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Factors that inspire preadolescent students to pursue college and career plans

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FACTORS THAT INSPIRE PREADOLESCENT STUDENTS TO PURSUE COLLEGE AND CAREER PLANS

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For the past three years, working on my dissertation has been an exciting and an unusual experience. Writing a research paper is a challenging and rigorous process which requires enthusiasm, dedication and sacrifices. Although this was a difficult path, I am proud that my dissertation explored the issues and revealed the answers that I sought. I am thankful to many people who helped me.

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The Boeing Company 1996 – Present

Boeing Satellite Systems - El Segundo, California

Senior Project Engineer 2009 – Present

Financial Specialist 2007 - 2009

Conducted financial analysis and supported scheduling activities for proposals and production programs for maintaining EVMS and EACs.

Project Manager 2000 – 2008

Managed projects to deliver a fully integrated Spacecraft Assembly. Collaborated with Integration & Test IPTs to meet requirements of gated process. Coordinated engineering, acquisitions, planning, kitting, and materials & tooling activities to facilitate spacecraft assembly. Responsible for tooling, material and labor budgets to maintain Earned Values. Maintained relations with customers and suppliers to meet contractual requirements. Overall success for meeting cost and schedule requirements during execution for all projects > 90%.

Recipient of Engineering Excellence Award, 2006

Applications Engineer 1998-2000

Responsible for high reliability satellite passive components. Responded to program needs, resolved anomalies with suppliers and suggested corrective actions to control board. Tin whisker growth experiments to validate cause and effect on hi-rel components.

Materials & Process Engineer 1996-1998

Supported Parts, Materials and Processes Control Board (PMPCB) activities. Led mechanical parts approval process for the entire enterprise.

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Characterized coating parameters for infrared detector hybrids. Reduced wafer thinning process time by 40%. Managed statistical process control initiative using 5 stage methodologies.

AlliedSignal Aerospace Company, Torrance, California 1987-1993
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Developed casting processes and solution heat -treat cycles for single crystal turbine airfoils. Completed process development of single crystal airfoils in 1/5th of normal time. Engineered single crystal manufacturing equipment.

P.C.C. Airfoils (A division of TRW), Mentor, Ohio 1984-1986
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ABSTRACT

In the United States, minority students have lower high school graduation rates. This research was carried out to determine factors that influence seventh grade students' perceptions to complete high school, attend college and select a profession. A survey was conducted to determine whether their goals were influenced by factors such as gender, ethnicity and parental level of education.

A total of 273 seventh grade students from a middle in Ventura, California, participated in this survey. From these 273, 211 students reported being very sure that they would graduate from high school, while 62 stated that they will most likely complete high school. This suggests that most of the students are optimistic that they will graduate from high school. Out of the 211 students who were very sure of graduating from high school, 96 were males and 115 were females. By ethnicity, 77 were Hispanic, 78 were White and 56 were "Other."

Out of 273 students, 166 students stated that they were very sure they will pursue post-high school education; 76 believed that they will probably pursue a higher education. No female students stated that they would not graduate from high school. A higher percentage of females compared to males expressed their interest in attending college.

From the students surveyed, 70% were clear of their future careers. Female students regardless of their first language were more certain than males of pursuing higher education. Professional careers were envisioned by 20% of Hispanic students and 25% of White students; 26% of male students and 31% female students respectively.

Students' responses showed that 14% mother/female guardians and 16% father/male guardians have not graduated from high school. Data analysis showed that students' perceptions of graduating from high school were influenced by mother/female guardian's education, father/male guardian's profession, and whether or not the students are living with their parents. Enrollment in gifted classes, likeability of core subjects and participation in extracurricular activities were found significant.

Chapter I. Introduction to the Study

Postsecondary education has become more important than ever in the 21st century. According to the digest of the National Center for Education Statistics (NCES), a record number of students—17.3 million—enrolled in college in the fall of 2004 (Snyder, Tan, & Hoffman, 2005). The authors of this article note that the number of students enrolled on a full-time basis rose by 30% and the number of part-time students enrolled on a part-time basis rose by 8% in the period from 1994 to 2004, with the number of men rising by 16% and the number of women by 25%. Between 2005 and 2014, the total number of students enrolled in colleges is expected to rise by an additional 12%.

The trend of increased enrollment in postsecondary education, specifically non-vocational college enrollment, can be perceived as good news only if a student comes from a background wherein there are sufficient means for the family to support a college education. The NCES literature suggests that there is a correlation between parents' education and their desire to help their children financially to attend college. Surveys conducted by the NCES by Hagedom and Montaquilla (2003) show that 93% of those students whose parents went to graduate or professional school had planned financial support for their postsecondary educations from their parents. However, only 81% of the parents with a vocational or technical education wanted to finance their children's education. On the other end, 75% of children's college education was financed by parents who had only achieved a high school level education and much lower (59%) for students with parents having less than a high school education.

Students who come from low-income families also have lower rates of postsecondary enrollment. According to Fass and Willa (2005), the National Center for Children Poverty (NCCP) makes the following observations:

- 22% of White children live in low-income families.
- 52% of African American children live in low-income families.
- 61% of Hispanic children live in low-income families.
- 30% of Asian children live in low-income families.

Unfortunately, 42% of children ages 6 or older in United States live in low-income families. This is indeed a very large number of children living in low-income families. According to the NCCP, a similarly large percentage of children from African American and Hispanic families are classified as coming from low-income families. In addition, 60% of children of immigrants come from low-income households as compared to 32% of children of native-born parents (Fass & Willa, 2005). Students from low-income backgrounds also have low postsecondary enrollment in United States.

External factors such as parental guidance and counseling play roles in supporting minors at all ages and are especially important in improving their chances for attending a higher educational institution. Central to this issue is understanding why children of African American and Hispanic backgrounds have lower enrollment rates in 4-year college programs. In addition to parental guidance, what other factors come into play during preadolescence that can also increase their prospects of receiving postsecondary education? Vital to this study is to know whether students have preconceived notions of

their socioeconomic status during the preteen years that might have an impact on their vision of the future in postsecondary education.

Problem Statement

Research has been conducted on the role and influence of parents in helping adolescents to enroll in postsecondary education. However, research data specific to perception of seventh grade students in pursuing higher education are not available. Additionally, there is little research that indicates how the father's role is instrumental in helping preteen students prepare for postsecondary education. Data are available that document how students from low-income backgrounds are at a disadvantage in pursuing postsecondary education contrary to their socioeconomic environment. With the rapidly increasing number of minorities in thee United States and the potential for minorities to form a large part of the work force, it is necessary to determine the reasons for the achievement gap that remains between white and minority students. To do this, students' perception of their future careers and pursuit of postsecondary education while they are at the formative stages of their secondary school careers should be considered.

The following research questions are central to this study:

1. What factors such as future plans, language, and student perceptions influence the career goals of preadolescents?
2. Do factors influencing career goals of 7th graders differ by: (a) gender, (b) ethnicity, (c) parental level of education, (d) parental profession, and (e) parent living together with the student?

3. Do students utilizing academic streams view the high school graduation goals and college attendance differently?

Purpose of the Study

The primary purpose of this study is to determine the motivations behind minority students' perceptions of their careers and of postsecondary education while they are at the preadolescent stage of life. Social and familial (especially parental) aspects that influence and form these perceptions will be addressed to determine underlying reasons for the lagging achievement of minority students.

Definitions of Preadolescence

Children from ages 9 to 11 are considered preadolescents. To support this assumption, Dunn and Mezzich (2003) state that the adolescence age range is between 13 and 17. This is further supported by Dorn, Dahl, and Biro (2006), who also support 13 to 17 as the adolescent age group. Kohen-Raz (1971) defines preadolescence as a sequence of two developmental substages that occur at the threshold of adolescence. Kohen-Raz further relates that "preadolescence preserves the connotation of the precursory and prospective aspects of the stage as preparatory phase in relation to actual adolescence" (p. 2). Later, Kohen-Raz clarifies preadolescence as a period that is characterized by typical patterns of intellectual and social maturation at the threshold of maturation and as an important time during which children plan ahead and are able to follow complicated strategies.

Limitations of the Study

This study is limited to seventh grade students going to school in the Ventura Unified School district in Ventura, California.

Chapter II. Review of Literature

Introduction

This chapter is focused on reviewing literature that addresses factors inspiring and influencing preadolescent children to pursue educational goals that may lead them to higher education. Among these factors are parental support and influence, siblings' influence, school teachers, counselors' support, socio-economic factors, and cultural influences. This chapter will review the factors influencing preadolescents based on published literature and consolidate the information for use in the subsequent chapters.

Factors Influential in Determining the Career Goals of Preadolescents

Research regarding influences on preadolescents' career goals is limited to less than 30 articles in the last 7 years based on the literature review. Details of this literature have been cited in the paragraphs to follow. Nevertheless, information on a number of key factors is available in the literature. Chief among these are age, gender, parental involvement, and perceived socio-economic standings.

Children, as compared to adolescents, are more fluid in their career and future educational expectations. In a study conducted on this subject, Mello (2005) found that developmental perspectives changed with age, and expectations would change due to an increased emphasis on the future, exploration of educational and occupational roles, and information about future schooling and work.

In a similar vein, Super (1957) found that children of age 10 are no longer in the "fantasy" stage of their career development (in which potential career choices are driven by the desire to master a particular role), and instead, they begin to desire careers that

have roles that correlate to the activities that they enjoy. Continuing on this theme, Seligman and Weinstock (1991) found that by this stage, children have "a relatively clear and differentiated concept of themselves" (p. 2) and that they have not yet had to confront the self-doubts that commonly surface during adolescence. The foundation for their future success as competent and confident workers seems to be established during these years. Phipps (1995) states that children in the 8- to 11-year age group are clearly able to state their desired careers in adulthood and why. In addition, Mello (2005) finds that individuals' average educational and occupational expectations were largely high and stable from ages 14 to 26 in which the majority of participants expected to attend or complete college and to obtain a professional occupation.

Lakshmanan's (2004) research with eighth grade students shows the academic aspirations of students remained, on the whole, fairly constant from 8^{th} to 12^{th} grades. While the involvement and expectations of parents had an affect the aspirations of students early on, they did not have an affect on students with fairly high and stable goals during their high school years.

According to the research on the issue of development (Leville, 2004), parents who participate in their children's growth are warmer, more focused on their children, less strict in their parenting methods, and more effective than parents who were non-responsive. This, in turn, results in more motivated students with higher career and educational aspirations.

In a subsequent study, using self-report survey data from 111 middle and high school students participating in a quantitative study, Rivas (2006) found that perceived economic barriers were associated with perceived decreased opportunities for going to college.

It is imperative to understand the motivational factors that help adolescents achieve their goals. Results from a sample of 163 sixth grade students suggest that motivational, affective, and self-regulatory factors are important in the achievement of academic competence, both as intrapersonal processes and as behavioral manifestations of student efforts to achieve (Wentzel, Weinberge, Ford, & Feldman, 1990).

In addition to age, gender plays a significant role in children's perceived career development. According to Phipps (1995), "Although among all students, the largest percentage expressed preferences for social occupations, more females than males indicated that they would choose artistic and investigative careers" (p. 22). Phipps summarizes research conducted with a sample of 80 students: 31% of the youngsters stated a distinct career preference, but while 60% of the male students aspired to jobs requiring merely a high school degree or less, 74% of the females expressed preference for careers requiring a baccalaureate degree or more, with many of them aspiring to be doctors, lawyers, architects, veterinarians and the like, all of which would involve substantial post-baccalaureate education. Of the student variables, gender was related to one or more of the occupational variables related to what children want to be, the educational level required for their choice, and why they would choose that career, while

grade, ability, and achievement levels did not relate significantly to the occupational variables (Phipps, 1995).

Theory of Mind attempts to explain how children come to understand social action in both themselves and others (Bosacki, 1998). In Bosacki's study, 128 preadolescents (ages 9 to 11 years; 64 girls, 64 boys) completed a self-concept questionnaire, vocabulary tasks, peer social competence ratings and an interview. Based on composite social story scores, results indicated positive associations between children's social understanding and perceptions of their behavioral conduct, ability to understand their own mental states and feelings and social competence ratings. Bosacki has addressed meaning of silence, theoretical and conceptual foundations that are associated with silence. Bosacki explores. classroom implications and programs that can assist preadolescents to get voice and to utilize silence productively.

Trice and Hughes (1995) evaluated different areas of children's growth (Trice & Hughes, 1995). They conducted a study of elementary school students and found some support for each of four theoretical positions: (a) Ginzberg's theory: interests play a major role in both the selection and rejection of occupations throughout the period of childhood; (b) Roe's theory: family configuration influences occupational choice/no choice; (c) Havighurst's theory: identification with a parent's work is particularly strong among kindergarten, second-, and fourth-grade children, weakening somewhat among sixth-grade children; and (d) Gottfredson's theory: age-graded concerns with respect to sex role, prestige, and ability are reasons for rejecting occupational options. Trice and Hughes' findings suggest that children's occupational aspirations have no coherent

structure. Ginzberg (as cited in Trice & Hughes, 1995) had conflicting findings that indicate fathers' occupations play a major part in influencing the earliest occupational aspirations of children. Regarding Roe's theory, the major influence of family structure seems to be career indecision rather than a strong tendency toward certain careers. The drop in family identification among sixth grade students was suggestive of Havighurst's theory, but it was not statistically significant. Although sex-appropriateness, status, and ability increased in the sequence suggested by Gottfredson as reasons for job rejection, their frequency compared to “don't know” and “interest” responses was small.

Several authors have contributed to the edited work of Jacobs and Klaczynski (2005) that addresses how adolescents make decisions regarding their careers. Among those authors, Galotti (as cited in Jacobs & Klaczynski) makes six points about how adolescents set career goals (a) older children set more goals than do younger children; (b) older children relative to elementary school children set fewer goals having to do with leisure activities; (c) older students focus more on lifetime goals than younger children do; (d) points of biggest difference seem to be between third and fifth graders and again between eighth and twelfth graders; (e) only selected aspects of goals change with age; and (f) better planners are ones who set goals with broader purposes. Galotti sets the demarcation of young versus old age around the eighth grade.

McNair and Brown (1983) and Clark and Horan (2000) believe that the career development and career choice of children are most influenced by parents, but that parents are not often informed enough as to how they may provide help. Guerra and Braungart-Rieker (1999) assert that parents are the primary authority in providing the

training of social skills, teaching the concept of responsibility, and encouraging character growth; their expectations greatly influence career decidedness and maturity. Clark and Hogan contend that parents have the greatest affect on the self-image of their children, and how they view societal values, both which affect children's career choices and growth.

Preadolescent and Young Adolescents' View of College

In *Longitudinal Michigan Study of Adolescent Life Transitions* (Eccles, Vida, & Barber, 2004), the authors found the decision to attend a 4-year college is made much before the junior and senior years of high school. The data were collected from the mothers of 681 sixth grade students and the students themselves in order to predict the students' college attendance in the 2 years following their graduation from high school. Little researched has investigated pre-high school influencers of college attendance, such as high school performance and course-enrollment choices. Eccles et al.'s findings revealed that the student's grade point average, educational goals, family income, and mother's educational level, amongst other things are significant predictors of college attendance.

The results of this study conclude that college enrollment is the result of a long-term process of complex interactions among academic, personal, social, psychological, and financial considerations. Eccles et al. (2004) found that the early adolescent years are an important time for developing plans and visions for higher education. Results suggest that it is important to begin to encourage youth to consider postsecondary education prior to high school. Improving youths' educational expectations and achievements and

encouraging a more favorable parental attitude toward postsecondary education for their children may be more feasible educational policy goals. The authors conclude, "Eighth-grade course selections are the gatekeeper to college enrollment because eighth grade is the time to select courses that are prerequisite for high school courses that influence college acceptance" (p. 77).

According to Yeung and Yeung (2001), academic achievement is the only factor that can predict educational goals in young adulthood. They believe that, in order to develop appropriate career plans for students, an early alignment of academic aptitude and aspirations if necessary. Early motivational intervention is suggested, with the understanding that doing so at the seventh grade level is more effective than when done at a ninth or eleventh grade level.

Howell and Frese (1980) studied student career goals from preadolescence to early adulthood, and come to the conclusion that socioeconomic background has a strong, continuous impact on academic and occupational goals. They also suggest that from early elementary school until the first portion of high school, students are very flexible in changing their career plans, and may be then more receptive to a career awareness intervention. They believe that career goals are more stable after the sophomore year of high school, and consequently, after that point, a career awareness intervention may not be useful.

Lakshmanan (2004), however, shows that student goals are stable from 8^{th} to 12^{th} grades. Moreover, it is suggested that race and gender do not have a major role on the stability of students' academic goals, and that many students with high aspirations did not

have a broad range of postsecondary institutions to which they applied. According to Lakshmanan, while parents' expectations and personal involvement had an effect on their child's goals and aspirations, they did not influence the number of applications that students' submitted. In general, students who had high and steadfast academic and career aspirations throughout high school tended to file more applications than students whose goals changed steadily.

Lakshmanan (2004), citing the work of a number of authors including Paulsen (1990) and Smith (1991), stresses that adolescent educational aspirations are significantly influenced by the home environment. Key factors for students having high aspirations include that students state their goals early on, that they sustain these goals, and that these goals are supported by the parents. Interestingly, it did not matter whether the students had come from rural, urban, or suburban places.

Adolescents' academic achievement is also positively correlated to level that their parents are engaged in their lives and to the quality of their relationship with their parents. Trusty (1998) determined that a high level of involvement by parents—including participation in children's schoolwork, grades, emotional well-being, extracurricular activities, and future goals—tended to predict better attitudes towards school, and promoted better decision-making skills. According to Trusty, about three-fourths of the of eighth grade students who took part in the National Education Longitudinal Study of 1988 (NELS 88) were planning to receive a college degree. Academic expectations tended to predict academic achievement.

Socio-Cultural Factors

It is important to begin to encourage youth and their parents to consider postsecondary education long prior to high school. Eccels et al. (2004); Alexander, D'Amico, Fennessey, and McDill (1979); Smith (1991); and Trusty (1998) state that socioeconomic status (SES) is a significant predictor of early college planning and of aspirations as well as of actual college enrollment. There is evidence that family characteristics influence students' occupational and academic goals, in part, through their impact on the values parents attach to their children's school achievements and college attendance.

Useful to the topic of SES, Bornstein and Bradley (2003) have compiled the work of several authors. Among these authors are Ensminger and Fothergill (2003) and Gottfried, Gottfried, and Bathurst (as cited in Bornstein & Bradley). Ensminger and Fothergill's finding from a review of over more than 80 journals in the area of child development concludes education is the most common indicator of SES. During the very first years of life, almost everything a child experiences and learns depends on his or her environment and what parents provide physically, emotionally, intellectually and materially (Bornstein & Bradley). Gottfried et al.'s work during the Fullerton Longitudinal Study (FLS) noted that SES has served as a predictor of child development and has had a longstanding role in social sciences. Bornstein and Bradley found that the Four-Factor Hollingshead Index (HI) (Hollingshead, 1975) had significant relationship with the SES scores. SES, according to Gottfried et al., is a powerful construct and relates to psychological development.

