is the synergy of the home environment and its influences on academic achievement of first-time freshmen students that are the greatest concern to this study.

Scarr (1985) argues that distal variables (socioeconomic status) negatively influence academic outcomes. Gandara's (2000) book, *Over the Ivy Walls: The Educational Mobility of Low-Income Chicanos*, presents a strong argument for examining the forces that promote the high achievement of individuals who by society's standards should not be successful.

The focus of this study on parent educational levels and the cumulative grade point average showed that distal variables have some effect on a student's academic performance. Although current and past literature has supported the view

that different parental education levels positively or negatively affect their child's academic performance, that linkage was not proven in this study. When students' first year cumulative grade point averages were examined, students who had parents in one particular educational category had the same chance as any student in the study to perform well academically.

The distal variable (parental education level) did not have any influence on students. The results indicated that structural or objective measures like ACT/SAT scores were determinants in predicting success for students in this study. Based on current literature, it was expected that parental educational level would affect student performance on the SAT/ACT. Environmental factors were involved in the outcomes of this study. When the parent's educational level was high, so was the student's ACT score. Other studies have yielded the same results. According to (Young & Smith, 1997) children of parents with higher levels of education perform better on assessments of student achievement.

An environmental factor like parental income level also has always been heavily debated. Socioeconomic factors become hard to separate because there are so many extraneous variables involved like, education, marital status, and income, that it's difficult to decipher which factor is more influential. It was hypothesized that there would be differences between parental educational levels when it comes to parental income levels. Several studies have found that students' socioeconomic status is linked to their success in schooi (Young & Smith, 1997).

Another distal or environmental factor (parental marital status) is an important variable because this factor is directly associated with parental income and socioeconomics. Students who come from single-parent, separated/divorced or deceased parent homes have to struggle financially to even afford an education. This means that the student's attention is diverted from high academic performance to the financial concerns of staying in school.

There are strong relationships between a parent's education level and parental marital status. There's little research on the relationship between these two variables, but in this study the relationship is important because it is a distal variable that is associated with different outcomes. Despite the fact that the influence of the family structure is likely to be impacted by family income, parent's educational level, race/ethnicity and involvement of the parent in the student's education is paramount to two the student's success (National Household Education Survey, 1995).

Because family structures are associated with different educational outcomes, it was important to examine this factor in the study. The findings of this study supports Thomas' (1992) philosophy about the analysis of information gathered from the microsystem. He believed that because the components of a system tend to change, it is difficult to determine the shift from one system to another and the role of the participant.

Future research is needed to examine how other factors influence the subjects who are studied. With what we know about distal variables, how can parents provide their children with role models and a support system needed to

succeed in college when they are affected by parents' low levels of education, income, and single-parent homes? Can a retention or an intervention program at the post-secondary level be effective in dealing with these extraneous variables?

Recommendations for Practice and Further Research

The results of this and other studies related to first-generation college freshmen will become critical in the new millennium. As demographics change, new family structures will appear and alternative lifestyles will create new phenomena to investigate. It is imperative that educators, administrators, and policy makers have an in-depth understanding of the backgrounds of the student body they serve, or failure is inevitable. New approaches to the study of environmental influences are needed to capture the full essence of difficulties encountered and the successes achieved by students and their parents.

Bronfenbrenner (1979) believes more focus should be given to the everyday phenomena that influence students rather than focusing on the objective nature of student outcomes. With this in mind, research should also focus on the meanings and perceptions that students experience daily from interactions with family, friends, and their environment. Only after researching what makes all students successful, moving those findings into policy, and implementing them, will retention rates for first time freshmen from all parental educational levels, income, and martial status increase.

When considering the relationship between faculty and students, this research should point to new understandings that faculty should keep in mind when considering the role that microsystems play in student educational attainment. Students bring their past experiences into the educational setting, thus higher educational goals should maximize strengths as well as fill in the gaps where they apply to student success in academic and social settings.