The four-factor scale uses marital status and gender as well as education and occupation (Hollingshead, 1975). Occupational index was based on Hollingshead's work in New Haven, Connecticut during the 1960s, and has been criticized by social stratification scholars for its lack of validity and practicality. Duncan and Magnuson (2001) state that developmental studies that seek to study directly, control for, or stratify by socioeconomic status are ill served by the traditional Hollingshead-based approach. SES is too multi-faceted to be captured by a single index or even a multi-factor index. It is argued that the relative rank of particular professions seemed to be a "combination of his rating of specific individuals in New Haven and of his perception of the general social standing of occupations" (Duncan & Magnuson, p. 13). Hollingshead's classification of occupations is both outdated and incomplete, because only occupations reported by his New Haven sample were included on his occupational ranking list (Duncan & Magnuson, 2001).

Hollingshead (1975) developed a method of measuring, based on marital status, employment status, occupational prestige, and highest educational level attained, social status. This is a measure of social status, which is a proxy for socioeconomic status. An individual's or their parents' educational attainment and occupational prestige can change over their life (Duncan & Magnuson, 2001).

According to Harvey and Karin (as cited in Meyerson, 1981), "Students from a higher socioeconomic stratum had higher educational goals and desire to obtain prestige occupation, while lower socio economic students to less education and lower job status by eighth grade" (p. 52). Meyerson further cites the work of Super (1957): "Of five

stages of vocational developments Super suggested, 'Growth' is the first stage that begins at birth and continues until age 14. The development of individual's self-concept, as explained by Super is filled with dreams and fantasy" (p. 8). Super identified sub-stages of the growth age, of which fantasy is during the ages of 4 to 10; interests are developed from ages 11 to 12; and capacity during ages 13 to 14. Meyerson contends that Holland's (as cited in Meyerson, 1981) theory differs from Super's theory. Holland's career theory assumes that a person is a product of heredity, cultural, personal, and environmental forces. Major forces of a person's environment are intellectual, supportive, conforming, pervasive, and esthetic. These forces help them to prepare for their future aspirations and status. Although the work of Holland and Super goes back over 25 years, their theories can still be used to understand preadolescent career goals since they remain one of key sources on the subject.

Family Role

Various studies have been conducted to identify the elements that play a role in adolescents aspiring to enroll in postsecondary education. Reports on parental influence over their children's college selection indicate that parents generally defined cost, quality, and geographic boundaries in making college selections with their children, and that these boundary settings had a subtle but pervasive effect throughout the college selection (Paulsen, 1990). Paulsen further quotes the work of Sewell and Shah: "Parental encouragement is a powerful intervening variable between socioeconomic class background and intelligence of the child and his educational aspiration" (p. 49).

Is parental influence strong on high school graduates interested in pursuing a postsecondary education? Research shows that parents, counselors, teachers, and field professionals are the most important people to influence the potential student in enrolling in postsecondary education (Mayfield, 2005). It was determined that parents had the largest influence on students' decision to enroll, followed by siblings, friends, and guidance counselors (Smith, 2005). Yoshida (2005) goes further, stating that both ethnicity and parent involvement were important in predicting college enrollment. Callahan's (2003) study on various factors and people of influence on college choice discusses a Carnegie Foundation report in *Change* published in 1986. The report cites parents as the most influential determinants of school selection and choice. Moreover, according to Callahan, parents who themselves did not attend college seem to impart greater pressure and influence than parents in families that have come to expect college attendance out of their children.

Research conducted by Wilson (1997) also determined that parents are the most influential persons impacting a student's selection of a higher education institution. Research conducted by Jenkins (2004) on parental role in making career decisions for their children was based on the following four questions regarding the parental influence and career decision-making skills of first-year African American college students: (a) Is there a significant correlation between students' career decision making and parental influence? (b) Does parent's educational level affect students' career decision making in terms of choice of major? Wilson (1997) suggests that parental education can't be

strongly correlated with students' career decision making process for African America youth.

Jenkins (2004) applied Biglan's model to categorize students' choice of major. Of the three constructs of parental attachment—communication, trust, and alienation—trust and alienation had low significant correlation, and there were no correlations found when parental communication was examined. The second question found no relationships between parents' educational background and students' ability to develop good career decision-making skills. Also, no differences existed between students who had at least one parent who possesses at least a college degree and students whose parents do not possess a college degree.

Parents have a direct influence on the actions of their offspring (Kim, 2004). Kim's thesis researches the way in which social capital affects the change from secondary to postsecondary education, and particularly on admission to a selective college or university. In 2002, some 80% of American tenth graders aspired towards a bachelor's degree at the very least. This study distinguishes transition to postsecondary education into two different outcomes. One is a three category distinction of enrollment at postsecondary institutions: no enrollment, enrollment at a 1- or 2-year institution, and enrollment at a 4-year institution immediately after high school graduation. The other outcome is college selectivity among those who enrolled at 4-year institutions.

Using data from the National Education Longitudinal Study of 1988-94, results of statistical analysis show that the aligning of students' and parents' educational goals increases the students' chances of immediate enrollment at a postsecondary institution

following graduation from high school. If students and parents have a unified vision of their educational goals, then the college attended tends to be more selective. The effects of high school ties with colleges were apparent both in access to postsecondary education and for the admission to selective colleges. Concrete and directed actions of schools contribute to the selectivity of colleges to which their students are admitted, controlling for the schools' academic ability context and social status composition. This work suggests that interpersonal or institutional ties may either hinder or facilitate one from foreseeing an adolescents' educations paths by means of the opportunities and resources these ties afforded.

Family was the most encouraging factor for all students. However, the mother was the most influential family member regarding the decision to attend college, concluded in another study conducted by Little (1995).

More research focuses on the correlation between college students and the educational achievement of their parents (Garver, 1997). It was predicted that students would plan to obtain the same amount of education as their parents and study in areas similar to what their parents had studied. However, the results did not support the study's predictions regarding parental role in helping their children choosing their college discipline.

Ethnicity can play a role in how adolescents interact with their parents. Rhee, Chang, and Rhee (2003) studied the level of the amount of cultural assimilation, ease of communication with parents, self-esteem, and sociability in Asian American and Caucasian teens who were raised in the same neighborhood. The results of the study

suggest that there are substantial differences in behavior, peer networks, family structure, and self-esteem within each ethnic group. Asian American adolescents in general had lower self-esteem and had a harder time engaging in communication with their parents than their Caucasian counterparts. The authors of this article state that, “In counseling, it is not uncommon for Asian American high school or college students to report feelings of confusion, anger, and frustration attributable to relationship difficulties with their more traditional parents” (p. 751).

“Adolescence is marked by physical, cognitive, and social changes which affect how individuals perceive themselves” (p. 7), according to Gibson and Jefferson (2006). Gibson and Jefferson contend that adolescents' image is changed by their peers, parents, siblings, family, friends, teachers, and their association with groups they are involved with. GEAR UP (Gaining Early Awareness of Readiness for Undergraduate Programs) was used to understand how parents’ involvement and other growth-fostering relationships affect adolescents’ self-perception. GEAR UP was a state-funded grant program with the objective of readying the parents of middle school students and the students themselves for the college admissions process, and preparing the children for future academic achievement when they are in college (Hewett & Rodgers, 2003). Local middle schools are the recruiting grounds, and the program is initiated in the seventh grade. According to Gibson and Jefferson, schools were selected if more than 50% of their students were a part of the free or reduced lunch program. Sixth grade teachers selected students based on their likelihood of postsecondary achievement, and had to meet the following conditions: attending a chosen GEAR UP school, being nominated by

a school faculty member, have no prior problems regarding disciplinary action, be able to show verbal and writing skill by means of a written essay and interview, and must have given consent to take part in GEAR UP.

Gibson and Jefferson (2006) emphasize the importance of parental guidance that is required for the delicate preteen years, while Fehrmann, Keith, and Reimers (1987) suggest parental involvement can help their students attain better grades through participating their routine activities, noting their academic progress, and helping plan post-high school goals.

Gibson and Jefferson (2006) used a questionnaire to gather data from parents and students in which, along with questions pertaining to personal background, four questions involving the level to which parents were involved also were included. Gibson and Jefferson's results concluded that parents and students viewed the involvement of parents differently. Moreover, parents' involvement having a positive effect may depend more on the quality of the interaction between parent and student as opposed to the actual amount of time spent during interaction. The results of study suggest that the involvement of parents, as well as the influence of other meaningful relationships influence self-concept of an adolescent. Its authors suggest that conducting research into this topic can help students, community leaders, school personnel, and parents to be a part of the self-concept growth and development process.

A multiple-discriminant analysis by Fretz (1972) was used to classify students in education, law, medicine, engineering, and business on the basis of preadolescent development data in six data systems: school history, family background, dissension and

discipline, moral development, early trauma, and interpersonal development. Analysis showed that school history was most efficient and moral development least efficient in choosing careers. According to Fretz, school history makes the most accurate predictions in terms of predicting career preference from preadolescent development. Fretz further stated that in descending order of predictive efficiency were "family background and infancy system, the interpersonal development system, the dissension and discipline system and the early trauma system at the same level of accuracy, and last, the moral development system" (p. 287).

Research has also been conducted in the areas of how parents treat their sons as opposed to their daughters. Carter and Wojtkiewicz (2000) researched whether the education of adolescents sons and daughters were approached differently by parents by using the approximately 25,000 responses from eighth grade students collected in the National Education Longitudinal Study (NELS). The expectations of parents, their attendance at school functions, parental supervision, and school discussion were all analyzed to determine if parental involvement was different across gender lines. The results showed that, taking into account students' tests scores, grades, and educational goals, sons and daughters both benefited from their parents, but in different ways. Parents are considered social consultants (Lahrson-Fisher, 2003) who can guide children and persuade them about postsecondary education.

Parents as Role Models

Erickson's eight stages of development are well described in *Adolescent Development and Behavior* (Dusek, 1991). Students between the development periods of

adolescence, and young adulthood strive to seek identity. Dusek asserts that cultural factors shape the decision-making process of adolescents during the confusion period; the author states, “Parents with proper understanding of the dynamics can help their adolescent children avoid states of confusion” (p. 26).

In a model that describes the importance of parental influence, Hershenson (2005) argues that it is important to learn about parents’ understanding of their own career direction. Hershenson’s (2005) *INCOME: A Culturally Inclusive and Disability-Sensitive Framework for Organizing Career Development Concepts and Intervention* is based on a model he created with Beveridge, Heller-Craddock, Liesener, and Stapleton (Beveridge, Heller-Craddock, Liesener, Stapleton, & Hershenson, 2002). Hershenson states, “The framework was designed to use constructs applicable to diverse clients and concepts from a wide range of career theories, a variety of career interventions applicable to each status” (p. 8).

The INCOME framework also adopts Helms' (1995) concept of statuses, presented in “the multicultural model of racial identity development.” This framework is a good literary document to understand what inspires young students to pursue their career paths. These concepts are captured in various “statuses”:

- Career Status, a process model that focuses on the social learning portion of career development process, and the role of values decision making at the expense of other ones (e.g., intervening experiences, environmental constraints, and non-rational aspects of decisions).

- Imagining Status is the state at which a person is aware that other jobs or work exists or that other jobs that he or she did not know of exist.
- Informing status involves gaining (a) an understanding of an individual's abilities, limitations, interests, and their causes; and (b) the requirements of success and the future prospects and available opportunities in various lines of work.
- Obtaining Status is the state in which one looks for and gets a job, preferably in his or her chosen field. This status involves preparing for and successfully following through with the job-searching process (this includes networking, resume preparation, and interviewing skills).
- Maintaining Status involves sustaining, performing in, and adapting to an occupation or a job.
- Exiting Status is the sixth status of the INCOME framework, and is the process of leaving or thinking about departing from one's present job situation. It is possible that parents can be influential in their children's educational aspirations if they understand these concepts themselves.

Parental aspirations often shape their children's future (Kim & Schneider, 2005). Families shape children's occupational aspirations and values; however, these two phenomena have been studied in isolation. Kim and Schneider suggest that occupational aspirations stem, in part, from adolescents' value structures. Their analysis finds qualified support for both the SES-values and the SES-aspirations literature and illustrates the

potential of values as an additional explanatory mechanism for understanding family influences on adolescents' orientations during their transition to adulthood.

Dynamics for minority students work differently. Parental influence is not as strong when it comes to minority students. Although more and more minority students are entering high school, fewer of them are making successful transitions to 4-year colleges. Minority students, particularly those who are from low-income families, face a number of barriers to college attendance. For them, other factors have stronger influence. Obstacles include the poor quality of many inner-city schools that are under-funded, overcrowded, and that fail to offer the courses required by most colleges. Moreover, the teachers are often inadequately prepared, and the physical environment can be dangerous. In addition, the few counselors available to students must spend much of their time working with student and family problems rather than guiding promising students through college application processes (McDonough, 1997; Rendon & Hope, 1997).

Hamrick and Stage (2004) further explain that the college choice process is laden with class-based patterns characterized among students and parents by different senses of entitlement, different expectations and use of counselors, different behaviors regarding college application processes, differential access to resources that enhance the college choice process, and different school-based climates regarding academics and achievement orientations.

This logic is further explained in a longitudinal study conducted in Britain by Scott (2004). The study discusses the important part students have in realizing the various opportunities that their parents' support and family's background may give them. Results

show that children are at a higher advantage if they come from homes without divorce, have parents with higher educational attainment, and from higher socioeconomic backgrounds; but even controlling aspiration, class and home material circumstance matters for educational attainment (Scott, 2004).

Zarate and Gallimore (2005) express their concern over minority students performing so poorly in college enrollment numbers and differentiate female Hispanics (Latinas). They note that, while standardized test scores, parental factors, and language proficiency predict college enrollment amongst Hispanic youth, for Latinas, *teacher-rated* classroom performance and the pursuing of college counseling were enrollment predictors.

Zarate and Gallimore (2005) speculate that nonacademic factors, such as interaction with parents and teachers, may explain the absence of a consistent predictive power of test scores for Latina college enrollment. The authors collected quantitative and some qualitative data and summarized that the following factors play a role in postsecondary education. Key among these factors is

- SES and Academic Achievement
- Parental Factors
- English-Language Proficiency
- Standardized Tests
- Socioeconomic Status
- Parental Aspirations, Expectations, and Ratings of Student Interest
- Teacher Ratings

- Counselor Relationship
- Federal Level Policy Making for Minorities

Santiago and Brown (2004) deal with issues addressing policy making for improving Hispanics' poor higher education. The authors conclude that by increasing the quality of higher education for Hispanic, their economic prospects, civic engagement, and ability to contribute to the long-term health of the nation may increase. Suggestions on how to increase enrollment include (a) institutional capacity building, (b) providing federal financial aid, (c) providing student support for academic preparation and services, and (d) graduate education.

Adding to the list are ideas explained by Roscigno, Tomaskovic-Devey, and Crowley (2006). According to the authors, family background (determined by income and the education level of the parents) strongly influences positively the academic achievement of students and decreases a student's chances of dropping out. Family structure may also be a consistent predictor of academic achievement. Non-traditional families, however, and a high sibling count seem to negatively affect academic achievement and increase drop out rates. The authors also suggest that students that live in rural and urban (inner-city) areas of the United States tend to display a lower level of education and have a higher probability of dropping out than those who live in suburban areas. It appears that education research and education-related public policy has neglected these disparities or focused unequally on one or the other.

The authors from the National Educational Longitudinal Survey and the Common Core of Data used hierarchical linear and logistic modeling techniques to test their

arguments. Their results determined disadvantages both in terms of familial and school resources for students in the inner city and in rural areas. These inadequacies imply that substantial educational investment must be made—both on the family and on the school level—in order to improve educational attainment and improve standardized measures of academic achievement. Thus, in general, it seems that education research (while demonstrating the important role of family and school-related processes) has tended to neglect geographical disparities in educational attainment and academic achievement.

Bohon, Kirkpatrick, and Gorman (2006) have found that the aspirations and expectations of attending college is high amongst all groups, but that students of Mexican and Puerto Rican backgrounds have lower or weaker expectations than non-Hispanic whites, while students of a Cuban background have stronger aspirations than non-Hispanic whites. Their results, however, show that differences in socioeconomic status, academic skill, and high school engagement are resulting in the lower aspirations and expectations in Mexican and Puerto Rican background students; the aspirations of Cuban background students remained high even after taking those measures into account. Moreover, family income, parental education attainment levels, whether English was spoken at home or not, and immigrant status of parents was not related to whether students had high academic aspirations for all Hispanic groups.

Parental Income and Education

Despite increasing numbers of minority students in the high school population, their successful transition to 4-year colleges remains limited. Part of the reason for this discrepancy may be due to their family background of low-income and first-generation

students, facing obstacles to college attendance (Hamrick & Stage, 2004). Many attend inner-city schools with low levels of funding, crowded classrooms, inadequate course offerings, under-prepared teachers, and often-dangerous conditions (Rendon & Hope, 1996). In addition, counselors play an important role in the college choice process for many students, but the few counselors at poorly funded schools spend much of their time working with student and family problems and have little time to spend guiding talented students through college choice processes (McDonough, 1997). In addition, some students see their parents as obstacles when they set family needs for financial help or childcare as priorities over education (Denner, Cooper, & Dunbar, 2005).

As stated by Noack (2002), parent education can influence children's education via different routes: (a) through the transmission of cognitive competencies, (b) through increased opportunities, and (c) through the transmission of parental beliefs and attitudes concerning the value and utility of education. Parents' views on school and education may affect children's views either directly or through such indirect processes as parents' engagement in cultural or educational activities, which are observed by children and could affect their attitudes and beliefs (Noack, 2002).

Austin and Martin's (1992) work researched the correlation between the emotional, academic, and social growth of college-bound children to the level of educational attainment of the parents, the parents' marital status, familial stability, and the number of children in the family. They chose as subjects 52 college-preparatory students from a public school in the South. The School Environment Preference Survey (SEPS), Measures of Psychosocial Development (MPD), and the Study Attitudes and

Methods Survey (SAMS) were all used to collect data. The results of a multivariate analysis showed that there existed substantial differences in guilt, academic interest, study habits, autonomy, and initiative, amongst others. The implications for school personnel were noted. There was a significant interaction effect of parents' educational level by parents' marital status for academic interest, alienation, and shame and doubt. A significant interaction effect of total children by parents' marital status for trust, autonomy, ego integrity, and inferiority was also found.

Siblings' Influence on Higher Education

Like family class background, family structure—not including parental influences—appears to be a strong influencer, as well. The number of siblings and unusual family form (Austin & Martin, 1992) have an influence on adolescents' view of pursuing higher education.

Income, Race, and Higher Education

Could poverty and being raised in a single-parent household be responsible for the low enrollment of various groups in state universities? According to surveys conducted by the National Center for Children in Poverty (NCCP), 43% of families in California can be considered low income families. Almost 80% of the children come from low-income families in which parents have not completed high school. In addition, 55% of children with parents having a high school degree but not having a college education—live in low-income families. In contrast, 24% of children whose parents have an education level that includes some college experience or more live in low-income families (Trustees, 2006). According to NCCP, family income below $20,650 per year

for a family of four in 2007 is considered as families living in poverty. Data are taken from the federal poverty level (FPL).

California public higher education is associated with racial segregation and inequities in educational resources and postsecondary preparation during high school. The stubborn and persistent under-representation of African Americans and Hispanics in California higher education in the areas of academic performance is to be noted (Teranishi & Allen, 2004).

Katzman (2003) concludes that the U.S. Congress, in directing the National Research Council (NRC), needs to understand the reason for the disproportionate number of minorities in special education programs classes. Katzman's conclusion should be viewed as a positive point for minority students, especially for those who are seeking higher education.