Perhaps pilot studies could be conducted to determine if involving parents earlier in the formative years of the student's educational career would benefit and improve the student's chances for success. A follow-up study of the current research should be conducted four years after the present study to determine if a new group of freshmen students would produce similar results.

APPENDIX: COOPERATIVE INSTITUTIONAL RESEARCH PROGRAM (CIRP) QUESTIONNAIRE

PLEASE PRINT (one letter or number per box)

NAME: FIRST | M I | LAST

ADDRESS:

CITY: STATE: ZIP: PHONE: –

When were you born? Month (01-12) Day (01-31) Year

1998 STUDENT INFORMATION FORM

DIRECTIONS

Your responses will be read by an optical mark reader. Your careful observance of these few simple rules will be most appreciated.

- Use only black lead pencil (No. 2 is ideal).
- Make heavy black marks that fill the oval.
- Erase cleanly any answer you wish to change.
- Make no stray markings of any kind.

EXAMPLE:

Will marks made with ballpoint or felt-tip marker be properly read? Yes ... ○ No ... ●

PLEASE PROVIDE YOUR SOCIAL SECURITY NO.

FORM NO.: 068765

1. Your sex: ○ Male ○ Female

2. How old will you be on December 31 of this year? (Mark one)

16 or younger	○	21-24	○
17	○	25-29	○
18	○	30-39	○
19	○	40-54	○
20	○	55 or older	○

3. Is English your native language?
○ Yes ○ No

4. In what year did you graduate from high school? (Mark one)

1998	○	Did not graduate but passed G.E.D. test	○
1997	○		
1996	○	Never completed high school	○
1995 or earlier	○		

5. Are you enrolled (or enrolling) as a: (Mark one)
Full-time student? ○
Part-time student? ○

6. How many miles is this college from your permanent home? (Mark one)

5 or less	○	11-50	○	101-500	○
6-10	○	51-100	○	Over 500	○

7. What was your average grade in high school? (Mark one)

A or A+	○	B	○	C	○
A–	○	B–	○	D	○
B+	○	C+	○		

8. What were your scores on the SAT and/or ACT?
SAT VERBAL .....
SAT MATH .....
ACT Composite .....

9. Citizenship status:
○ U.S. citizen
○ Permanent resident (green card)
○ Neither

10. During high school (grades 9-12) how many years did you study each of the following subjects? (Mark one for each item)

	None	1/2	1	2	3	4 or more
English	○	○	○	○	○	○
Mathematics	○	○	○	○	○	○
Foreign Language	○	○	○	○	○	○
Physical Science	○	○	○	○	○	○
Biological Science	○	○	○	○	○	○
History/Am. Govt.	○	○	○	○	○	○
Computer Science	○	○	○	○	○	○
Arts and/or Music	○	○	○	○	○	○

11. Prior to this term, have you ever taken courses for credit at this institution?
○ Yes ○ No

12. Since leaving high school, have you ever taken courses at any other institution? (Mark all that apply in each column)

	For Credit	Not for Credit
Yes, at a community/junior college	○	○
Yes, at a 4-yr. college or university	○	○
Yes, at some other postsecondary school (For example, technical, vocational, business)	○	○

13. Where do you plan to live during the fall term? (Mark one)
With parents or relatives ○
Other private home, apartment or room ○
College dormitory ○
Fraternity or sorority house ○
Other campus student housing ○
Other ○

14. From what kind of secondary school did you graduate? (Mark one)
Public ○
Private (denominational) ○
Private (non-religious) ○
Other ○

15. Is this college your: (Mark one)
First choice? ○
Second choice? ○
Third choice? ○
Less than third choice? ○

16. To how many colleges other than this one did you apply for admission this year?

None	○	4	○	7-10	○
	○	5	○	11 or more	○
	○	6	○		

Note: If you applied to no other college, skip to item 18.