Minorities, especially Latinas, face different issues according to Villapando (2003). The author argues that if parental social values are reinforced it can increase Latinas' likelihood of pursuing careers in service of their communities, and they are more inclined to become involved in community service activities after college.

Lower-income-level students struggle to enter higher education (Boulard, 2004). Of freshmen at 146 selective colleges and universities, only 3% came from families in the lowest economic quartile. Children from middle and low-income families can help themselves by understanding the power and value of money management (Eileen & Beacham, 2004). According to Eileen and Beacham, by high-school, few children learn

the virtue of money management from their parents. Furthermore, it is suggested that teaching children financial responsibility is a key to realizing their own personal dreams.

Some study of financial planning before parents send their children for higher education helps both parents and students (Fox, 2005). Parental control of spending is also a solution to teaching children the power of responsibility. Fox further states the necessity for Americans to be educated regarding financial matters and the need to address high debt levels, bankruptcy, low savings rates, and other negative outcomes that can come from bad financial management within families and low financial literacy levels.

It is also necessary to examine African American adolescents' perception of college and higher education. Clark (1989) describes the African American adolescent in inner cities as part of the three main groups: the achievers, the over delinquents, and those who are in-between. Achievers tend to receive support from their social circle, are intent on attending school, and have aspirations to attend college. Over-delinquents, however, focus themselves on over-aggressive and rebellious behavior that is ultimately self-destructive. They tend to define "success" in terms of financial success, and that if such success is attainable, it will be through crime, violence, and aggression.

Postsecondary Enrollment

Data taken from the Digest of Education Statistics on Population Survey (CPS), October 1970 through October 2005 (Appendix A), suggest that the college enrollment of Hispanic and African American students continues to remain at rates less than 30%. This raises the question as to why minority high school graduates are not enrolling in college

after graduation. Differences in college enrollment rates between males and females are not significant, according to data taken by The Digest of Education Statist*ics* in 2008 between 1960 and 2004. Between 30% to 33% of both males and females who completed high school enrolled in college programs. However, on a part-time basis, more females than males graduated from college (see Appendix A). Students between the ages of 18 and 29, both male and female, constitute the majority of students enrolled in full-time postsecondary education.

The number of students California enrolled at degree-granting institutions has increased by 17.7% (see Appendix B), according to Snyder et al. (2005). However, the number of minority students enrolling in 4-year degree programs has not changed significantly. It is possible that a low college graduation rate may pose a serious threat to the state of California's economy, especially in light of the state's rising Hispanic population. The survey *Enrollment Rates of 18- to 24 -Year-Olds in Degree-Granting Institutions, by Sex and Race/Ethnicity: 1967 through 2006* (see Appendix C) indicates that enrollment rates for African American, non-Hispanic students in degree-granting institutions, as of 2006, was around 30% and has not changed significantly between 2000 and 2006. The enrollment rate for Mexican Americans is around 23%. These numbers seem low for a population segment that is posed to preserve employment in and shape the economic future of the United States.

According to enrollment figures for post secondary institutions according to the type of institution, age of their student, their major, and their age in 2003-05 (see Appendix D), student enrollment for all ethnic background is highest in business,

management, and marketing for a 4-year college institution followed by health professions and related sciences. Engineering and technology enrollments in recent years have been low, with less than 1 million students enrolled in technical disciplines.

The number of African American and Hispanic students enrolled in the California State University system seems to reflect the national pattern. Enrollment for both upper- and lower-level divisions for African American students has consistently remained below 8% of the total enrollment at all state universities combined in California from 1996 to 2005. Similarly, the number of Hispanic students constitutes less than 20% of the total California State University enrollment (Lindsey, 2006).

Cooper, Dunbar, and Lopez (2005) emphasizes the usefulness of outreach programs. They make their point by addressing the specific needs of Hispanics. Their intention is to help Hispanic and other ethnic minority and low-income students with outreach programs. However, little is known about either the process through which students become and stay involved in college outreach programs, or how they think about their goals, obstacles, and resources on their educational pathways.

Cooper et al. (2005) cite a program where students apply for assistance as early as sixth or seventh grade. In these programs, the annual cycle of activities includes a spring awards ceremony, tutoring, counseling and guidance, Fall and Spring Academies college visits, and Summer Institutes at the community college, where students learn about college, strengthen academic skills with college-aged tutors, and meet other students with college goals. Students receive a $1,000 scholarship when they enroll in the community college and their families participate in information activities. More specifically, there are

several programs such as Advancement Via Individual Determination (AVID), the Coca-Cola Valued Youth Program, and Upward Bound where students are strongly encouraged to apply for financial and academic help to pursue higher education.

Issues Related to Minorities and Higher Education in California

Deep concern over poor performance of Hispanics in the areas of higher education is expressed by leaders from minority groups (Bagnato, 2005). Central to the concern is getting more funding. The American Hispanic population has historically been centered in the Southwest, Florida, and New York. As a result, these areas have the greater burden in ensuring the education of Hispanics. With almost 50% of all Hispanics living in city centers, city colleges must cater more to this demographic. However, funding shortages means that these colleges are having difficulties in providing the resources necessary to success. Bagnato further states that Hispanics are the largest minority group in the U.S. Texas, California, New Mexico, and Hawaii now all have minorities comprising the majority of their populations.

First generation Hispanic parents are unlikely to have access to the information necessary in preparing their children for college. Bagnato (2005) contends further that, since 57% of adult Hispanics in the United States are immigrants, making a serious effort to make such information readily available to these parents is of paramount importance.

Moreover, many Hispanic students come from low-income families. This low income, which often requires holding more than one job at a time and supporting several people, does not lend itself to rising college fees. And while there are federal financial aid

programs and programs designed specifically for low-income and first generation students, funding is often lacking.

Rosser's (as cited in Roach, 2006) work of 26 years has centered around diversity that encompasses the faculty, administration, and student body. California State University Los Angeles has the following enrollment breakdown: 52% Hispanic students, 22% Asian American/Pacific Islander, 16% White, and 9% African American. Almost 40% of the full-time faculty is non-White. The study released, by the Public Policy Institute of California (and based on the 2000 Census) determined that 13% of Hispanics and 15% of African Americans have earned a bachelor's degree, while 31% of Whites and 62% of Asian Americans had.

California and Outreach Programs in Higher Education

Timar, Ogawa, and Orillion (2004) examine the institutional and political background of the University of California's outreach efforts. The authors examine the political, institutional, and organizational forces that converged to initiate and shape the University of California's current efforts to establish and enhance educational outreach programs. The authors raise the following questions:

- Elimination of affirmative action is certainly not unique to California.
- Should outreach programs serve the narrow goal of enlarging the pool of students eligible for university admission?
- Should outreach programs focus on improving schools that serve high concentrations of low-income, minority students?

- Understand that eliminating affirmative action also creates a new politics of higher education.
- University of California has played an important leadership role in shaping the state's public educational system, but can it develop a long-term, stable institutional role?
- The dilemma for policy makers is that the former is a fairly safe road to follow, but it offers only temporary relief.

The number of freshmen enrolled at University of California campuses in the Fall of 2006 was up more than 4,000 students from the previous year, in what UC officials described as a record-setting, but largely expected, gain. Trounson (2006) asks why there is no change in the growth rate for the California State Universities. California State Universities have the same criteria as the UC schools have: work with local businesses to create jobs and help the state economy. Roach's (2000) explanation describes how California State Universities have addressed the outreach program. The program looks to target a number of poor, urban high schools in California. Many of these high schools have a majority African American and Hispanic student populations.

Although 60% of California public school teachers are educated at California state schools, the new initiative is designed to educate interested students regarding the various requirements of the university system and to improve proficiency in English and mathematics.

According to Banerji (2004), due to the increasing costs of tuitions and fees at 4-year colleges, college costs amount to 71% of the earnings of a low-income household.

As a consequence, Hispanic students appear to be faring the worst when it comes to the increasing costs of higher education.

Hispanic students and those from low-income households are struggling more with increasing college costs than students from other backgrounds; Banerji (2004) calls on Congress for help. Continues the report, unless policy changes are made, society will suffer as fewer students are unable to afford a higher education.

For a low-income family, tuition costs and other fees are equal to 71% of its earnings, while for an upper-income family, the costs are equivalent to 5% of its earnings, and for a middle class family, 19%. Ever-increasing costs will prevent the poorest students from pursuing a postsecondary education, and "the ultimate damage will be an upsurge in the well-known cycle of poverty that straps untold numbers of poor youth, dispiriting employment. The economy is denied thousands qualified workers" (Banerji, 2004).

Moreover, according to the report, for every $1,000 hike in yearly tuition costs, about 7% of the Hispanic demographic loses access to a college education. While the numbers of Hispanics enrolled in college has increased, their numbers are still substantially lower than those of White and African American students. The enrollment rate for Hispanics aged 18 to 24 increased to 22% from 16% from 1980 to 2000. During the same period, the enrollment rate for African American students went up to 31% (from 19%) and was 39% (up from 25%) for Whites (Banerji, 2004).

The general sentiment among minority educators has been a strong desire to find help for children of their ethnic group enrolled in universities and compete with other

races. In particular, several studies have been conducted to analyze what can be done to help Mexican American high school graduates to enroll in postsecondary education. Assistance is sought at many stages (Olivas, 2005).

On where minorities stand compared to other ethnic groups, Jodry, Robles-Piña, and Nichter (2005) note that, from 1972 to 1997, the percentage of Hispanic parents that earned a high school diploma rose from 23% to 45%. White parents, on the other hand, have an attainment rate of 98%. They go on to conclude "that parental education plays a significant role on their children's success in high school graduation rates" (p. 6).

In the United States in 1997, Denner et al. (2005) found that 36% of Hispanic students entered college after high school, compared to 46% of White and 39% of African American students (U.S. Department of Education, 1998). Outreach programs are not fully utilized if finances were the major reason for low enrollment for pathways to college.

Issues Specific to College Enrollment

Research by Corley (1991) addresses the relative importance of reasons that influence students' choice of an area of study or major and the sources of information used in the decision process, and students' responses on the basis of area of study, gender, age, ethnicity, enrollment status, and marital status for California State Universities. The majority of the students were single, white females between the ages of 18 and 24. Approximately 80% of the respondents represented three of seven areas of study: food and nutrition, interior design, and textiles. Corley's findings concluded that students are influenced by a variety of factors when choosing an academic program, with more

emphasis placed on personal reasons, including interest in the program and personal skills and career-related factors, including preparation for a career and job opportunities, than factors identified as service and experiential. In general, people are of greater importance as information sources than media sources. Recommendations for recruitment strategies include developing on- and off-campus programs designed to stimulate interest in the home economics areas of study, implementing a career development plan, coordinating the academic unit's recruitment plan with the university plan, and intensifying public relations activities directed toward the university, public, and professional communities.

Would parental intervention on a short-term basis affect the number of Mexican American students who enroll in college? Mancillas (1998) conducted research specifically on the parental role in Mexican American students' decision to enroll in college. To guide this study, the researcher identified a conceptual model for enrollment in higher education by synthesizing and combining two established theories: overlapping spheres of influence and cultural capital. The research design used for this study was an after-the-fact natural experiment research design. This design tested the following hypothesis in the study: There is a statistically significant difference between the college enrollments of Mexican American high school graduates whose parents participated in a parental involvement program and the college enrollments of Mexican American high school graduates whose parents did not participate in a parental involvement program. The hypothesis was correct.

Gloria (2001) addresses another part of American society, Native Americans. Gloria states, “Postsecondary dropout rates of American Indian students are alarmingly high and constitute the highest dropout rates and the lowest graduation rates among racial and ethnic minorities in the United States” (p. 1). Gloria cites the work of Kidwell, Reddy, and Astin, stating that only 6 of every 100 American Indian students who enter college would graduate, and only 2 of these 6 would complete graduate or professional school. Furthermore, American Indians account for only 0.8% of all college students nationwide (O'Brien, as cited in Gloria). Clearly, the number of American Indians who obtain undergraduate degrees is highly disproportionate to their total representation in the United States (Ponterotto, as cited in Gloria). The postsecondary dropout rates of American Indian students are alarmingly high (O'Brien, as cited in Gloria) and constitute the highest dropout rates and the lowest graduation rates among racial and ethnic minorities in the United States (Gloria; Reddy, as cited in Gloria). Gloria’s study was focused on non cognitive factors influencing American Indian undergraduates’ non persistent academic decisions. The most powerful non cognitive factor was social support, followed by comfort with the university environment, and then self-beliefs.

It is thus clear that students coming from low-income families face special challenges. These challenges are not simply financial. Minority students face a multitude of problems: parental education, support, and social status are among the key issues that have to be overcome.

Future Study Recommended from Previous Research

Several studies have been conducted that touch on this paper's subject (Hervey, 2005; Hubbard, 2006; Rane & McBride, 2005; Sokatch, 2002; Yoshida, 2005). While most of the recommendations are discussed in an isolated manner, the goal of this dissertation is to specifically address them for students in their preadolescent age.

Yoshida (2005) recommends examining the interaction terms between ethnicity and parent involvement. Yoshida cites work from Lareau (2000) and Muller and Kerbow (1993) expressing that ethnic groups may conceptualize parent involvement differently and so an expanded definition that includes all groups was a significant predictor for both types of institutions as well as on-time enrollment. Many studies have not included this as a parent-involvement variable. As a result, studies may inaccurately conclude that certain ethnic groups are not very involved with their children's education (e.g., McNeal, 1999, 2001; Perna & Titus, 2002; Sui-Chu & Wilms, 1996). This might be not because the parents are uninvolved, but because the researchers' conceptualization of parent involvement does not include behaviors that better capture parent involvement for those groups. Yoshida contends, "In addition, certain minority groups tended to enroll at a later time, measuring on-time enrollment alone would have underestimated the enrollment of certain minority groups" (p. 150).

Rane and McBride (2000) recommend addressing paternal involvement. The authors suggest, "In light of the effectiveness of the centrality construct in the present study, future research applying identity theory to the issue of father involvement should be conducted using this construct" (p. 353). Keeping with Marsiglio's (as cited in Rane &

McBride) suggestion, future studies should assess the centrality of the nurturing role of fathers relative to other important roles attached to parent status. In addition, researchers will need to identify and operationalize outcome variables related to these roles.

Hervey's (2005) work is focused more on African Americans. Hervey suggests further research to understand the ways in which African American families impart values concerning higher education, based on the study by Freeman (as cited in Hervey). Hervey cites a need for research on historical constructions of cultural capital, since what constitutes cultural capital changes from one period to another.

Sokatch (2002) contends that research must investigate the development of college aspirations from early adolescence through the high school career. When is the ideal time to intervene? Are middle school interventions better than high school interventions? Is elementary school too young to begin? What sorts of programs are most likely to increase educational ambition and aspiration? Important to this dissertation is what Sokatch claims: that siblings are an important source of information for college-going high school graduations. Moreover, while parents have a significant influence on children during the college application process, friends and peers appear to have the greatest amount of influence on children during the college enrollment process.

Hubbard (2006) focuses on the Holland personality classification. *Identifying Factors that Influence Student-Centered Teaching in the Undergraduate Classroom: A Structural Equation Modeling Analysis* states, "The Holland classification system proved useful. As described, the Holland Personality types provide descriptions of each

personality environment which gives the researcher a framework to explain differences between disciplinary environments" (p. 22).

Carter and Wojtkiewicz (2000) suggest further research to determine the motivating factors for the differential treatment of sons and daughters by parents. Interviewing parents may help determine if their engagement in the schooling of their daughters is the perpetuation of a traditional social practice, or if it is in response to social changes. This may help create a better understanding of the differences encountered in the academic experiences and outcomes of students from each gender.This dissertation will therefore focus on the work that was left as future research and will be centered on students from seventh grade.

Pertinent Graduation Data

Graduating from high school, at county and district level. According to California Postsecondary Education Commission (2009b), high school graduation rates in the Central Coast Region (Ventura, Santa Barbara and San Luis Obispo counties) range from 53% to 100%, depending on the gender and ethnicity.

Graduation rates for these counties were 83%, 82.1% and 82.2% for the years 2005, 2006 and 2007, respectively. Average graduation rates for different ethnicities, 2000-2007, were as follows: rates for Hispanic males and females were 53% and 63%, respectively; rates for White males and females were 76% and 81%, respectively. In contrast to these numbers, high school graduation rates for Asian students for the same period were 90% and 93% for males and females (California Postsecondary Education Commission, 2009b).

According to data taken from the same website (California Postsecondary Education Commission, 2009b), Ventura Unified School District's graduation rate for the year 2006-2007 was 83%. For individual schools, the rates were as follows: Buena High (*N* = 561) 90%, El Camino High (*N* = 90) 63%, Foothill Technology High (*N* = 205) 92%, Pacific High (*N* = 108) 34%, and Ventura High (*N* =423) 86%.

Comparison of Ventura county high schools' performance with state statistics. Ventura County high schools had 8,686 graduating students in 2007, with a graduation rate of 80% (*N* = 11,067). The entire state of California had a total of 347,306 students graduating from high schools, with graduation rate of 80% (*N* = 443,121). Data are compiled from the California Department of Education's website (California Postsecondary Education Commission, 2009b). According to this database, students going to post-high school education (comprised of both community and 4-year college) from Ventura County high schools is 66.8%, compared to 48% statewide. Out of 8,686 students graduating from Ventura County high school, 51.3% of students went to community colleges, 8.9% went to California State Universities and 6.6% went to various campuses at University of California. If survey data hold true, it is expected that approximately 67% of students will enroll in a college program. At least 60.3% of the students responding to the survey stated that they were very sure of going to college, and 28.3% students stated that they most probably will go to college. The data from the survey support the general sentiment that is reflected in Ventura county statistics.

College-going rates to public colleges and universities at California state level in 2007. Appendix E provides college-going rates for counties in California. The

information is obtained from state department of education's website (California Postsecondary Education Commission, 2009a). The website clarifies,

> College-going rates were calculated by dividing the number of entering freshmen aged 19 and younger from public high schools in the county by the total number of graduates from public high schools in the county. All categories of public high schools are covered including comprehensive schools, continuation schools, and other categories of schools. Data for freshmen enrollment were obtained from each of the segments and includes all students full-time, part-time, credit, and non-credit. Note that the calculation of these rates is based on totals for each category such as year, county, and ethnicity. Rates do not entail longitudinal tracking of individual students. (¶ 1-3)

Students graduating from high school at the national level. In 2005-2008, 2.89 million students graduated from public high schools in the United States; 2.93 millions students graduated in 2006-2007, and close to 3 million students graduated in 2007-2008, according to data provided by U.S. Department of Education's website (California Postsecondary Education Commission, 2009b), National Center for Education Statistics, Annual Report of the Commissioner of Education. Approximately 15% of high school graduates in the US come from California public schools. Out of 350,000 students graduating from California high schools, approximately 140,000 are Whites, 130,000 are Hispanics, 50,000 Asians, 27,000 African Americans and 3,000 are Native Indians.

Comparison of national and state statistics related to academics for different ethnicities. Standardized scores are part of the academic performance index and a

measure of school standings compared to the rest of the population. AnacapaVentura Middle School standings, as discussed in chapter 3, are above California State averages in core subjects such as Math, English and Science. Later, these students will appear for standardized tests. Hispanics at the national level in the Scholastic Aptitude Test (SAT) score lower compared to Whites in all areas, i.e., critical reading, mathematics and writing, as shown in Appendix F (Table 134, SAT score averages of college-bound seniors) and Appendix G (Table 138, ACT Score averages). Hispanics also have lower ACT scores. Asians are the highest achievers, on average, in both these standardized tests. Are there factors that underlie Hispanics' low scores in standardized tests compared to others? Hispanic students thus face a challenge in the future when they compete for college admission based on their SAT/ACT scores. Hispanics on an average come from families with low SES scores, as discussed in chapter 2.