17. How many other acceptances did you receive this year? (Mark one)

None	○	4	○	7-10	○
	○	5	○	11 or more	○
	○	6	○		

18. What is the highest academic degree that you intend to obtain? (Mark one in each column)

	Highest Planned	Highest Offered at This College
None	○	○
Vocational certificate	○	○
Associate (A.A. or equivalent)	○	○
Bachelor's degree (B.A., B.S., etc.)	○	○
Master's degree (M.A., M.S., etc.)	○	○
Ph.D. or Ed.D.	○	○
M.D., D.O., D.D.S. or D.V.M.	○	○
LL.B. or J.D. (Law)	○	○
B.D. or M.DIV. (Divinity)	○	○
Other	○	○

19. Are your parents: (Mark one)
Both alive and living with each other? ○
Both alive, divorced or living apart? ○
One or both deceased? ○

21. How much of your first year's educational expenses (room, board, tuition, and fees) do you expect to cover from each of the sources listed below? (Mark one answer for each possible source)

	None	Under $1,000	$1,000 - $1,999	$2,000 - $2,999	$3,000 - $3,999	$4,000 - $4,999	$5,000 or more
a. My Own or Family Resources							
Parents, other relatives or friends	○	○	○	○	○	○	○
Spouse	○	○	○	○	○	○	○
Savings from summer work	○	○	○	○	○	○	○
Other savings	○	○	○	○	○	○	○
Part-time job on campus	○	○	○	○	○	○	○
Part-time job off campus	○	○	○	○	○	○	○
Full-time job while in college	○	○	○	○	○	○	○
b. Aid Which Need Not Be Repaid							
Pell Grant	○	○	○	○	○	○	○
Supplemental Educational Opportunity Grant	○	○	○	○	○	○	○
State Scholarship or Grant	○	○	○	○	○	○	○
College Work-Study Grant	○	○	○	○	○	○	○
College Grant/Scholarship (other than above)	○	○	○	○	○	○	○
Vocational Rehabilitation funds	○	○	○	○	○	○	○
Other private grant	○	○	○	○	○	○	○
Other Government Aid (ROTC, BIA, GI/military benefits, etc.)	○	○	○	○	○	○	○
c. Aid Which Must Be Repaid							
Stafford Loan (GSL)	○	○	○	○	○	○	○
Perkins Loan	○	○	○	○	○	○	○
Other College Loan	○	○	○	○	○	○	○
Other Loan	○	○	○	○	○	○	○
d. Other Than Above	○	○	○	○	○	○	○

71. What is your best estimate of your parents' total income last year? Consider income from all sources before taxes. (Mark one)

○ Less than $6,000	○ $40,000-49,999
○ $6,000-9,999	○ $50,000-59,999
○ $10,000-14,999	○ $60,000-74,999
○ $15,000-19,999	○ $75,000-89,999
○ $20,000-24,999	○ $100,000-149,999
○ $25,000-29,999	○ $150,000-199,999
○ $30,000-39,999	○ $200,000 or more

22. Current religious preference: (Mark one in each column)

	Father	Mother
Baptist	①	①
Buddhist	②	②
Eastern Orthodox	③	③
Episcopal	④	④
Islamic	⑤	⑤
Jewish	⑥	⑥
LDS (Mormon)	⑦	⑦
Lutheran	⑧	⑧
Methodist	⑨	⑨
Presbyterian	⑩	⑩
Quaker	⑪	⑪
Roman Catholic	⑫	⑫
Seventh Day Adventist	⑬	⑬
United Church of Christ	⑭	⑭
Other Christian	⑮	⑮
Other Religion	⑯	⑯
None	⑰	⑰

23. For the activities below, indicate which ones you did during the past year. If you engaged in an activity frequently, mark ①. If you engaged in an activity one or more times, but not frequently, mark ② (occasionally). Mark ③ (Not at all) if you have not performed the activity during the past year.

(Mark one for each item)	Frequently	Occasionally	Not at all
Attended a religious service	①	②	③
Was bored in class	①	②	③
Participated in organized demonstrations	①	②	③
Tutored another student	①	②	③
Studied with other students	①	②	③
Was a guest in a teacher's home	①	②	③
Smoked cigarettes	①	②	③
Drank beer	①	②	③
Drank wine or liquor	①	②	③
Felt overwhelmed by all I had to do	①	②	③
Felt depressed	①	②	③
Performed volunteer work	①	②	③
Played a musical instrument	①	②	③
Asked a teacher for advice after class	①	②	③
Overslept and missed class or appointment	①	②	③
Discussed politics	①	②	③
Voted in a student election	①	②	③
Socialized with someone of another racial/ethnic group	①	②	③
Took a prescribed anti-depressant	①	②	③
Came late to class	①	②	③
Attended a public recital or concert	①	②	③
Visited an art gallery or museum	①	②	③
Discussed religion	①	②	③
Read the editorial page in the daily newspaper	①	②	③
Checked out a book or journal from the school library	①	②	③
Communicated via e-mail	①	②	③
Used the Internet for research or homework	①	②	③
Participated in Internet chat rooms	①	②	③
Played computer games	①	②	③
Other Internet use	①	②	③

24. Are you: (Mark all that apply)

- ○ White/Caucasian
- ○ African American/Black
- ○ American Indian
- ○ Asian American/Asian
- ○ Mexican American/Chicano
- ○ Puerto Rican
- ○ Other Latino
- ○ Other

25. Were you adopted by your family?

○ No (skip to question 26)

If Yes, please mark one of the following:

Yes, at age ○ 0-2 ○ 3-7 ○ 8-12 ○ 13 or older

26. Were you ever in foster care?

○ Yes ○ No

27. What is the highest level of formal education obtained by your parents? (Mark one in each column)

	Father	Mother
Grammar school or less	○	○
Some high school	○	○
High school graduate	○	○
Postsecondary school other than college	○	○
Some college	○	○
College degree	○	○
Some graduate school	○	○
Graduate degree	○	○

28. In deciding to go to college, how important to you was each of the following reasons? (Mark one answer for each possible reason)

	Very Important	Somewhat Important	Not Important
My parents wanted me to go	①	②	③
I could not find a job	①	②	③
Wanted to get away from home	①	②	③
To be able to get a better job	①	②	③
To gain a general education and appreciation of ideas	①	②	③
To improve my reading and study skills	①	②	③
To make me a more cultured person	①	②	③
To be able to make more money	①	②	③
A mentor/role model encouraged me to go	①	②	③
To prove to others I could succeed	①	②	③
To prepare myself for graduate or professional school	①	②	③
Because my friends were going	①	②	③

29. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Mark one in each row)

	Highest 10%	Above Average	Average	Below Average	Lowest 10%
Academic ability	①	②	③	④	⑤
Artistic ability	①	②	③	④	⑤
Athletic ability	①	②	③	④	⑤
Competitiveness	①	②	③	④	⑤
Cooperativeness	①	②	③	④	⑤
Creativity	①	②	③	④	⑤
Drive to achieve	①	②	③	④	⑤
Emotional health	①	②	③	④	⑤
Leadership ability	①	②	③	④	⑤
Mathematical ability	①	②	③	④	⑤
Physical health	①	②	③	④	⑤
Popularity	①	②	③	④	⑤
Public speaking ability	①	②	③	④	⑤
Self-confidence (intellectual)	①	②	③	④	⑤
Self-confidence (social)	①	②	③	④	⑤
Self-understanding	①	②	③	④	⑤
Spirituality	①	②	③	④	⑤
Understanding of others	①	②	③	④	⑤
Writing ability	①	②	③	④	⑤