Comparison of national and state statistics related to dropout rates, different ethnicities. High school dropout rates are higher for Hispanics in California than Whites, 5.9% compared to 2.9% as shown in Appendix H. According to Dataquest (California Department of Education, 2007), Ventura County School District does not have any reported dropout for grades 7, 8 and 9. Students start to drop out in grades 10, 11 and 12. Ventura Unified School District high school dropout rates were 2.7% for 2004-05, 2.1% for 2005-06, and 1.7% for 2006-07 (California Department of Education, 2007). It is therefore a challenge for Hispanic students to work diligently during the high school years and complete graduating from high school, a goal they have set in the seventh grade. Comparative data are presented in Appendix H and Appendix I.

The U.S. Department of Education (1988) conducted research with eighth graders in 1988 called NELS 88. This nationwide research was conducted over a period of time and was intended to determine what helped students graduate from high school. The NELS 88 instrument is of particular interest since it addresses socio economic factors that help students stay focused in academics. Among the major findings of the NELS 88 studies were:

1. About 35% of students aspire to careers in professional, business, managerial, science, or engineering fields.
2. Although two-thirds of the students plan to finish college or above, only about one-third plans to enroll in a college preparatory program in high school.
3. Twenty-five percent of eighth graders don't know which high school program they will enter.
4. Hispanics (2%) and American Indians (30%) are more likely than whites (0.9%) and Asians (0.8%) to report that they probably will not graduate from high school.

Methods to conduct research will be discussed in chapter 3.

Chapter III. Research Design

Introduction

This chapter discusses the design of the research, including the instrument developed by the National Educational Longitudinal Study 88 (NELS 88). Sampling techniques, data collection, and analysis are discussed in accordance with the research questions.

Methodology

Punch (1998) describes research design as a scientific process that involves planning and executing a research project, from identifying the problems and the research questions to the introduction of them into the empirical world. Punch further clarifies that it is a four-step process (a) strategy, (b) conceptual framework, (c) who or what has to be studied, and (d) tools that have to be used. He notes, "Research design thus deals with questions, the data analysis with a framework" (p. 66). The design of this study is based on using a quantitative method by identifying key variables.

According to Burns and Grove (2001), scientific research methodology includes the design, setting, sample, methodological limitations, and data collection in a study. Burns and Grove describe quantitative study as a formal, objective, systematic process in which numerical data are utilized to obtain information. Tuckman (1994) further states that it is a systematic attempt to provide input to research. Milton, McTeer, and Corbet (1997) describe variables as things that are measured and controlled in research. These variables can differ in the role they are given in research and in the applicability of different types of measure to them. Moreover, variables can take more than one value,

and those values can be words or numbers. Bernard (2000) points out that discrete variables vary in kind, or vary qualitatively, rather than in degree, amount, or quantity. The major goal of this study was to understand seventh grade students' perception of higher education, in particular their attitude toward college attendance.

The National Center of Education Statistics (NCES), an organization that is a part of the U.S. Department of Education, has analyzed students using quantitative methods. The National Education Longitudinal Study of 1988 (NELS 88) surveyed students in 1988 and then resurveyed through four follow-ups in 1990, 1992, 1994, and 2000. Quantitative methods were used to collect data by NELS 88 to conduct statistical analysis.

Survey feedback of the subject research followed the NCES approach; that is, data were collected and analyzed applying quantitative methods and subsequently using SPSS software that simplified data statistically. The feedback from a student survey was organized and compiled coherently to conduct a meaningful statistical analysis. The quantitative methods were engaged in two different steps: (a) using descriptive methods to analyze the data and organize it, and (b) applying inferential statistics to compare the findings of the NELS 88.

Quantitative methods are useful based on the ease of collecting data without one-on-one meetings with students to develop a concept. It is objective and takes away subjectivity. Research techniques used in order to collect quantitative data (information that is measurable) are called quantitative methods (McCall, 2002). To support use of the quantitative method, Creswell (2000) writes,

> A quantitative approach is one in which the investigator primarily uses post positivist claims for developing knowledge i.e. cause and effect thinking, reduction to specific variables and hypotheses and questions, use mode of measurement and observation, and the test of theories, employs strategies of inquiry and surveys, such as experiments and collects data on predetermined instruments that yield statistical data. (p. 18)

Punch (2002) emphasizes the importance of using a quantitative approach for research that is associated with social sciences. He writes, "Quantitative research has typically been more directed at theory verification, while qualitative research has typically been more concerned with theory generation" (p. 16). The purpose of my research was to compare the descriptive summary collected by NELS to a sample of seventh grade students.

Survey questions contained variables that were both categorical and numerical. Categorical data types have values that can be placed into categories, yes or no answers. The numerical type can be divided into discrete and continuous. The survey has questions that are mostly the discrete type, to which a numerical value can be assigned.

Population and Sample

McCall (2002) describes the importance of selecting the right sample size. A sampling frame, in its simplest form, is a listing that identifies all analysis units of interest that are part of the project. Krejcie and Morgan (1970) developed a model to determine sample size for researchers that is useful for selecting the number of

respondents required to make a meaningful conclusion when conducting quantitative methods.

The participants for the study were drawn from seventh graders attending a Ventura Middle School, a part of Ventura Unified School District located in Ventura, California. The school is located at 100 South Mills Road in Ventura. The school consists of grade levels six to eight, with a total enrollment of 1,009. The initial contact for the school was through the principal of the school. According to the principal, Mr. Jesus Vaca, the school has 353 seventh-grade students from mixed socio-economic backgrounds. Ventura County School District's mission statement reads,

> The Ventura Unified School District will educate all students in safe, healthy and high performing schools. We will Inspire all students to excel academically, Honor the unique qualities and diverse backgrounds of all students, Build supportive relationships, Guide all students to reach their full potential, Motivate all students to successfully pursue their chosen life paths, and Engage all students to become responsible and contributing members of society. (Ventura Middle School, 2008)

The school district has the following vision statement posted on its website (Ventura Middle School, 2008): "In the Ventura Unified School District all students will receive an exemplary and balanced education fostering a life-long passion for learning and engagement. We demand excellence of ourselves because our supportive community has entrusted us with their children" (District vision statement section, ¶ 1).

Principal Jesus Vaca, consistent with the district's vision, expects his students to "attend school every day and arrive on time, bring all materials required to complete assigned tasks, and complete assignments to the best of their ability and turn them in on time, and follow classroom and school rules" (Ventura Middle School, 2008, Principal's message, ¶ 2). He encourages parents to actively participate with the school both in and out of the classroom. He states on the school website, "The voice of the community is welcomed and needed as we strive to offer the best to our students. All resources available will be focused on the improvement of the instructional program by the staff" (Principal's message, ¶ 3).

The school website (Ventura Middle School, 2008) offers the following information regarding enrollment in gifted classes:

> Ventura Middle offers a Gifted and Talented Education program for students who have been recognized as high achievers by their teachers and through district testing. Students are clustered by grade level to receive differentiated instruction in language arts (grades 6-8) and math (grade 6); instruction is provided by a GATE-trained teacher to qualifying students. The program targets students with a grade point average ranging from 2.5 to 3.5, and who may be the first of their family members to attend college. Advancement via Individual Determination (AVID) equips students with the skills required to be successful in postsecondary education. Communication skills, writing in particular, are strongly emphasized. Organizational, study, and note-taking skills are key elements of the college

preparation process. College students serve as mentors and tutor AVID participants. (p. 2)

The entire seventh grade was invited to participate in the survey. From 353 students attending seventh grade, 273 students participated in the survey process since they were able to obtain parental consent and were willing to take the survey. The survey participation response rate was 77.3%. Quantitative data were collected and analyzed with those variables that have correlation between students' socioeconomic status and ethnic backgrounds.

School data have been collected from Ed-Data. A unique collaboration has created the Ed-Data website to offer educators, policy makers, legislators, parents, and the public quick access to timely and comprehensive data about K-12 education in California. The Education Data Partnership provides a significant tool to access information and improves decision making in managing education's resources. Data shown in Tables 1 through 5 were taken from Ed-Data.

Demographics of the entire middle school by ethnicity are presented in Table 1, for the seventh grade in Table 2, and the total enrollment data for the school in Table 3. Data for accountability (e.g., API, AYP), test data, enrollment, graduates, dropouts, course enrollments, staffing, and data regarding English learners were taken from DataQuest, a database that is maintained by California State Department of Education.

Ventura Middle School student demographics are fairly representative of the school district in terms of ethnic composition for two ethnic groups, i.e., Hispanics and Whites. For example, the majority of the students are Hispanic followed by White.

Table 1

Ventura Middle School, 2007-08, Grades 6 through 8: Students by Ethnicity

Ethnicity	Enrollment	School Percent of Total
American Indian	8	1.3
Asian	32	2.5
Pacific Islander	2	0.3
Filipino	12	0.7
Hispanic	444	40.1
African American	22	1.8
White	441	46.2
Multiple/No Response	48	7.0

Table 2

Ethnicity and Gender from Ventura Middle School, 2007-08: Students Attending Seventh Grade

Ethnicity	Gender	Enrollment	Percent of total enrollment
African American	Male	4	1.2
African American	Female	5	1.5
American Indian	Male	3	0.6
American Indian	Female	2	0.9
Asian, Filipino, or Pacific Islander	Male	5	1.5
Asian, Filipino, or Pacific Islander	Female	6	1.8
Hispanic	Male	66	19.6
Hispanic	Female	78	23.2
Multiple	Female	7	2.1
Multiple	Male	9	2.7
White	Male	67	19.9
White	Female	82	25.0

Note. Data provided by the school.

Table 3

Ventura Middle School, 2007-08: Enrollment by Grade

Grade	Enrollment
Grade 6	339
Grade 7	353
Grade 8	353
Total	1045

Student family incomes. The California Department of Education has compiled data for fiscal year 2005 and included the standing of the subject middle school students' parental income levels: 36% of the school district students are from families who live below the poverty line. The California Department of Education reports that 42% of students at Ventura Middle School are enrolled in the reduced lunch program.

Ventura School provided details of its subsidized lunch program; data are presented in Table 4.

Table 4

School Lunch Payment

Lunch program type	Number of seventh graders participating	% of Total
Free lunch	98	27.8
Reduced lunch	50	14.2
Full pay lunch	205	58.1
Total	353	100.0

It is thus clear that at least 40% of students are on some form of subsidized lunch program based on their income levels. The percentage of students on the free lunch program is 27.8%, while 14% are on a reduced rate. In brief, the school is made up of at least 41% of seventh grade students with marginal income levels, and this should be a factor to consider.

English learners. The school's English learner data are presented in Table 5.

Table 5

English Learner Data

Languages of English Learner Students	Number of Students	Percent of Enrollment
Spanish	95	9.40%
Arabic	11	1.10%
Thai	2	0.20%
Farsi (Persian)	1	0.10%
Filipino (Pilipino or Tag)	1	0.10%
All Other	1	0.10%
Total	111	11.00%

Note. California Department of Education, Educational Demographics Office.

With 11% of students being English learners, expected returns on the survey were originally high, that is to say that understanding the questionnaire in English would not be a problem. Although expected returns were high, the actual number of responses was lower than anticipated. These numbers also indicate that the school has lower English learner rates compared to the average in the state of California.

The school website, *http://www.venturausd.org/Ventura.htm*, includes teacher biographies and student score cards that are also published by the California Department of Education. The Student Accountability Report Card (SARC) provides a variety of

information about the school. The school's academic performance is discussed in Table 6. Ventura students perform better than state average in the English Language Arts as shown in Table 6.

Table 6

Subgroup Performance and Participation: Annual Measurable Objectives for Grade 7

Academic Category	Year	Percentage
English Language Arts	2008	
	2007	58%
	2006	59%
	2005	51%
The state average for English Language Arts was 49% in 2008.		
Math	2008	
	2007	53%
	2006	51%
	2005	47%
The state average for Math was 41% in 2007.		

The test results by subgroup in Table 7 show how the designated group of students is performing in comparison to the general population in the area of English Language Arts.

The U.S. Department of Education's No Child Left Behind requires each state to define adequate yearly progress for school districts and schools. In defining adequate yearly progress, each state sets the minimum levels of improvement measurable in terms of student performance that school districts and schools must achieve within time frames specified in the law. Each state begins by setting a "starting point" that is based on the performance of its lowest-achieving demographic group or of the lowest-achieving schools in the state, whichever is higher. The state then sets the bar or level of student

achievement that a school must attain after 2 years in order to continue to show adequate yearly progress. Subsequent thresholds must be raised at least once every 3 years, until, at the end of 12 years, all students in the state are achieving at the proficient level on state assessments in reading/language arts and math.

Table 7

California State Test (CST) Results by Subgroup

Student Group	Student performance in English Language Arts portion of CST
All Students	58%
Females	61%
Males	52%
African American	75%
Hispanic or Latino	43%
White (not Hispanic)	70%
Economically disadvantaged	40%
Non-economically disadvantaged	71%
Students with disability	16%
Students with no reported disability	62%
English learner	10%
Fluent-English proficient and English only	64%
Gifted and talented	97%

Note. Source: http://www.education.com/schoolfinder/us/california/ventura/Ventura-middle.

In addition, the school is rated with higher proficiency in language and mathematics compared to the target set by the California State Department of Education. The school takes pride in the proficiency of its students.

Instrument

The *Eighth Grade Questionnaire NELS 88* was initially designed as a part of a U.S. Department of Education (1988) study that was conducted in 1988. After a careful study of the National Educational Longitudinal Study 88 (NELS 88) questionnaire, modifications were made to address specifically the research topics for this study. The selection of NELS 88 as a basis questionnaire was based on the following considerations:

1. Data from over 25,000 students have already been compiled by the U.S. Department of Education using this questionnaire.
2. Since the instrument was used to conduct a survey of eighth graders in 1988, it was appropriate to use this instrument for seventh grade students.
3. The committee approved use of this instrument when it was discussed during the first preliminary oral examination
4. The instrument was discussed with the school principal, who confirmed it was an appropriate instrument to use.

Sections 1 to 3 and 5 to 9 (section 4, student personal background, is excluded) were used for this study. The number of questions was reduced from the original NELS 88 into a more concise, uniform listing. They are listed in Appendix J; removed questions from NELS 88 are listed in Appendix K. The instrument for this study is divided into eight parts as follows:

Part 1: Student's background. This section covers the background of the principal guardian and his/her profession.

Part 2: Student's language use. Specific questions are designed to understand the student's first language, second language, and any other languages that may be used at the student's home. The section ends with more specific questions on use of English in the areas of the student's personal life.

Part 3: Student's family background, including ethnicity and number of siblings.

Part 4 (NELS 88 part 5): Student's plans for the future. This is the area of most interest to this dissertation, since it covers questions on whether the student is going to graduate from high school, whether the student is going for further education (i.e., college), and how the student's parents feel about where the student is going to go for higher education.

Part 5 (NELS 88 part 6): Student's jobs and chores.

Part 6 (NELS 88 part 7): Student's school life. This part covers whether the student is involved in extracurricular activities, the student's absenteeism from school, the student's after-school activities, etc.

Part 7 (NELS 88 part 8): Student's understanding of how the social and school surrounding helped to improve his or her schoolwork.

Part 8 (NELS 88 part 9): Student's involvement in social activities.

Questions that were removed from the NELS 88 are listed in Appendix K.

Part 4 of the NELS 88 study was not used since it contained sensitive and personal questions such as student's name and telephone number. The subject study has been derived from the NELS 88 questionnaire with the number of questions reduced from 83 to 39. Questions that were removed from NELS 88 included subjects such as (a)

personal information: student and their parent's name, address and telephone numbers; (b) questions on their personal/addictive habits such as smoking cigarettes; (c) perception of themselves and others in terms of how they think of other students and vice versa, specifically how they think other students in their classes see them; (d) student academic performance for a failing grade; and (e) student discipline and tardiness issues, such as frequency of missing school over the past 4 weeks. In brief, the instrument was prepared to keep questions central to the research questions and to address students' goals regarding post-secondary education and career plans as opposed to the NELS 88 questions that addressed high school graduation. The instrument thus used eight out of nine parts of the NELS 88 questionnaire and removed questions that were sensitive.

Pilot study. Data were collected from approximately 11 students with parental permission during the initial stage prior to conducting the survey. Feedback from the students during the pilot study was as follows: (a) questions are understandable, and (b) survey was appropriate in length. As a result, no changes were made to the questionnaire.

Incentives for students participating in survey. All seventh grade students were provided with incentives to participate in the survey. Numbered tickets were handed to the students. For each ticket that was handed out, the teacher retained a like-numbered stub. The stubs were then retained, shuffled, and drawn. The first five students whose numbers were drawn as the winning raffle numbers were entitled to receive one pair of tickets to visit Disneyland. Similarly, second prize was an iPod. Only one iPod was given to the sixth winner of the contest. Finally, a third prize consisted of five gift cards of $25 each, making the 7^{th}, 8^{th}, 9^{th}, 10^{th}, and 11^{th} student winners of a $25 gift card. These

incentives were available only to those who participated in the survey. Each student received a ticket upon beginning the survey. Its corresponding match was entered into the raffle. At the end of the survey, raffle numbers were drawn by a person assigned by the school, and prizes were distributed to the winners.

Data Collection and Script

Parents were notified of the opportunity for their children to participate in the survey process when the school sent parental consent forms home with students, and then collected the parental consent and student assent responses. Prior to sending parental consent forms, teachers addressed the seventh grade students at Ventura Middle School to explain the survey as follows:

> Students, we have a researcher who is completing his doctoral study from Pepperdine University. He is interested in learning more about your desires and goals to attend college. Kamal is also interested in understanding your career goals.
>
> This survey is not mandatory. It is up to you whether you choose to participate or not. There is no penalty for choosing not to participate. In order for you to participate, you must first obtain the consent of a parent/guardian to participate in the study. There are two forms which we are asking you to give to your parents. One is the assent form and the other is a parental consent form. Please talk to your parents about what the study involves, and if you or your parents have questions about the study, you can call the investigator at the number indicated on the consent/assent forms.

> If you choose to participate, it is important that you answer each question carefully, because this information will be to understand students from different backgrounds and how they feel about their future. The information you provide will be strictly confidential. Copies of questions translated into Spanish are available for those who would like to share them with your parents.

The teacher explained that students who had submitted signed consent forms authorizing the release and confidentiality of their responses would then participate in the study.

On the day of the survey, the following script was presented to the students who were ready to take the survey:

> The survey has 39 questions, and you will have 30-35 minutes to complete it. It is important that you answer each question carefully, because this information will be used in understanding students from different backgrounds and how they feel about their future. The information you provide will not be given out to anyone. This survey is voluntary, and you may skip answering any question(s) if you feel uncomfortable.

Two math teachers, Josh Meehan and Kalli Miglis, were assigned by the principal to assist in administering the survey. Hard copies of the questionnaire were presented to the middle school students. The questionnaire was administered in a 45-minute period during math class, after which the responses were collected by the teachers; the surveys were subsequently given to me. Students not participating in the survey conducted usual school activities. The data were collected over a 2-day period.

Data Analysis

Data were cleaned for analysis and coded for statistical analysis. The hard copy responses were entered in surveymonkey.com electronic questionnaire and later for coding in NCESS data management software for the pilot study and SPSS for the survey. The hard copies of the survey will be destroyed upon completion of this study. Data were analyzed using descriptive statistical methods (a) frequency table report, (b) cross tabulation reports, (c) counts section, and (d) chi-square statistics section.

Data were analyzed for each research question as shown in Appendix L. Analysis of variance (ANOVA) and analysis is compared between different variables.
Data from the NELS 88 study will also be compared in the areas of (a) getting ready for high school, (b) selecting a high school program, (c) educational and occupational aspirations, and (d) influence of parents and their socioeconomic status.

Table 8

Survey Data: Ethnicity of Seventh Grade Students at Ventura Middle School

Ethnicity	*n*	%
Asian or Pacific Islander	19	6.97
African American	4	1.5
Whites	98	35.9
Hispanic	96	35.1
Multiple	19	6.97
Other	37	13.56

Demographic findings, family background, and parental education from survey are discussed in this section to compare data available from the public domain such as Ed Data.

Subject School Data

Ethnicity. Among the 273 students, the ethnic composition of the seventh graders is shown in Table 8.

Given the small number of students from Asian or Pacific Islander, African American, Native Indian, and other, these groups were combined and grouped as "Others" for data analysis. The number of male and female students was spread almost equally. Out of 273 students, 136 are males and 137 are females; data are tabulated in Table 9.

Table 9

Survey Data: Gender of Seventh Grade Students at Ventura Middle School

Gender	*n*	%
Males	136	49.8
Females	137	50.2

Note. Male enrollment in seventh grade at Ventura is 46%, female enrollment is 54%.

Data of different ethnicities have been further analyzed by their gender and shown in Table 10. Out of 273 students, 203 students are 12 years old and 89 (25.3%) students are 13 years of age.

Household size. Household size of students' families varied considerably. Students were asked how many people live in their household; the responses are tabulated in Table 11.

Table 10

Survey Data: Student Demographics by Ethnicity and Gender

Student Type	Number
Total number of students of White, not of Hispanic origin	96
Males	49
Females	47
Total number of students of Hispanic origin	98
Males	50
Females	48
Total number of students of Asian origin	19
Males	8
Females	11
Total number of students of African American origin	4
Males	1
Females	3

Table 11

Survey Data: Student Household Size

Household size	*n*	%
3	47	17
4	74	27
5	63	23
6 or more	75	27

Table 12

Student Living with Father or Male Guardian

Is father or male guardian living with the student?	*n*	%
Father is alive, but not living with the student	58	21.4
Father is living with the student	203	74.9
Not applicable	10	3.7

Table 13

Whether Student's Father or Male Guardian is Working

Is father or male guardian working ?	*n*	%
Unemployed, retired, or disabled	15	5.5
Working	224	82.7
Not applicable	75	

Table 14

Student Living with Mother or Female Guardian

Is mother or female guardian living with the student	*n*	%
She is alive, but not living with the student	24	8.9
She is living with the student	245	90.4
Not applicable	2	0.7

Parental and family background. Information about parents and their background was collected for this study. Data regarding students' parents are discussed in survey questions 6 through 10. Responses to survey question 6 regarding whether the father or

male guardian lives with the student are tabulated in Table 12. Survey question 7 was designed to describe the present or most recent job of the student's father or male guardian. Responses are tabulated in Table 13. Responses regarding students' living conditions are presented in Table 14. Responses to survey question 9 are presented in Table 15.

Table 15

Whether Student's Mother or Female Guardian is Working

Is mother or female guardian working	*n*	%
Unemployed, retired, or disabled	49	18.2
Working mother	197	73.7
Not applicable	23	8.6

Language use. Students' input regarding their spoken language is explained by survey questions 10 through 14. Survey question 10 was "Before you started going to school, did you speak any language other than English?" Ninety (33%) students said yes, and 183 (67%) said no. Survey question 10 was regarding students' first language; responses are shown in Table 16.

Table 16

Student First Language

Language	*n*	%
English	200	73.3
Spanish	59	21.6
Filipino	1	0.4
Other	13	4.8

Regarding what the students' primary spoken language is at home, students responded as shown in Table 17.

Table 17

Survey Data: Students' Home Language

Language	*n*	%
English	211	79.6
Spanish	46	17.4
Filipino	1	0.4
Other	7	2.6

Survey question 13 was designed to collect data on student's understanding of languages other than English; responses are presented in Table 18. Survey question 14 determined whether the student has ever been enrolled in an English language assistance program for students whose native language is not English; responses are tabulated in Table 19.

Table 18

Students' Knowledge of Other Language

Language	*n*	%
Understand the language when people speak	94	58
Can speak the language	79	48.8
Can read the language	47	29
Not applicable	44	27.2

Table 19

Enrollment in Language Assistance Program

Language Assistance Program enrollment	*n*	%
Yes	32	12.6
No	221	87.4

Parents' education. Survey questions 15 and 16 asked about the greatest extent of the student's female and male guardian's education; responses are presented in Tables 20 and 21.

Table 20

Students' Female Guardian's Education

Female Guardian Education	*n*	%
Did not finish high school	36	13.7
Graduated from high school or equivalent (GED)	49	18.7
Attended a vocational school	13	5.0
Community college, or another type of two-year school	25	9.5
Went to college but did not complete a four year degree	50	19.1
Graduated from college	61	22.5
Masters degree or equivalent	24	9.2
Ph.D., M.D. or other advanced professional degree	6	2.3

Table 21

Students' Male Guardian's Education

Male Guardian Education	*n*	%
Did not finish high school	44	16.7%
Graduated from high school or equivalent (GED)	63	24.0%
Attended a vocational school	11	4.2%
Community college, or another type of two-year school	3	1.1%
Went to college but did not complete a four year degree	14	5.3%
Graduated from college	42	16.0%
Masters degree or equivalent	31	11.8%
Ph.D., M.D. or other advanced professional degree	9	3.4%

Summary

The methodology included in the subject survey was conducted and data were collected using a hard copy questionnaire largely using the NELS 88 questionnaire that was prepared by the Department of Education in 1988. The survey was prepared to determine what factors influenced students to graduate from high school. In this survey, questions were presented to seventh grade students to understand what factors influence them to pursue postsecondary education.

Chapter IV. Results

Introduction

This chapter consists of the results and analyzed data collected during a survey that was conducted with seventh grade students at Ventura Middle School. The study was focused on understanding the perceptions of seventh grade students regarding their plans for finishing high school and going to college that would ultimately lead them to find careers of their desire. Hopefully responding to this survey inspired those students who have not thought of pursuing college yet.

The survey was conducted in December of 2008. The survey was distributed to students in their mathematics class by two mathematics teachers, through the cooperation of the principal's office. Hard copy surveys were filled out by 273 (77.37%) students and returned to the researcher. Data were entered manually into a collection tool provided by surveymonkey.com and later analyzed using SPSS software. Student responses are anonymous since the survey did not have names attached or identifying information. Hard copy data were coded and converted into easily processed variables in order to study the relationships among them using SPSS software.

Research questions will be discussed to analyze the survey results and to understand the underlying factors that influence the students' aspirations to pursue post secondary education. The three research questions discussed in chapter 1 were addressed by this survey. Since information directly regarding parental income was not collected, research question 2 has been rephrased to eliminate the term *socio-economic status*. Special guidance was provided by Pepperdine University professor and statistician Dr. Y.

Tsong to optimize the number of variables by minimizing the number of output variables in order to manage the scope of this dissertation. Chi-square is a statistical test commonly used to compare observed data with what we would expect to obtain according to a specific hypothesis.

McCall (2002) states that, among statisticians, a chi-square with probability *p* of 0.05 is the conventionally accepted threshold of statistical significance; values of $p < 0.05$ are commonly referred to as "statistically significant." In practical terms, a chi-square with probability $p < 0.05$ means that if, in fact, there was no association in the population between the independent and dependent variables, the observed association would be expected to occur by chance less than 5 times in 100 samples of the type used. Thus, when the chi-square with probability $p < 0.05$, we can be confident in rejecting the possibility that no association exists between the independent and dependent variables. As the probability *p* of chi-square increases above 0.05, the likelihood that the observed association occurred by chance also increases. In chi-square analysis, degrees of freedom (*df*) equals (number of columns minus one) times (number of rows minus one), not counting the totals for rows or columns.

Odds ratios. Goldin (2007) explains that odd ratios are used “when you want to compare the odds of something occurring to two different groups” (p. 3). It is the ratio of the odds of the two groups compared with each other. The formula is p/(1- p)q//(1-q) where p is the probability for the first group, and q is the probability for the second. The odds ratio was calculated using SPSS software and has been used where applicable.

Consolidation of variable levels. In order to get good cross-tabulation results, certain levels of variable values were reduced from five to three. Post-high school graduation goals that were identified as (a) won't finish high school, and (b) will go to vocational or trade school after high school were consolidated to one value designated "won't finish high school/trade school."

Similarly, as stated in chapter 3, Asians, African Americans, other and multiple ethnicities were consolidated to one ethnic background designated as "others." Possible responses (a) I probably won't pursue an education after college, and (b) very sure I won't pursue an education after college were reduced to "I probably won't pursue education for college."

Cross-tabulation comparison of variables to determine statistical significance. To understand the relationship between variables, SPSS software's cross tabs were used for arriving at the Pearson constant in the form of χ^2 as chi-square constant, *df* for degrees of freedom, and *p* for probability values to express statistical significance if it was due to chance or not. Chi-square statistics are reported with degrees of freedom and sample size in parentheses, the Pearson chi-square value and the significance level. This research data analysis will use the convention of χ^2 (1, N = 273) = value obtained from calculation, and value of *p* probability from the derived value (American Psychological Association, 2001).

In order to understand the responses received from the students, it is necessary to understand Ventura county school district's culture and the embedded philosophy adapted by the principal of Ventura Middle School. The Ventura Unified School

District's mission and principal Vaca's vision statement have been discussed previously in chapter 3.

Understanding whether household size influences students' future plans was considered as part of the survey. Out of 273 students surveyed, 93 students reported that they came from families that had more than six members in the family. Chi-square for a cross tabulation relationship between high school graduation goals compared to household size is not significant based on the value of χ^2 (2, N = 272) = 8.307, with p = 0.50.

Future educational plans. Two factors were considered to explain the phrase future plans for this survey working with seventh grade students at Ventura Middle School: (a) goals to complete high school and (b) thinking of pursuing post-secondary education, i.e., plans for attending college.

Discussion of Research Questions in Relationship to Variables: Research Question 1

"What factors such as future plans, language, and student perceptions influence the career goals of preadolescents?"

Survey variables analyzed related to this research question were students' first language and their goals of (a) graduating from high school, (b) pursuing higher education, and (c) their career choices.

High school graduation goals and selection of college compared with first language. Out of 273, 211 (77.6%) students responded as being very sure that they would graduate from high school (see Appendix L). Furthermore, 20.2% stated that they will most likely complete high school, which suggests that nearly 97% of students are

optimistic that they will graduate from high school. Only 6 students out of 273 students surveyed were not clear with respect to their plans to graduate from high school (i.e., responded that they did not expect to graduate from high school).

Out of 273, 164 (60.30%) students stated that they are very sure they will pursue an education post-high school graduation. Responding to the same question, 28.30% stated that they will probably pursue a higher education.

Regarding the first language, 73.3% of students responded that their first language is English; 21.6% stated that it is Spanish. When asked whether they spoke any language other than English before going to school, 67% stated no and 33% stated yes. Out of 273 respondents, 79.6% stated that they speak English at home, while 17.4% stated they speak Spanish. While Hispanic enrollment in seventh grade at Ventura Middle School is 42.8%, 12.6% of students stated that they are enrolled in the English language assistance program.

Out of 98 males who reported that English was their first language, 72 were very sure that they would graduate from high school, while 21 stated that they probably would. Only 5 students were not sure if they would graduate from high school. Similarly, out of 101 females who reported that English was their first language, 89 were very sure that they would graduate from high school, while 12 stated that they probably would. No female students stated that they would not graduate from high school. Therefore, it appears that females are more certain in their aspirations to graduate from high school.

Out of 32 males who reported that Spanish was their first language, 22 were very sure that they would graduate from high school, while 9 stated that they probably would.

Only 1 of these students was not sure if he would graduate from high school. Out of 27 females who reported that Spanish was their first language, 20 were very sure that they would graduate from high school, with 7 stating that they probably would. No female students stated that they would not graduate from high school. Again, amongst those whose first language was Spanish, females are expected to be more certain in their aspirations to graduate from high school.

Using SPSS software, cross tabulation of these two variables, i.e., English as the first language and students' high school graduation goals was calculated and is shown in Table 22.

Table 22

First Language Compared to High School Graduation Goals

High School Graduation Goals	First Language English	First Language not English
Very sure I'll graduate	161	50
I won't graduate from HS	38	23
Total	199	73

Note. χ^2 (2, N = 272) = 4.729, p= 0.03.

Based on chi-square and *p* value, the correlation of students' first language and high school graduation goals is statistically significant.

First language and further education goals. Out of 98 males who reported that English was their first language, 55 were very sure that they would pursue a postsecondary education, while 26 stated that they probably would go for a postsecondary education. Only 17 students were not sure if they would go for post-

secondary education. Out of 101 females who reported that English was their first language, 68 were very sure that they would pursue postsecondary education, and 26 stated that they probably would go for further education. Only 7 females were not sure if they would go for postsecondary education. A higher percentage of females compared to males expressed their interest in attending college.

Out of 32 males who reported that Spanish was their first language, 16 were very sure that they would pursue postsecondary education, with 11 stating that they probably would go for further education. Only 5 students were not sure if they would go for postsecondary education or did not expect to. Similarly, out of 27 females who reported that Spanish was their first language, 17 were very sure that they would pursue post-secondary education, with 10 stating that they probably would go for further education. All females were certain or probable that they would pursue a postsecondary education. Again, for those whose first language was Spanish, a higher percentage of females compared to males expressed their interest in attending college.

SPSS software was used to perform descriptive statistics and perform cross tabulation in understanding the relationship between first language and further education goals of students. The correlation between the two variables based on the chi square of χ^2 $(2, N = 272) = 1.763$, $p = 0.414$ is not significant.

In summary, survey results from the seventh graders showed that 60.3% of the students are very sure that they would pursue a postsecondary education with an additional 28.3% stating that they probably will pursue postsecondary education. Thus, 88% of students expressed interest in pursuing a postsecondary education.

A question regarding parental support for students to go for further education was part of the survey. The students' perception of their parents wanting the child to graduate from college was 47% in favor and 33.5% not wanting to go for higher education.

Careers selected by the students. In the survey, students were asked what kind of work they expected to do when they were 30 years old and provided with a broad range of potential careers. Table 23 presents a list of professions that were selected by the students. The top profession, selected by 16% of the students, is doctor. Out of 273 students surveyed, 190 (70%) are clear of their future careers. The complete list of the responses is in Appendix L.

Table 23

Profession Selected by the Student (*N* =272)

Profession selected by the student	*n*	%
Doctor	43	16.0%
Nurse	23	8.6%
Career officer or enlisted person in the armed forces, police, security, firefighter, detective	22	8.2%
Engineer or Scientist	21	7.8%
Teacher	21	7.8%
Technical such as draftsman, medical or dental technician, computer programmer	13	4.9%
Professor	10	3.7%
Dentist	8	3.0%
Architect	18	6.7%
Business or managerial position	9	3.4%
Executive in a service sector	2	0.7%
Military, police, or security officer	30	11.2%

The correlation between first language and selection of students' career is not a significant factor based on the chi-square value of χ^2 (6, N = 272) =7.545, p = 0.273.

Summary for research question 1. Research question 1 was prepared to address the relationship between students' first language and (a) their plans for graduating from high school, (b) their plans for graduating from college, and (c) their perceptions of their career goals. Based on survey returns, the majority of students (73.3%) responded that their first language is English, while 21.6% stated that their first language is Spanish. The relationship between students' first language and their high school goal is significant; however, the correlation between goals for higher education and career choices is not significant. The findings can be summarized as follows:

1. The relationship between first language and high school graduation goals is significant. Out of 273 students surveyed, 199 (73%) stated that their first language is English, out of which 161 (81%) are sure that they will graduate from high school, as opposed to 38 (19%) who stated that they are not sure that they will graduate from high school. On the other hand, for the students whose first language is not English, 50 (23%) feel sure to graduate from high school, while 23 (11%) are not sure that they will graduate from high school. The odds ratio for First Language (English/Not English), is 1:95. This means that a higher percent of students whose first language is English is confident in graduating from high school compared to the students whose first language is not English.
2. The relationship between first language and further education goals (i.e., whether they are confident they will pursue a tertiary education) is not significant.

3. The relationship between students' first language and their career choices is not significant.

Research Question 2

"Do factors influencing career goals of seventh graders differ by (a) gender, (b) ethnicity, (c) parental level of education, (d) parental profession, and (e) parent living together with the student?"

Relationship between gender and student's future plans. From 273 students surveyed, 211 stated that they are very sure to graduate from high school. From these 211 responses, 95 were males (45.5 %) and 116 (54.5%) were females. For those who stated that they would not graduate from high school, 15% were males and 8% were females. Cross tabulation of these two variables is shown in Table 24.

Table 24

Gender Compared to High School Graduation Goals

Gender	Male	Female
Very sure I'll graduate	95	116
I won't graduate from HS	40	21
Total	135	137

Note. χ^2 (1, N = 272) = 7.994, p = 0.005.

The result is statistically significant. Based on student responses listed in Appendix L, Table 25 is a summary of student responses sorted by their first language and gender in regards to how they perceive their goals for higher education.

Table 25

Comparison of Gender and First Language versus Aspirations for Higher Education

	Females		Males	
English as first language	*n*	%	*n*	%
Very sure	68	67.3%	55	56.1%
I'll probably pursue an education after college	26	25.7%	26	26.5%
I probably won't pursue an education after college	6	5.9%	12	12.2%
Very sure I won't pursue an education after college	1	1.0%	5	5.1%
Total	101		98	
Spanish as first language	*n*	%	*n*	%
Very sure	17	63.0%	16	50.0%
I'll probably pursue an education after college	10	37.0%	11	34.4%
I probably won't pursue an education after college	0	0.0%	3	9.4%
Very sure I won't pursue an education after college	0	0.0%	2	6.3%
Total	27		32	

Note that female students regardless of their first language had a higher percentage of those being very sure of pursuing higher education. Using SPSS software, cross tabulation of these two variables, i.e., gender and high school graduation goals for all students, was calculated and is shown in Table 26.

Career classification was modified based on NCES database. A total of 249 students responded to this classification. Out of 249 students, 60 males and 72 females wanted to become one of the following: professional, business, managerial, teacher, or business owner. A detailed listing of their selections is listed in Appendix L. A total of 9 males and 9 females gave no response. Data are presented in Table 27.

Table 26

Gender and Further Education Goals

Further Education Goals	Male	Female
Very sure I'll pursue an education after high school	73	92
I'll probably pursue an education after high school	39	38
Won't pursue college education	23	7
Total	135	137

Note. χ^2 (2, N = 272) =10.720, p = 0. 005.

The result is statistically significant.