30. Mark only three responses, one in each column.

	① Your mother's occupation	② Your father's occupation	③ Your probable career occupation
NOTE: If your father or mother is deceased, please indicate his or her last occupation.			
Accountant or actuary	①	②	③
Actor or entertainer	①	②	③
Architect or urban planner	①	②	③
Artist	①	②	③
Business (clerical)	①	②	③
Business executive (management, administrator)	①	②	③
Business owner or proprietor	①	②	③
Business salesperson or buyer	①	②	③
Clergy (minister, priest)	①	②	③
Clergy (other religious)	①	②	③
Clinical psychologist	①	②	③
College administrator/staff	①	②	③
College teacher	①	②	③
Computer programmer or analyst	①	②	③
Conservationist or forester	①	②	③
Dentist (including orthodontist)	①	②	③
Dietitian or home economist	①	②	③
Engineer	①	②	③
Farmer or rancher	①	②	③
Foreign service worker (including diplomat)	①	②	③
Homemaker (full-time)	①	②	③
Interior decorator (including designer)	①	②	③
Lab technician or hygienist	①	②	③
Law enforcement officer	①	②	③
Lawyer (attorney) or judge	①	②	③
Military service (career)	①	②	③
Musician (performer, composer)	①	②	③
Nurse	①	②	③
Optometrist	①	②	③
Pharmacist	①	②	③
Physician	①	②	③
Policymaker/Government	①	②	③
School counselor	①	②	③
School principal or superintendent	①	②	③
Scientific researcher	①	②	③
Social, welfare or recreation worker	①	②	③
Therapist (physical, occupational speech)	①	②	③
Teacher or administrator (elementary)	①	②	③
Teacher or administrator (secondary)	①	②	③
Veterinarian	①	②	③
Writer or journalist	①	②	③
Skilled trades	①	②	③
Other	①		
Undecided	①		
Laborer (unskilled)		②	③
Semi-skilled worker		②	③
Other occupation		②	③
Unemployed		②	③

31. Mark one in each row:

	① Disagree Strongly	② Disagree Somewhat	③ Agree Somewhat	④ Agree Strongly
There is too much concern in the courts for the rights of criminals	①	②	③	④
Abortion should be legal	①	②	③	④
The death penalty should be abolished	①	②	③	④
If two people really like each other, it's all right for them to have sex even if they've known each other for only a very short time	①	②	③	④
Marijuana should be legalized	①	②	③	④
It is important to have laws prohibiting homosexual relationships	①	②	③	④
Employers should be allowed to require drug testing of employees or job applicants	①	②	③	④
Just because a man thinks that a woman has "led him on" does not entitle him to have sex with her	①	②	③	④
The federal government should do more to control the sale of handguns	①	②	③	④
Racial discrimination is no longer a major problem in America	①	②	③	④
Realistically, an individual can do little to bring about changes in our society	①	②	③	④
Wealthy people should pay a larger share of taxes than they do now	①	②	③	④
Colleges should prohibit racist/sexist speech on campus	①	②	③	④
Same sex couples should have the right to legal marital status	①	②	③	④
Material on the Internet should be regulated by the government	①	②	③	④

32. During your last year in high school, how much time did you spend during a typical week doing the following activities?

Hours per week:	None	Less than 1	1-2	3-5	6-10	11-15	16-20	Over 20
Studying/homework	○	○	○	○	○	○	○	○
Socializing with friends	○	○	○	○	○	○	○	○
Talking with teachers outside of class	○	○	○	○	○	○	○	○
Exercise or sports	○	○	○	○	○	○	○	○
Partying	○	○	○	○	○	○	○	○
Working (for pay)	○	○	○	○	○	○	○	○
Volunteer work	○	○	○	○	○	○	○	○
Student clubs/groups	○	○	○	○	○	○	○	○
Watching TV	○	○	○	○	○	○	○	○
Housework/childcare	○	○	○	○	○	○	○	○
Reading for pleasure	○	○	○	○	○	○	○	○
Playing video games	○	○	○	○	○	○	○	○
Prayer/meditation	○	○	○	○	○	○	○	○

33. Do you have any concern about your ability to finance your college education? (Mark one)

- ○ None (I am confident that I will have sufficient funds)
- ○ Some (but I probably will have enough funds)
- ○ Major (not sure I will have enough funds to complete college)