Table 27

Career Choices Compared with Gender of the Student

Career Choice	Male	Female
Craftsperson, operator, farmer, laborer	5	11
Military, police, security officer	9	10
Professional, business, managerial, teacher, business owner	60	72
Technical salesperson, clerical, office worker	7	3
Service worker	3	4
Don't know or no plans	9	9
Athlete & arts	27	20

Note. χ^2 (6, N = 272) = 5.86, p=.439.

Relation between career choices compared with gender of the student resulted in chi-square values of χ^2 (6, N = 272) = 5.86, p = 0.439. The result is not statistically significant.

Gender, ethnicity, and career choices. Of the male Asian students surveyed, 4 had plans to be professional, business, managerial, teachers, or business owners; 4 want to go in arts and athletics and 1 had no plans. Of the male Hispanic students, 4 had plans to be military, police, or a security officer; 23 had plans to be professional, business, managerial, teachers, or business owners; 4 planned to be technical salespeople, clerical, or office workers; 2 had plans to be a service worker; 5 did not know or had no plans; and 8 planned to be athletes or in the arts.

Out of 2 African American male surveyed 1 planned to be professional, business, managerial, teachers, or business owners and 1 wants to be service worker. Of the White males surveyed, 4 want to be craftsperson/operator/farmer/laborer; 5 would like to join military/police/security officer; 21 would like to join professional, business/managerial/teacher/business owner; 2 don't know or no plans and 7 would like to join athletics and arts

Of the males surveyed whose ethnicity was listed as Other, 1 planned to be craftsperson/operator/farmer/laborer; 8 had plans to be professional, business, managerial, teacher, or business owners; 3 in technical field; 2 didn’t know or had no plans; and 5 planned to be athletes or in the arts.

Of the female Asian students surveyed, 1 planned to be a craftsperson, operator, farmer, or laborer; 1 in military/security, 5 had plans to be professional, business,

managerial, teachers, or business owners; 1 didn't know or had no plans; and 1 planned to be an athlete or in the arts and 1 in service sector. Of the Hispanic females, 2 had plans to be craftspeople, operators, farmers, or laborers; 1 planned to be military, police, or security officers; 27 planned to be professional, business, managerial, teachers, or business owners; 1 had plans to be technical salespeople, clerical, or office workers; 2 planned to be service workers; 3 didn't know or had no plans; and 7 planned to be athletes or in the arts. Of the African American females surveyed, 1 had plans to be military, police, or a security officer; and 1 planned to be a professional, business, managerial, teacher, or business owner. Of the female White students surveyed, 5 planned to be a craftsperson, operator, farmer, or laborer; 4 had plans to be military, police, or security officers; 24 planned to be professional, business, managerial, teachers, or business owners; 2 had plans to be a technical salesperson, clerical, or office worker; 1 planned to be a service worker; 4 didn't know or had no plans; and 6 planned to be athletes or in the arts. Of the females surveyed whose ethnicity was listed as Other, 1 had plans to be craftspeople, operators, farmers, or laborers; 4 had plans to be military, police, or security officers; 9 planned to be professional, business, managerial, teachers, or business owners; 1 had plans to be a service worker; 4 did not have plans and 5 planned to be athletes or in the arts.

Career choices for both male and female students can be summed up as follows (a) 53% of students selected careers that can be classified as professional, business, managerial, teaching, business owner; (b) 20% in athletics or the arts; (c) 6% as craftsperson, operator, farmer, laborer; and (d) 6% as military, police or security officer.

"Professional careers" were chosen by 3.61% Asians, 20.08% Hispanic, 0.8% African American, 18.07% Whites, 6.83% Others, and 3.61% with multiple ethnicities. Note that a sizable number of students have interest in the field of arts and professional athletics.

The relationship between student career choices and their ethnicity was compared and is presented in Table 28. Statistical relationship is marginal based on chi-square value of χ^2 (12, N = 249) =17.13, p = 0.145.

Table 28

Student Career Choices

	Craftsperson, Operator, Farmer, Laborer	Military, police, Security officer	Professional, business, Managerial, Teacher, Business owner	Technical Salesperson, Clerical, Office worker	Service worker	Don't know or no plans	Athlete & Arts	Total
Asian	1	1	9	0	1	1	5	18
Hispanic	2	5	50	5	4	8	15	89
African American	0	1	2	0	1	0	0	4
White	9	9	45	2	1	6	13	85
Other	2	1	17	3	0	1	10	34
Multiple	2	2	9	0	0	2	4	19
Total	16	19	132	10	7	18	47	249

Note. χ^2 (30, N = 249) = 31.86, p = 0 .374.

Correlation between ethnicity and high school graduation goals did not have statistical significance based on chi-square vale of χ^2 (5, N = 272) = 6.50, p = 0 .260.

Also, correlation between ethnicity and further education goals did not have statistical significance based on chi-square value of χ^2 (10, N = 272) = 7.85, p = 0 .643.

Parental education relationship. Duncan and Magnuson (2001) in *Off with Hollingshead* emphasize that parental education, occupational status and family income are the most common markers for SES. Also, as stated in chapter 1, according to Harvey and Karin (as cited in Meyerson, 1981), "Students from a higher socioeconomic stratum had higher educational goals and desire to obtain prestige occupation, while lower socioeconomic students to less education and lower job status by eighth grade" (p. 52).

Ventura Middle School seventh grade students have 27% mothers/female guardians with a 4-year college degree compared to 18% of father/male guardians having 4-year college degrees. Eleven percent of mothers/female guardians and 12% of father/male guardians possess Master's degrees, and about 2% of each have advanced professional degrees. Data from Appendix L specific to parental academic background are presented in Table 29.

Table 29

Parental Academic Background

Level of education	Greatest extent of female guardian's education		Greatest extent of male guardian's education?	
	n	%	*n*	%
Graduated from college	74	27	49	18
Masters degree or equivalent	31	11	32	12
Ph.D., M.D. or other advanced professional degree	6	2	9	3

Students' responses showed that 37 (14%) mother/female guardians and 44 (16%) father/male guardians have not graduated from high school.

The high school graduation goal compared with female guardian's educational level is significant, based on data shown in Table 30 with chi-square value of χ^2 (7, N = 261) =14.077, p = 0.05. However, correlation between high school graduation goals compared to father's education is not significant based on chi square value of χ^2 (7, N = 272) =7.867, p = 0.249.

Table 30

High School Graduation Goals Compared to Mother's Education

	Vocational	Did not finish high school	High school or equivalent (GED)	Junior College	Community college	Went to college did not complete a 4-year degree	Graduated from college	Masters degree or equivalent	Total
Very sure I'll graduate	24	36	6	21	39	49	22	5	202
I won't graduate from HS	12	12	7	4	10	11	2	1	59
Total	36	48	13	25	49	60	24	6	261

Note. χ^2 (7, N = 261) =14.077, p = 0.05.

This research would suggest that a mother's education is more influential on a student's goal to graduate than a father's education.

Parental professions. Part of this research was to discuss the impact of socioeconomic factors on children's goals for higher education. Parental profession and associated degree of prestige is an important factor, since students see their parents as

role models. Duncan and Magnuson (2001) describe "skills acquired by parents in school, and personality traits that lead parents both to acquire more schooling and to raise children who are healthier and more successful" (p. 3). They further explain, "Correlations between parental occupation and parenting reflect both the direct influences of the job characteristics on parents as well as characteristics of the parents' personal endowments that affect both their occupational attainment, parenting practices, and their children's outcomes" (Duncan & Magnuson, 2001, p. 3). The relationship between parental profession and student's goal for high school is presented for male and female parents/guardians separately. Data for the father/male guardian's job description and the mother/female guardian's job descriptions are presented in Tables 32 and 33.

Table 31

High School Graduation and Mother's Education Combined for Both Genders

Gender		Vocational	Not finish high school	High school or equivalent (GED)	Junior College	Comm-unity college	Went to college did not complete a 4-year degree	Grad-uated from college	Masters degree or equiva-lent	Total
Male	Very sure I'll graduate	9	14	3	11	14	26	10	4	91
	I won't graduate from HS	7	7	4	3	7	8	2	0	38
	Total	16	21	7	14	21	34	12	4	129
Female	Very sure I'll graduate	15	22	3	10	25	23	12	1	111
	I won't graduate from HS	5	5	3	1	3	3	0	1	21
	Total	20	27	6	11	28	26	12	2	132

Note. For Males χ^2 (7, N = 273) =8.803, p = 0.325. For Female χ^2 (7, N = 273) = 11.91, p = 0.104. Chi square value for relationship between mother's education and graduation for both genders combined is not significant, but is significant if calculated separately for females.

Table 32

High School Graduation Goals Parental (Father/Male Guardian) Job Description

	Craftsperson, Operator, Farmer, Laborer or Worker	Military, police, or security officer	Professional, business, Managerial Teacher Business owner	Technical Salesperson, Clerical, Office worker	Other employment / unemployed Don't know or no plans	Total
Very sure I'll graduate	44	7	46	37	58	192
I won't graduate from HS	10	1	6	6	35	58
Total	54	8	52	14	93	250

Note. χ^2 (5, N = 250) =18.626, p = 0.002.

The correlation between high school graduation goals and father's profession is significant based on a chi-square value of χ^2 (5, N = 250) =18.626, p = 0.002. This means that of all students, 18.4% students whose father/male guardians have jobs in professional field, 14.8% have jobs in technical field and 17.6% are working as craftspeople or farmers are certain to graduate from high school. In comparison, 14% students whose fathers are unemployed, and 4% working as craftsperson/farmer were not sure of

graduating from high school. It could be concluded that students' high school goals are influenced by (a) whether their father is employed or not, and (b) type of work they do.

Table 33

High School Graduation Goals Parental (Mother/Female Guardian) Job Description

Mother/Female Guardian Job Description	Very sure I'll graduate	I won't graduate from HS
Craftsperson, Operator, Farmer, Laborer or Worker	9	0
Military, police, or security officer	2	0
Professional, business, Managerial Teacher Business owner	43	9
Technical Salesperson, Clerical, Office worker	37	7
Service worker	38	7
Other employment / unemployed Don't know or no plans	82	38

Note. χ^2 (4, N = 272) =12.148, p = 0.033.

The correlation between high school graduation goals and mother's profession is significant based on a chi-square value of χ^2 (4, N = 272) =12.148, p = 0.033.

Out of 272 student responses regarding their mother/female guardian's professions, 15.81% stated that they are in a professional/ business/managerial/teaching field. In addition, 13.6% stated that they are in technical/sales/clerical type of work and 13.70% worked in the service sector. The ratio of students sure to graduate over not sure to graduate whose mothers are unemployed was 2:1. It could be concluded that students'

high school goals are influenced by (a) employment of their mother, and (b) type of work they do.

Living environment. The purpose of this study is to understand if student goals for high school graduation, further education and their career choices are impacted by their living conditions, e.g., if their parent living with them should be considered a significant factor. The correlation between high school graduation goals and status of family is presented in Tables 34 and 35.

Table 34

High School Graduation Goals Parent (Mother) Living with the Student

	Mother is living with me	Mother is alive, but not living with me	Not applicable
Very sure I'll graduate	195	13	2
I won't graduate from HS	50	11	0
Total	245	24	2

Note. χ^2 (2, N = 271) = 8.686, p = .013.

The correlation between high school graduation goals and mother living with the student is significant based on a chi-square value of χ^2 (2, N = 271) = 8.686, p = 0.013. From 271 respondents, 195 (79.5%) students who are living with their mother stated that they are very sure to graduate from high school compared to 50 (20%) who are not sure of graduating from high school. It can be stated from this research that mothers do have an influence over their children's goal to finish high school.

Data for correlation between high school graduation goals and father/male guardian living together are presented in Table 35.

Table 35

High School Graduation Goals Parent (Father) Living with the Student

	Father is living with me	Father is alive, but not living with me	Not applicable
Very sure I'll graduate	163	42	5
I won't graduate from HS	40	16	5
Total	203	58	10

χ^2 (2, N = 271) = 6.105, p = .047.

The correlation between high school graduation goals and whether the father is living with the student is significant based on a chi-square value of χ^2 (2, N = 272) = 6.105, p = 0.047.

From 271 respondents, 163 (81%) students who were living with their father stated that they are very sure to graduate from high school compared to 40 (19.7 %) not sure of graduating from high school. It can be stated from this research that fathers do have an influence over their children's goal to finish high school.

Summary for research question 2. Research question 2 was prepared to address the factors that influence student career goals. The analysis of several variables such as student gender, ethnicity, parental level of education, parental profession, and whether the parent is living with the student reveals that all have a correlation to the student's future goals. The relationships between gender and (a) high school graduation goals, and (b) further education goals have statistical significance. The relationships between parental education and (a) high school graduation goals and, (b) further education goals

have statistical significance. Similarly, there is statistical significance when the relationship between high school graduation, college, and career goals is compared with parental professions. It is expected parental education and profession are key motivators for preadolescents to set their goals.

The analysis can be summarized as follows:

1. The relationship between gender and high school graduation goals is statistically significant. More females think that they will graduate from high school than males. The odds ratio for females/male student to graduate from high school is 1.6:0.7 for males with 95% confidence interval, which means that higher number of females will be more likely to graduate from high school than males, which has an odds ratio of 0:7.
2. The relationship between gender and further education goals is statistically significant. More females think that they will pursue higher education than males. The odds ratio can't be computed since they are not 2X2 cells.
3. The relationship between student career choices and their ethnicity is not significant.
4. The relationship between high school graduation goals compared to mother's education is statistically significant. Students who have mothers with higher educations (post-high school) think they will graduate from high school compared to those whose mothers are not living with them
5. The relationship between high school graduation goals and the father/male guardian's job description is statistically significant.

6. The relationship between high school graduation goals and the mother/female guardian's job description is statistically significant.

Both summary points 5 and 6 are related to parental profession. Based on this research, it can be stated that both parents' professions are important for students to fulfill their goals of finishing high school. In comparison, students whose parents are unemployed have a lower expectation to graduate from high school.

7. The relationship between high school graduation goals and whether or not the mother/female guardian is living with the student is statistically significant.
8. The relationship between high school graduation goals and whether or not the father/male guardian is living with the student is statistically significant.

Both summary points 7 and 8 are related to living environment, i.e., whether the students is living with a parent/guardian. Based on this research, it can be stated that both parents' living situation are important to students fulfilling their goals in finishing high school. In comparison, students whose parents are not living with them have a lower expectation to graduate from high school.

Research Question 3

"Do students utilizing academic streams view the high school graduation goals and college attendance differently?"

This question was designed to address student academic performance and out-of-classroom involvement in extracurricular activities. These topics include students engaging in (a) classes for gifted students and (b) extracurricular activities in social and athletic areas.

Ventura Middle School's student enrollment in gifted classes has been discussed in chapter 3. Student participation in gifted programs is an important factor to consider when such programs are available to students. Data are presented in Table 36 for high school graduation goals in relationship to students' enrollment in gifted classes.

Table 36

High School Graduation Goals Compared to Student Enrollment in Gifted Classes

Ethnicity		Enrolled in classes for gifted or talented students		
		No	Yes	Total
Hispanic	Very sure I'll graduate	58	23	81
	I won't graduate from HS	13	4	17
	Total	71	27	98
White	Very sure I'll graduate	52	22	74
	I won't graduate from HS	19	3	22
	Total	71	25	96
Combined all others	Very sure I'll graduate	40	16	56
	I won't graduate from HS	19	4	23
	Total	59	20	79

Note. χ^2 (2, N = 272) =2.876, p = 0.09.

The correlation between high school graduation goals compared to student enrollment in gifted classes is significant based on a chi-square value of χ^2 (2, N = 272) =2.876, p = 0.09. However, statistical output for high school graduation goals and students enrolled in gifted classes analyzed specifically for student ethnicity were as follows:

For Hispanics χ^2 (1, N = 273) = 0.166, p = 0.683

For Whites χ^2 (1, N = 273) = 2.280, p = 0.131

For Combined all others χ^2 (1, N = 273) = 1.077, p = 0.299

The *p* value for whites is marginally significant and for Hispanics and other ethnicities combined was not. This means that students who are enrolled in gifted classes think that they have a higher expectation to graduate from high school.

Students' likeability of core classes is subjective; however, it serves to reflect student views on those classes that make up the greatest part of their education experience. High school graduation goals are compared with likeability of different courses and are presented in Tables 37, 38, and 39.

Table 37

High School Graduation Goals Compared with Likeability of Different Classes, English

	I usually look forward to English class		
	Yes	No	Unsure
Very sure I'll graduate	99	66	45
I won't graduate from HS	15	28	16

Note. χ^2 (2, N = 273) = 9.171, p = 0.010. The correlation between high school graduation goals and likeability of English is significant based on a chi-square value of χ^2 (2, N = 273) = 9.171, p = 0.010.

Table 38

High School Graduation Goals Compared with Likeability of Different Classes, Science

	I usually look forward to Science class		
	Yes	No	Unsure
Very sure I'll graduate	145	34	31
I won't graduate from HS	30	14	15

Note. χ^2 (2, N = 269) = 6.874, p = 0.032.

Based on chi-square and *p* value, the correlation between high graduation goals and likeability of Science is statistically significant.

Table 39

High School Graduation Goals Compared with Likeability of Different Classes, Mathematics

	Mathematics: I usually look forward to Mathematics		
	Yes	No	Unsure
Very sure I'll graduate	134	20	14
I won't graduate from HS	23	16	7

Note. χ^2 (2, N = 214) = 17.340, p = 0.

Based on chi-square and *p* value, the relationship between high graduation goals and likeability of Mathematics is statistically significant.

High school graduation goals versus achievement as indicated by grades using Ventura School Achievement Score Card. Ventura students are above the state average in all three categories. Student academic grades are important toward achieving their goals. Three major subjects were discussed in the survey. Grades in these three subjects, English, Math and Science, have been correlated to their future goals. Data are presented in Tables 40, 41, and 42.

Table 40

High School Graduation Goals and Grade Achievement, English

	English grade				
	A	B	C	D	Multiple response
Very sure I'll graduate	73	69	53	8	4
I won't graduate from HS	8	15	14	15	5

Note. χ^2 (4, N = 264) =39.267, p = 0.

Based on chi-square and *p* value, the relationship between high graduation goals and achieving grades in English is statistically significant.

Table 41

High School Graduation Goals and Grade Achievement, Math

	Mathematics grade				
	A	B	C	D	Multiple response
Very sure I'll graduate	118	53	24	12	1
I won't graduate from HS	13	19	15	9	2

Note. χ^2 (4, N = 266) = 27.079, p = 0.

Based on chi-square and *p* value, the relationship between high graduation goals and achieving grades in Math is statistically significant.

Table 42

High School Graduation Goals and Grade Achievement, Science

	Science grade				
	A	B	C	D	Multiple response
Very sure I'll graduate	140	46	13	7	2
I won't graduate from HS	20	12	9	13	3

Note. χ^2 (4, N = 265) =39.414, p = 0.

Based on chi-square and *p* value, the relationship between high graduation goals and achieving grades in Science is statistically significant.

Further education goals and the selection of professional careers in the case that students have discussed their goals with parents. Duncan and Magnuson (2001) discuss the human capital that constitutes a second form of SES-based family resources; they include the collection of parental skills acquired in both formal and informal ways (Becker, 1981). The efficiency with which parents and children are able to translate inputs into positive developmental outcomes (e.g., formal schooling abilities) is a result of this second form of the SES score.

Discussing future goals with parents is an important aspect to consider for a student's goals for graduating from high school. The survey included questions about whether students discussed their goals with their parents or not. Data are presented in Tables 43 and 44.