34. Do you have a disability? (Mark all that apply)

- ○ None
- ○ Speech
- ○ Orthopedic
- ○ Learning disability
- ○ Health-related
- ○ Partially sighted or blind
- ○ Other

35. Did your high school require community service for graduation? ○ Yes ○ No

36. How would you characterize your political views? (Mark one)

- ○ Far left
- ○ Liberal
- ○ Middle-of-the-road
- ○ Conservative
- ○ Far right

37. Below are some reasons that might have influenced your decision to attend this particular college. How important was each reason in your decision to come here? (Mark one answer for each possible reason)

	Very Important	Somewhat Important	Not Important
My relatives wanted me to come here	①	②	③
My teacher advised me	①	②	③
This college has a very good academic reputation	①	②	③
This college has a good reputation for its social activities	①	②	③
I was offered financial assistance	①	②	③
This college offers special educational programs	①	②	③
This college has low tuition	①	②	③
High school counselor advised me	①	②	③
Private college counselor advised me	①	②	③
I wanted to live near home	①	②	③
Not offered aid by first choice	①	②	③
This college's graduates gain admission to top graduate/ professional schools	①	②	③
This college's graduates get good jobs	①	②	③
I was attracted by the religious affiliation/orientation of the college	①	②	③
I wanted to go to a school about the size of this college	①	②	③
Not accepted anywhere else	①	②	③
Rankings in national magazines	①	②	③
Information in a multicollege guidebook	①	②	③

38. Below is a list of different undergraduate major fields grouped into general categories. Mark only one oval to indicate your probable field of study.

ARTS AND HUMANITIES
- Art, fine and applied ..... (A)
- English (language and literature) ..... (B)
- History ..... (C)
- Journalism ..... (D)
- Language and Literature (except English) ..... (E)
- Music ..... (F)
- Philosophy ..... (G)
- Speech ..... (H)
- Theater or Drama ..... (I)
- Theology or Religion ..... (J)
- Other Arts and Humanities .. (K)

BIOLOGICAL SCIENCE
- Biology (general) ..... (L)
- Biochemistry or Biophysics ..... (M)
- Botany ..... (N)
- Environmental Science ..... (O)
- Marine (Life) Science ..... (P)
- Microbiology or Bacteriology ..... (Q)
- Zoology ..... (R)
- Other Biological Science .... (S)

BUSINESS
- Accounting ..... (T)
- Business Admin. (general) .. (U)
- Finance ..... (V)
- International Business ..... (W)
- Marketing ..... (X)
- Management ..... (Y)
- Secretarial Studies ..... (Z)
- Other Business ..... (a)

EDUCATION
- Business Education ..... (b)
- Elementary Education ..... (c)
- Music or Art Education ..... (d)
- Physical Education or Recreation ..... (e)
- Secondary Education ..... (f)
- Special Education ..... (g)
- Other Education ..... (h)

ENGINEERING
- Aeronautical or Astronautical Eng. ..... (i)
- Civil Engineering ..... (j)
- Chemical Engineering ..... (k)
- Electrical or Electronic Engineering ..... (l)
- Industrial Engineering ..... (m)
- Mechanical Engineering .... (n)
- Other Engineering ..... (o)

PHYSICAL SCIENCE
- Astronomy ..... (p)
- Atmospheric Science (incl. Meteorology) ..... (q)
- Chemistry ..... (r)
- Earth Science ..... (s)
- Marine Science (incl. Oceanography) ..... (t)
- Mathematics ..... (u)
- Physics ..... (v)
- Statistics ..... (w)
- Other Physical Science .... (x)

PROFESSIONAL
- Architecture or Urban Planning ..... (y)
- Home Economics ..... (z)
- Health Technology (medical, dental, laboratory) .... (1)
- Library or Archival Science .. (2)
- Medicine, Dentistry Veterinarian ..... (3)
- Nursing ..... (4)
- Pharmacy ..... (5)
- Therapy (occupational, physical, speech) ..... (6)
- Other Professional ..... (7)