Table 43

High School Graduation Goals when Discussed with Parents

	Have discussed High School	Have not discussed high school with anyone
Very sure I'll graduate	185	26
I won't graduate from HS	40	21

Note. χ^2 (2, N = 272) =16.175, p = 0.00.

Based on chi-square and p value, the relationship between high graduation goals and discussing them with parents is statistically significant.

Table 44

Further Education Goals when Discussed with Parents

How sure are you that you will go on for further education after you leave high school?	Have discussed high school	Have not discussed high school with anyone
Very sure	145	20
I'll probably pursue an education after college	59	18
Won't pursue college education	21	9

Note. χ^2 (2, N = 272) = 8.470, p = 0.014.

The correlation between further education goals and when those goals are discussed with parents is significant based on a chi-square value of χ^2 (2, N = 272) = 8.470, p = 0.014. However, it appears that students' selection of professional careers is not influenced by discussion thereof with their parents based on a chi-square value of χ^2 (6, N = 272) =5.032, p = 0.54.

CollegeBoard (2009) is an independent organization that conducts testing for college entrance. According to their website, extracurricular activities do matter: "colleges pay attention to your life both inside and outside the classroom" (Colleges care section, ¶ 1). According to CollegeBoard, academics likely come first, but extracurricular activities reveal a great deal about a student. Non-academic interests and a long-term commitment to out-of-school activities and diversity can give the student admission to a desired institution. Selection of careers and students' enrollment in extracurricular activities thus cannot be ignored. Data on students' participation in activities such as academic clubs are presented in Table 45.

Table 45

High School Graduation Goals and Student Active in Extracurricular Activities, Academic Clubs

	Very sure I'll graduate	I won't graduate from HS
Not participating in any clubs	157	56
Science club	21	3
Science fairs	33	2

Note. χ^2 (2, N = 272) = 8.807, p = 0.012.

The correlation between high school graduation goals and students' participation in academic clubs is significant based on a chi-square value of χ^2 (2, N = 272) = 8.807, p = 0.012. The correlation between high school graduation goals and student participation in extracurricular χ^2 (2, N = 272) = 5.44, p = 0.312.

Table 46

High School Graduation Goals and Student Active in Extracurricular Activities, Performing Arts

	Very sure I'll graduate	I won't graduate from HS
Band or Orchestra	43	9
Chorus or choir	1	3
Dance	15	2
Drama	4	1
In more than one activity	8	2

Note. χ^2 (4, N = 88) 719, p = 0.069.

Activities, sports is not significant based on a chi square value of $\chi 2$ (4, N = 272) =2.321, p = 0 .677. The correlation between high school graduation goals and participation in leadership activities is not significant based on a chi-square value of $\chi 2$ = (N =7, 272).

The correlation between high school graduation goals and participation in the performing arts is not significant based on a chi-square value of χ^2 (N =4, 88) = 719, p =0.069. However, this is an area that needs further study.

Other relevant points will also be discussed in addition to addressing the research questions. These points were identified in chapter 3 and include (a) students' preparation for high school, (b) selection of a high school program, (c) educational and occupational aspirations, and (d) influence of parents.

This section was designed to understand parental involvement in students' academic activities. Survey questions 17 through 19 addressed this and can be found in

Appendix L. The breakdown of the responses to the questions is summarized in Tables 47, 48, and 49.

According to student responses, parental participation in their children's school lives is poor:

37% of students stated that their parents had participated in their school activities,

65% had shown interest in their school activities,

49.2% took interest in their extracurricular activities,

32.9% had visited their classes,

47% had attended a school event such as a play, concert, gym exhibit, sports competition, honor ceremony or science fair in which the student had participated,

59% had phoned or spoken to their student's teacher or counselor, and

69% had checked whether the student had done his or her homework.

Table 47

High School Graduation Goals and Participation in Extracurricular Activities

	Participating in extracurricular activities	
	Yes	No
Very sure I'll graduate	175	36
I won't graduate from HS	53	8

Note. χ^2=.544, *df*=1, *p*=.461.

Based on chi-square and *p* value, the relationship between high graduation goals and participation in extracurricular activities is not statistically significant.

Table 48

Further Education Goals and Participation in Extracurricular Activities

	Participating in extra curricular activities	
	Yes	No
Very sure	137	28
I'll probably pursue an education after college	67	10
Won't pursue college education	24	6

Note. χ^2=.978, *df*=2, *p*=.613.

Based on chi-square and *p* value, the relationship between further education goals and participation in extracurricular activities is not significant.

Table 49

Selection of Professional Careers and Participation in Extracurricular Activities

Career Choice	Participating in extracurricular activities	
	Yes	No
Craftsperson, Operator Farmer, Laborer	13	3
Military, police, Security officer	16	3
Professional, business, Managerial, Teacher, Business owner	111	21
Technical Salesperson, Clerical, Office worker	8	2
Service worker	4	3
Don't know or no plans	15	3
Athlete & Arts	40	7

Note. χ^2=3.716, *df*=6, *p*=.715.

Based on chi-square and *p* value, the relationship between selection of careers and participation in extracurricular activities is statistically not significant.

Summary of findings for research question 3. Research question 3 addressed students' goals for high school graduation, college attendance, and their future careers based on their perceived aptitude for core subjects, their academic performance thereof, and based on whether or not they seek guidance from parents or other key people with regards to their plans. The variables that were examined are student enrollment in gifted classes, students' likeability of core classes, their grades in core classes, participation in extracurricular activities, and the discussing of their goals with their parents or others. Each was found to have an influence on their future goals:

1. The relationship between high school graduation goals and student enrollment in gifted classes is statistically significant The odds ratio for students enrolled in gifted classes over students not enrolled in gifted classes is 1:9 (Very sure I'll graduate/I won't graduate from HS). Although 150 (75%) out of 200 students are not signed up for any gifted classes, they have expressed that they are very sure to graduate from high school compared to 50 (25%) who are not signed up for the gifted classes and not sure that they will graduate from high school. In comparison, 61 out of 72 (85%) students who are signed up for gifted classes are sure to graduate from high school.
2. The relationship between high school graduation goals and students' likeability of English is statistically significant.
3. The relationship between high school graduation goals and students' likeability of mathematics is statistically significant.

4. The relationship between high school graduation goals and letter grade achievement in English is statistically significant.
5. The relationship between high school graduation goals and letter grade achievement in mathematics is statistically significant.
6. The relationship between high school graduation goals and letter grade achievement in science is statistically significant.
7. The relationship between high school graduation goals and whether or not high school goals have been discussed with parents or others is statistically significant. The odds ratio for very sure I'll graduate/I won't graduate from HS is 3:73. This means that those students who have discussed their high school goals with their parents have a 3.73 times better likelihood that they will graduate from high school.
8. The relationship between further education goals and whether or not high school goals have been discussed with parents or others is statistically significant.
9. The relationship between high school graduation goals and whether or not the student is active in extracurricular activities is statistically significant.
10. The relationship between high school graduation goals and whether the student is active in performing arts activities is statistically significant.

Summary of Major Findings

Ventura students' perceptions regarding their goals for finishing high school, pursuing college and setting their career goals are clear. This research suggests that students at a relatively young age are capable of developing their future plans. The

research was focused on students coming from different ethnicities, especially minorities. More than half of the respondents were from ethnic minorities and equally reflected by both genders.

Results support the theory of the Socioeconomic Status developed by Hollingshead (1975). If children have more interaction with their parents, it can result in a positive outcome for their goals. For example, support provided by parents for their children's education can help them to develop career goals. Parental profession and living environment play an important role at a very early age in students' lives, factors that were found relevant in this study as well. Theories (Duncan & Magnuson, 2001; Ensminger & Fothergill, 2003) related to parental involvement have been established as instrumental for students' growth; this study has found that student perceptions of their goals to graduate from high school and subsequently going to college support the theory.

This study also found that students who think that they will finish high school and pursue higher education are also engaged in achieving better grades and participating in extracurricular activities. Ultimately, the study was able to gather answers to all the three research questions: first language does matter; high school graduation goals of 7th graders do differ by (a) gender, (b) ethnicity, (c) parental level of education, (d) parental profession, and (e) parent living together with the student; and students do view the high school graduation goals and college attendance differently utilizing academic streams.

Chapter V. Summary and Recommendations

Introduction

The purpose of this study was to understand the factors that impact the future goals of preadolescent seventh grade students. This chapter will share the findings in three major areas of this study where students have expressed their goals for (a) graduating from high school, (b) attending and graduating from college, and (c) choosing careers.

Restatement of the Problem

Although research has been conducted on the role and influence of parents in helping adolescents to enroll in postsecondary education, prior to this study, little or no research data specific to parents' perception of higher education for their seventh grade students has been available. Additionally, there is little research that indicates how the father's role is instrumental in helping preteen students prepare for postsecondary education. Data are available, however, that document how students from low-income backgrounds are at a disadvantage in pursuing postsecondary education. With the rapidly increasing number of minorities in the United States and the potential for minorities to form a large part of the work force, it is necessary to determine the reasons for the achievement gap that remains between white and minority students. To do this, students' perceptions of their future careers and the pursuit of postsecondary education should be considered by parents, teachers and students while they are still in secondary school.

Survey Discussion

Based on the problem statement, a survey was conducted at Ventura Middle School located in Ventura, California. Ventura is part of Ventura Unified School District, a district that consists of 17 elementary, 4 middle and 5 high schools. The survey was conducted with seventh grade respondents from two major ethnic groups: Whites (39.6%) and Hispanics (39.6%). School staff, teachers, parents and students agreed enthusiastically to participate in this survey.

While the results of this survey cannot be generalized for a larger student population, the findings are important to understand since they are significant for comparison at a national level. Results show that more Hispanic students from Ventura Middle School than Hispanic students throughout the state and nationally stated that they wanted to graduate from high school and subsequently attend college. Because the numbers of Hispanics in the United States are growing rapidly, these results seem especially noteworthy. According to the U.S. Census Bureau (2009), although Hispanics currently comprise almost 15% of the U.S. population, by the year 2050, they will comprise approximately 25% of the total. Our society and the educational institutions are facing challenges at global levels to compete with industrialized and third world nations. The new generation of the 21st century needs to become competitive to meet these challenges by acquiring higher education and improving its collegiate graduation rate.

Because the researcher recognized a number of concerns raised by Pepperdine University's Institutional Review Board in its discussions of information gathering, the

survey did not include questions related to parental income; as a result, the students' socioeconomic status could not be ascertained.

African Americans are a minority at Ventura in enrollment numbers; they comprise only 1.8% of the students in the seventh grade. Out of 22 African American students enrolled in seventh grade, 7 participated in the survey. In contrast, all 25 out of 25 (2.5% of the survey participants) Asian students at Ventura participated in the survey. Due to their smaller numbers, both Asian and African American students were consolidated in the "Other" ethnic category during the analysis of this survey. As a result, Whites and Hispanics remained the two major ethnic groups for this survey. The survey would have been more meaningful had the number of African American students been larger. Because African American high school graduation rates are lower both statewide and nationally, there were not enough of them at Ventura to be included in the study's sample populations separately and had to be grouped as Other.

This survey successfully prompted seventh graders to express their perceptions of finishing high school and developing thoughts of pursuing college. Obtaining a college degree will eventually help them to attain a professional career that would enrich their lives as well as our economy. Since the survey was designed to encourage students to respond to questions about their futures, it is worth noting that 73% of students from the seventh grade participated, a number that is reasonable for performing statistical analysis. Some parents noted the word "color" in the title of the dissertation and refused to consent to their children participating in the survey. According to the teachers and the school

principal, however, overall, the enthusiasm was high, and students were happy to participate.

Factors Found Relevant during the Study for High School Graduation Goals

Among the key factors, the relationship between first language and high school graduation is significant. From the statistical analysis conducted in chapter 4, it is clear that a higher number (81%) of the students stating that their first language is English are sure of graduating from high school as compared to the students whose first language is not English, which was 68%.

Gender is also an important factor. Based on the survey data, more females are likely to complete high school than males, regardless of ethnic background.

Family factors were also found to be important in a student's high school graduation goals. These factors are mother's education level, parental professions, and whether or not the student is living with mother/female and father/male guardian. Living with parents/guardians and receiving support from them are very essential to the successful completion of high school. Size of the household did not have a statistical significance, as discussed in chapter 4 (χ^2 (2, N = 272) = 8.307, with p = 0.50) which is actually a positive outcome of this research.

Student academic performance, their participation in classes for gifted students, and aptitude for core subjects such as English, Mathematics, and Science are equally important. It is likely that students will receive better grades in these core subjects if they have developed interest in them. If parents and teachers find their students lacking interest in these core classes, it then becomes inevitable to raise the level and awareness

of interest so that students will understand benefits and subsequently improve their grades.

Conclusion: Graduation from high school by gender and ethnicity. From 273 students surveyed at Ventura, 77.6% stated that they would graduate (very sure) from high school, which shows that the trend is better than the state average. One can conclude that these 77.6% of students who stated that they were very sure of graduating from high school would most likely graduate from high school. Of these 77.6% students who stated that they were very sure of graduating from high school, 34.9% were males and 42.6% females. By ethnicity, 27.9% were Hispanic students, 28.7% White and 21% 'Other'. Numbers for White and Hispanic students are fairly close but higher compared to current California state and national averages. If the percentages hold true, Hispanic students will beat the projected numbers as shown in Appendix H.

Based on the school district's high school graduation rate (excluding Pacific High) of 63-90% and dropout rate of less than 5%, it is very likely that seventh graders from Ventura will enjoy the same graduation rate, i.e., 63-90%, and it could be said with certainty that those students who stated that they were very sure of graduating from high school will graduate.

Factors Found Relevant during the Study for Goals Set for Attending College

Out of 273 students surveyed, 164 (60%) stated that they are very sure that they will go for further education after they graduate from high school. However, only 47% stated that their parents would like them to obtain a 4-year college degree, with an additional 33% stating that their parent would like them to attend a higher level of school

after graduating from college. Parental encouragement in reinforcing students' aspiration to go for a college degree will help these young minds to think strongly about going to college.

Out of all the responses, only 84 (31%) students stated that they would like to participate in college preparation or specialized academic programs focusing on math and science when they enroll in high school. Educators and parents supporting their children should explain that college preparation classes will help them to understand challenges they will face when they apply for admission in college. Advanced placement classes should therefore be an important factor for consideration.

Gender was found to be an important factor. More females are enthused about going to college. This statistic is reflected at state as well as national levels and is reflected in this study. A growing number of females have been found to be attending colleges in the last 8 years. The National Center for Education Statistics (Snyder et al., 2005) cites,

> Much of the growth between 1995 and 2005 was in female enrollment; the number of females enrolled rose 27 percent, while the number of males rose 18 percent. During the same time period, part-time enrollment rose by 9 percent, compared to an increase of 33 percent in full-time enrollment. Enrollment increases can be affected both by population growth and by rising rates of enrollment. Between 1995 and 2005 the number of 18- to 24-year-olds increased from 25.5 million to 29.3 million, and the percentage of 18- to 24-year-olds enrolled in college rose from 34 percent to 39 percent. In addition to the

> enrollment in accredited 2-year colleges, 4-year colleges, and universities, about 434,000 students attended non-degree-granting, Title IV eligible, postsecondary institutions in fall 2005. (p. 2)

On a national level, Whites have enjoyed higher rates of college enrollment than African Americans and Hispanics, as shown in Appendix M. In 2005, out of 14.96 million students enrolled in undergraduate programs, 9.83 millions students were Whites, and only 1.73 millions students were Hispanics. This is a huge disparity between the two ethnic communities. In terms of percentage difference, it is 65.7% for Whites to only 13.1% for Hispanics. According to the U.S. Census Bureau (2009), Hispanics constitute approximately 15% of the total U.S. population, a number that will continuously change in the coming years.

Factors Found Relevant during the Study for Goals Set for Choosing Careers

In stating their choices for future careers, students focused on four areas: medical, technical, military/security, and teaching. Of the 273 students, 43 students (16%) expressed their desire to become physicians, 24(8.6%) to become nurses, and 8 (3%) dentists, all choices uniquely related to medical field. In the technical area, 22 (7.8%) of the students said they wanted to become engineers or scientists, 19 (6.7%) architects, and13 (4.9%) technicians or draftspersons. In the military/security area, 30 students (11.2%) students planned either to join the military or become police or security officers. Finally, 30 students (11%) wanted to join the teaching profession— 21 (7.7%) of these as grades K-12 teachers and 10 (3.7%) as professors in higher education. In selecting future careers that might not need college degrees, 16 (5.8%) students wanted to be mechanics,

15 (5.5%) hairdressers, 4 (1.5%) farmers or farm managers, 2 (<1%) fast food restaurant workers, and 1 (<1%) as a laborer or farm worker.

The employment market may have shifted considerably by the time these students finish high school and are ready to enter college, causing them to make very different career choices at that time. Nevertheless, having had some clear plan for their futures when they were in seventh grade is likely to help them redirect that plan when they are older.

Students at Possible Risk

One of the most common responses for students' indifference to or dislike of the core subjects was that they did not understand how subjects such as Math, Science, and English would be useful for them in the future. They also stated that they were afraid of asking their teachers questions related to these subjects. Out of 273 students, 35% in Science, 44% in English and 56% in mathematics said that they were afraid of asking question in class. By being aware that many seventh graders may not feel confident enough to raise their issues themselves, teachers, parents, and school administrators can make a special effort to open up the educational process and engage the students.

Students who are very sure they want to graduate from high school, but who do not have a sound academic performance in core classes need to understand the importance of these subjects. School administrators and teachers can certainly help to create an atmosphere that would raise student interest in core classes.

Recommendation for Improving High School Graduation Rates and College Enrollment for Minorities

Based on the subject research, a few recommendations can be made to improve high school graduation rates and college enrollment for minority students. Considering that changing the socioeconomic conditions are beyond this researcher's scope, it should be noted that schools and educational institutions can play a major role to improve college enrollment statistics by helping students at a preadolescent age by improving their scores in core subjects and encouraging participation in extracurricular activities. In addition, parental involvement in students' academic activities can be made mandatory so that students and parents are both aware of their success and lack of success in the areas that are important to their future.

Educators should emphasize the importance of parents getting education, especially if they do not have a high school education. Parents can achieve diplomas and be accountable for improving educational standards for themselves and then helping their children to do so. Attaining education should not stop at any age. As found during the survey, 37 (14%) mother/female guardians and 44 (16%) father/male guardians have not passed high school. Making high school graduation a feasible process for parents will help students to respect the value of education. Parents are role models to their children, and finishing high school will certainly create an atmosphere conducive for their children's success.

Educators should hold meetings with students and their parents to inspire them to discuss the significance of higher education. A monthly meeting as a constant reminder

of discussing future goals will help students maintain their interest in developing thoughts for higher education.

Summary of Major Findings

This research was intended to understand students' perceptions of what they would like to do in a few years once they enter high school: would they graduate from high school and subsequently attend college? And beyond that, can they think of what careers they might choose? The research showed that seventh graders at Ventura are capable of developing thoughts of their future plans. On a positive note, both whites and Hispanics are equally enthused about their plans for graduating from high school, attending college and choosing professional careers. Compared to males, females showed a better interest (higher percent) in their future goals.