SOCIAL SCIENCE
- Anthropology ..... (8)
- Economics ..... (9)
- Ethnic Studies ..... (10)
- Geography ..... (11)
- Political Science (gov't., international relations) .... (12)
- Psychology ..... (13)
- Social Work ..... (14)
- Sociology ..... (15)
- Women's Studies ..... (16)
- Other Social Science ..... (17)

TECHNICAL
- Building Trades ..... (18)
- Data Processing or Computer Programming ... (19)
- Drafting or Design ..... (20)
- Electronics ..... (21)
- Mechanics ..... (22)
- Other Technical ..... (23)

OTHER FIELDS
- Agriculture ..... (24)
- Communications ..... (25)
- Computer Science ..... (26)
- Forestry ..... (27)
- Law Enforcement ..... (28)
- Military Science ..... (29)
- Other Field ..... (30)
- Undecided ..... (31)

39. Please indicate the importance to you personally of each of the following: (Mark one for each item)

(A) Not Important (B) Somewhat Important (C) Very Important (D) Essential

- Becoming accomplished in one of the performing arts (acting, dancing, etc.) ..... A B C D
- Becoming an authority in my field ..... A B C D
- Obtaining recognition from my colleagues for contributions to my special field ..... A B C D
- Influencing the political structure ..... A B C D
- Influencing social values ..... A B C D
- Raising a family ..... A B C D
- Having administrative responsibility for the work of others ..... A B C D
- Being very well off financially ..... A B C D
- Helping others who are in difficulty ..... A B C D
- Making a theoretical contribution to science ..... A B C D
- Writing original works (poems, novels, short stories, etc.) ..... A B C D
- Creating artistic work (painting, sculpture, decorating, etc.) ..... A B C D
- Becoming successful in a business of my own ..... A B C D
- Becoming involved in programs to clean up the environment ... A B C D
- Developing a meaningful philosophy of life ..... A B C D
- Participating in a community action program ..... A B C D
- Helping to promote racial understanding ..... A B C D
- Keeping up to date with political affairs ..... A B C D
- Becoming a community leader ..... A B C D

40. What is your best guess as to the chances that you will: (Mark one for each item)

(A) No Chance (B) Very Little Chance (C) Some Chance (D) Very Good Chance

- Change major field? ..... A B C D
- Change career choice? ..... A B C D
- Fail one or more courses? ..... A B C D
- Graduate with honors? ..... A B C D
- Be elected to a student office? ..... A B C D
- Get a job to help pay for college expenses? ..... A B C D
- Work full time while attending college? ..... A B C D
- Join a social fraternity, sorority, or club? ..... A B C D
- Play varsity/intercollegiate athletics? ..... A B C D
- Be elected to an academic honor society? ..... A B C D
- Make at least a "B" average? ..... A B C D
- Need extra time to complete your degree requirements? ..... A B C D
- Get a bachelor's degree (B.A., B.S., etc.)? ..... A B C D
- Participate in student protests or demonstrations? ..... A B C D
- Drop out of this college temporarily (exclude transferring)? .... A B C D
- Drop out permanently (exclude transferring)? ..... A B C D
- Transfer to another college before graduating? ..... A B C D
- Be satisfied with your college? ..... A B C D
- Get married while in college? (skip if married) ..... A B C D
- Participate in volunteer or community service work? ..... A B C D
- Seek personal counseling? ..... A B C D

41. Do you give the Higher Education Research Institute at UCLA permission to include your ID number should your college request the data for additional research analyses? ○ Yes ○ No

The remaining ovals are provided for questions specifically designed by your college rather than the Higher Education Research Institute. If your college has chosen to use the ovals, please observe carefully the supplemental directions given to you.

42. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	49. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	56. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
43. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	50. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	57. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
44. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	51. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	58. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
45. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	52. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	59. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
46. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	53. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	60. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
47. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	54. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	61. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
48. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	55. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	62. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

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THANK YOU!

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