Recommendations for Future Research

Future studies can certainly include parental income and whether it affects high school graduation goals as a part of this study. Also, it would be worthwhile to have all or even some of the participants of this survey involved in similar surveys as the students grow and pursue their future plans. The survey should be repeated every year until the students reach junior year in high school. With the same students, an in-depth research would entail understanding what factors can increase student interest in core subjects and what factors would help them to ask their teachers when they have questions in these core subjects.

Surveys can be conducted with teachers, educators and parents to understand how they can help students complete high school and further help them to understand the

benefits of obtaining a college education. Research can be expanded in various areas such as influence of siblings and peers for students to think about the benefits of higher education.

Future research can also include investigating the relationship between high school graduation rates of minority students to teachers' educational background and experience to address quality of education; class size in elementary and middle schools; teacher/student ratio; and technology tools made available to ease the learning process.

References

Alexander, K., D'Amico, R., Fennessey, J., & McDill, E. (1979). Status composition and educational goals: An attempt clarification. *Sociology of Education, 52*(4), 222-237.

American Psychological Association. (2001). *Publication manual of the American Psychological Association*. 5th ed. Washington DC: American Psychological Association.

Austin, S., & Martin, N. (1992). College-bound students: Are we meeting their needs? *Adolescence, 27*(105), 211-217.

Bagnato, K. (2005). The clock is ticking. *Diverse Issues in Higher Education, Fairfax, 22*(16), 3.

Banerji, S. (2004). Higher education fiscal crisis hardest on Hispanic, low-income students. *African American Issues in Higher Education, 21,* 16.

Becker, G. S. (1981). *A treatise on the family*. Cambridge, MA: Harvard University Press.

Bernard, H. (2000). *Social research methods: Qualitative and quantitative approaches* (3rd ed.). Thousand Oaks, CA: Sage.

Beveridge, S., Heller-Craddock, S., Liesener, J., Stapleton, M., & Hershenson, D. (2002). INCOME: A framework for conceptualizing the career development of persons with disabilities. *Rehabilitation Counseling Bulletin, 45*, 195-206.

Bohon, S., Kirkpatrick, M., & Gorman, B. (2006). College expectations and aspirations among Latino adolescents. *Social Problems 53*(2), 207-225.

Bornstein, M., & Bradley, R. (Eds.). (2003). *Socioeconomic status, parenting, and child development: The Hollinghead four-factor index of social status and the socioeconomic index of occupations.* London: Lawrence Erlbaum Associates.

Bosacki, S. (1998). *Theory of mind in preadolescence: Connections among social understanding, self-concept, and social relations.* Toronto: University of Toronto Press.

Boulard, G. (2004). College access still tied to income, report says. *African American Issues in Higher Education, 21,* 6.

Burns, N., & Grove, S. K. (2001). *The practice of nursing research: Conduct, critique and utilization* (4th ed.). Philadelphia: Saunders.

California Department of Education. (2007). *Dropouts by ethnic designation by grade: Ventura county for the year 2007-08*. Retrieved April 25, 2009, from http://dq.cde.ca.gov/dataquest/DropoutReporting/GradeEth.aspx?cDistrictName=VENTURA&cCountyCode=5600000&cDistrictCode=0000000&cSchoolCode=0000000&Level=County&TheReport=GradeEth&ProgramName=All&cYear=2007-08&cAggSum=CTotGrade&cGender=B

California Postsecondary Education Commission. (2009a). *College-going rates to public colleges and universities*. Retrieved April 25, 2009, from http://www.cpec.ca.gov/studentdata/cacgroptions.asp

California Postsecondary Education Commission. (2009b). *Public high school graduation rates*. Retrieved April 25, 2009, from http://www.cpec.ca.gov/StudentData/HSGradReport.asp?Area=RegionG>

Callahan, W. (2003). *Effects of factors and people of influence on college choice comparing general population and top academic students.* Omaha: University of Nebraska Press.

Carter, S., & Wojtkiewicz, R. (2000). Parental involvement with adolescents' education: Do daughters or sons get more help? *Adolescence, 35*(137), 29-45.

Clark, K. (1989). *Dark ghetto: Dilemmas of social power* (2nd ed.). Hanover, NH: Wesleyan University Press.

Clark, G., & Horan, J. (2000). *Interactive internet program teaches parents to facilitate children's career development*. Phoenix: Arizona State University Press.

CollegeBoard. (2009). *Benefits of extracurricular activities in high school*. Retrieved January 9, 2009, from http://www.collegeboard.com/student/plan/high-school/113.html

Cooper, C., Dunbar, N., & Lopez, E. (2005). Latinos in college outreach program: Application, selection, and participation. *Journal of Latinos and Education, 4*(1), 20.

Corley, S. (1991). *An analysis of factors which influence choice of an academic program and sources of information used: Implications for recruitment strategies.* Stockton, CA: University of the Pacific Press.

Creswell, J. (2000). *Research Design* (2nd ed.). Thousand Oaks, CA: Sage.

Denner, S., Cooper, K., & Dunbar, V. (2005). Latinos in a college outreach program: Application, selection, and participation. *Journal of Latinos and Education, 4*(1), 21-41.

Dorn, L., Dahl, R., & Biro, F. (2006). Defining the boundaries of early adolescence: A user's guide to assessing pubertal status and pubertal timing in research with adolescents. *Applied Developmental Science, 10*(1), 30-56.

Duncan, G., & Magnuson, K. (2001). Off with Hollingshead: Socioeconomic resources, parenting, and child development. In M. H. Bornstein & R. H. Bradley (Eds.), *Socioeconomic status, parenting, and child development* (pp. 20-22). Mahwah, NJ: Erlbaum.

Dunn, M., & Mezzich, A. (2003). *Development in childhood and adolescence: Implications for prevention research and practice.* Pittsburgh, PA: University of Pittsburgh Press.

Dusek, J. (1991). *Adolescent development and behavior*. Englewood Cliffs, NJ: Prentice Hall.

Eccles, J., Vida, M., & Barber, B. (2004). The relation of early adolescents' college plans and both academic ability and task-value beliefs to subsequent college enrollment. *Journal of Early Adolescence, 24*(1), 63-77.

Eileen, G., & Beacham, S. (2004). Tweens, teens, and money dreams. *Journal of Financial Planning, 17,* 2.

Ensminger, M. E., & Fothergill, K. (2003). A decade of measuring SES: What it tells us and where to go from here. In M. H. Bornstein & R. H. Bradley (Eds.), *Socioeconomic status, parenting, and child development* (pp. 13-82). Mahwah, NJ: Lawrence Erlbaum Associates.

Fass, S., & Willa, M. (2005). Basic *f*acts about *l*ow-*i*ncome *c*hildren: Birth to *a*ge 18.

Retrieved September 25, 2006, from http://nccp.org/pub_lic06b.html

Fehrmann, P., Keith, T., & Reimers, T. (1987). Home influence on school learning: Direct and indirect effects of parental involvement on high school grades. *Journal of Educational Research, 80*(6), 330-337.

Fox, J. (2005). Personal finance, education, measurement techniques, performance evaluation, studies. *The Journal of Consumer Affairs, 39,* 195.

Fretz, B. (1972). Predicting career preference from preadolescent development. *Journal of Counseling Psychology, 19*(4), 286-291.

Garver, L. (1997). *Influence of parent education achievement on college major choice and graduate school intentions.* Austin, TX: Austin Peay State University Press.

Gibson, D., & Jefferson, R. (2006). The effect of perceived parental involvement and the use of growth-fostering relationships on self-concept in adolescents participating in GEAR UP. *Adolescence, 41*(161), 111-126.

Gloria, A. (2001). Influences of self-beliefs, social support, and comfort in the university environment on the academic nonpersistence decisions of American Indian undergraduates. *Cultural Diversity & Ethnic Minority Psychology, 7*(7), 88-102.

Goldin, R. (2007). *Odds ratios: Possibly the most difficult concept to grasp when reporting research findings*. Retrieved May, 2009, from the STATS at Georgetown University website: http://stats.org/stories/2008/odds_ratios_ april4_2008.html

Guerra, A., & Braungart-Rieker, J. M. (1999). Predicting career indecision in college students: The roles of identity formation and parental relationship factors. *Career*

Development Quarterly, 47, 255-266.

Hagedom, M., & Montaquilla, J. (2003). Percentage of students in grades K through 12 whose parents reported educational expectations and plans to help pay for education after high school, by educational attainment expectation and selected characteristics: 2002-03. Retrieved September 18, 2006, from http:// nces.ed.gov/programs/quarterly/vol_7/1_2/4_9.asp

Hamrick, S., & Stage, F. (2004). College predisposition at high-minority enrollment, low-income schools. *Review of Higher Education, 27*(2), 151.

Helms, J. E. (1995). An update on Helms' White and people of color racial identity models. In J. G. Ponterotto, J. M. Casas, L. A. Suzuki, & G. M. Alexander (Eds.), *Handbook of multicultural counseling* (pp. 181-198). Thousand Oaks, CA: Sage.

Hershenson, D. (2005). INCOME: A culturally inclusive and disability-sensitive framework for organizing career development concepts and interventions. *The Career Development Quarterly, 54*(2), 12-25.

Hervey, E. (2005). *"Staying in their place": Toward an understanding of place-based family and cultural factors that influence college aspirants in the Mississippi Delta.* Nashville, TN: Peabody College for Teachers of Vanderbilt University.

Hewett, S. M., & Rodgers, W. J. (2003). The Citadel GEAR-UP program and learner-centered education: Together, a framework for student success. *Education, 124*, 86-91.

Hollingshead, A. (1975). *Four-factor index of social status*. New Haven, CT: Yale University Press.

Howell, F. M., & Frese, W. (1980). Early transition into adult roles: Some antecedents and outcomes. *American Educational Research Journal, 19*(1), 51-73.

Hubbard, S. (2006). *Identifying factors that influence student-centered teaching in the undergraduate classroom: A structural equation modeling analysis.* New York: New York University Press.

Huck, S. (2004). *Reading statistics and research* (4th ed.). Boston: Pearson.

Jacobs, J., & Klaczynski, P. (Eds.). (2005). *The development of judgment and decision making in children and adolescents*. Mahwah, NJ: Lawrence Erlbaum Associates.

Jenkins, K. E. (2004). *The influence of parental attachment, gender, and academic major choice on the career decision-making self-efficacy of first-year African American college students.* Unpublished doctoral dissertation, The Pennsylvania State University, College Station, PA.

Jodry, L., Robles-Piña, R., & Nichter, M. (2005). Hispanic academic advancement theory: An ethnographic study of urban students participating in a high school advanced diploma program. *The High School Journal, 88*(2), 9.

Katzman, L. (2003). Minority students in special and gifted education. *Harvard Educational Review, 73*(2), 14-35.

Kim, D. (2004). *Social capital in action: Parent and school support in adolescents' transition to postsecondary education.* Chicago: University of Chicago Press.

Kim, D., & Schneider, B. (2005). Social capital in action: Alignment of parental support in adolescents' transition to postsecondary education. *Social Forces, 84*(2), 1181-1206.

Kohen-Raz, R. (1971). *The child from 9 to 13: The psychology of preadolescence and early puberty*. New York: Aldine-Atherton.

Krejcie, R., & Morgan, D. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*, 607-610.

Lahrson-Fisher, A. (2003). *Home schooling*. Carson, WA: Nettlepatch Press.

Lakshmanan, A. (2004). *A longitudinal study of adolescent educational aspirations and their relationship to college choice using hierarchical linear modeling and group-based mixture modeling.* Baton Rouge: Louisiana State University Press.

Lareau, A. (2000). *Home advantage*. Oxford, England: Rowman & Littlefield.

Leville, D. (2004). *Relationships among parenting behavior, the quality of the family environment, and adjustment outcome in college students.* Stamford: University of Connecticut Press.

Lindsey, M. (2006). *Statistical reports: CSU enrollment by ethnic group*. Retrieved September 18, 2006, from http://www.calstate.edu/as/stat_reports/ethnicity.shtml

Little, J. (1995). *Factors that influence the decision to attend college.* Unpublished doctoral dissertation, California State University, Long Beach, CA.

Mancillas, M. (1998). *A study of the influence of university/school district intervention program parental involvement and the college enrollments of Mexican-American students.* Unpublished doctoral dissertation, University of Houston, TX.

Marshall, C., & Rossman, G. (2000). *Designing qualitative research* (4th ed.). Thousand Oaks, CA: Sage.

Mayfield, D. (2005). *Finding Martha: Social networks that influence student enrollment*

into vocational education programs in the community college. Los Angeles: University of Southern California Press.

Mazza, C. (2002). Young dads: The effects of a parenting program on urban African-American adolescent fathers. *Adolescence, 37*(148), 681-694.

McCall, C. (2002). *Understanding statistical methods*. Lincoln, NE: Writers Club Press.

McDonough, P. M. (1997). *Choosing colleges: How social class and schools structure opportunity*. Albany, NY: Suny Press.

McNair, D., & Brown, D. (1983). Predicting the occupational aspirations, occupational expectations, and career maturity of Black and White male and female 10th graders. *The Vocational Guidance Quarterly, 32*(1), 29-36.

McNeal, R. (1999). Parental involvement as social capital: Differencital effectiveness on science achievement, truancy, and dropping out. *Social Forces, 78*(1), 117-144.

McNeal, R. B. J. (2001). Differential effects of parental involvement on cognitive and behavioral outcomes by socioeconomic status. *Journal of Socio-Economics, 30*(2), 171-179.

Mello, Z. (2005). *Across time and place: The development of educational and occupational expectations from adolescence to adulthood in relation to gender, racial/ethnic group, and parental and neighborhood socioeconomic status.* State College, PA: Pennsylvania State University Press.

Meyerson, A. T. (1981). *Gender differences in career development patterns of preadolescent students.* Unpublished doctoral dissertation, Georgia State University, Atlanta, GA.

Milton, J., McTeer, P., & Corbet, J. (1997). *Introduction to statistics*. New York: McGraw-Hill.

Muller, C., & Kerbow, D. (1993). Parent involvement in the home, school, and community. In J. S. Coleman (Ed.), *Parents, their children and schools* (pp. 13-42). Boulder, CO: Westview Press.

Noack, P. (2002). Adolescents' attitudes towards education. *Journal of Educational Psychology, 96*(4), 714-722.

Olivas, M. A. (2005). Higher education as "place": Location, race, and college attendance policies. *Review of Higher Education, 28*(2), 22.

Paulsen, M. (1990). *College choice: Understanding student enrollment behavior*. Washington, DC: George Washington University Press.

Perna, L. W., & Titus, M. (2002). *The role of parental involvement as social capital in promoting the college enrollment of African Americans and Hispanics: Implications for college preparation programs*. Paper presented at the Annual Meeting of the Association for the Study of Higher Education, Sacramento, CA.

Phipps, B. (1995). Career dreams of preadolescent students. *Journal of Career Development, 22*(1), 13.

Punch, K. (1998). *Introduction to social research: Quantitative and qualitative approaches*. Thousand Oaks, CA: Sage.

Rane, T., & McBride, B. (2000). Identity theory as a guide to understanding fathers' involvement with their children. *Journal of Family Issues, 21*(3), 22.

Rendon, L., & Hope, R. (1997). *Reconceptualizing access in postsecondary education*

and its ramifications for data systems report of the Policy Panel on Access ... Policy Panel meeting, September 9, 1997. Washington, DC: DIANE Publishing.

Rhee, S., Chang, J., & Rhee, J. (2003). Acculturation, communication patterns and self - esteem among Asian and Caucasian adolescents. *Adolescence, 38*(152), 749-769.

Rivas, D. (2006). *Perceived social barriers, ethnic identity, school engagement and motivation among Latino adolescents.* Ann Arbor: University of Michigan Press.

Roach, R. (2000, August 3). Ambitious outreach: California State University officials tackle remediation by offering a little help to K-12. *African American Issues in Higher Education, 17,* 2.

Roach, R. (2006, February 2). The Rosser revolution. *African American Issues in Higher Education, 22,* 16.

Roscigno, V., Tomaskovic-Devey, D., & Crowley, M. (2006). Education and the inequalities of place. *Social Forces, 84*(4), 25.

Santiago, D., & Brown, S. (2004). *Federal policy and Latinos in higher education: A guide for policymakers and grantmakers*. Unpublished manuscript.

Scott, J. (2004). Family, gender, and educational attainment in Britain: A longitudinal study. *Journal of Comparative Family Studies, 35*(4), 25.

Seligman, L., & Weinstock, L. (1991). The career development of 10 year olds. *Elementary School Guidance & Counseling, 25*(3), 10.

Smith, R. (2005). *Factors influencing a student's decision to enroll at a rural community or technical college.* Cypress, CA: Touro International University Press.

Smith, T. (1991). Agreement of adolescent educational expectations with perceived

maternal and paternal educational goals. *Youth & Society, 23*(1), 155-174.

Snyder, V., Tan, M., & Hoffman, T. (2005). *Digest of education statistics 2005*. Washington DC: U.S. Department of Education, National Center for Education Statistics.

Sokatch, A. (2002). *"It depends on your friends": Peer influence on the college-going decisions of poor urban minority high school graduates.* Boston: Brandeis University Press.

Sui-Chu, E. H., & Wilms, J. D. (1996, April). Effects of parental involvement on eighth-grade achievement. *Sociology of Education, 69*, 126-141.

Super, D. (1957). *The psychology of careers: An introduction to vocational development*. New York: Harper and Row.

Teranishi, R., & Allen, W. (2004). Opportunity at the crossroads: Racial inequality, school segregation, and higher education in California. *Teachers College Record, 106*(11), 21.

Timar, T., Ogawa, R., & Orillion, M. (2004, March). Expanding the University of California's outreach mission. *John Hopkins University Press, 27,* 187.

Trice, A., & Hughes, M. (1995). The origins of children's career aspirations. *Career Development Quarterly, 43*(4), 13.

Trounson, R. (2006, June 2). UC sets record on freshman enrollees for fall; Schools expect 4,000 more first-year students; UC Davis has 900 more than anticipated. *The Los Angeles Times,* p. 2.

Trustees. (2006). *Demographics of low-income children*. Retrieved September 18, 2006,

from http://www.nccp.org/state_detail_demographic_CA.html

Trusty, J. (1996). Relationship of parental involvement in teens' career development to teens' attitudes, perceptions, and behavior. *Journal of Research and Development in Education, 30*(2), 65-69.

Trusty, J. (1998). Family influences on educational expectations of late adolescents. *Journal of Educational Research, 91*(5), 260-270.

Tuckman, B. (1994). *Conducting educational research*. Orlando, FL: Harcourt Brace College.

U.S. Census Bureau. (2009). *The 2009 statistical abstract*. Retrieved April, 2009, from http://www.census.gov/compendia/statab/cats/population.html

U.S. Department of Education. (1988). *Eighth grade questionnaire NELS 88: National education longitudinal study of 1988*. Chicago: NORC.

Ventura Middle School. (2008). *2007-08 School accountability report card*. Retrieved January, 2009, from http://www.venturausd.org/esd/HTMLobj-5270/ Ventura_Middle_-_2007-08_SARC.pdf

Villalpando, O. (2003). Self-segregation or self-preservation? A critical race theory and Latina/critical theory analysis of a study of Chicana college students. *International Journal Of Qualitative Studies in Education, 16*(5), 25.

Wentzel, K., Weinberge, D., Ford, M., & Feldman, S. (1990). Academic achievement in preadolescence: The role of motivational, affective, and self-regulatory processes. *Journal of Applied Developmental Psychology, 11*(2), 179-193.

Wilson, C. (1997). *The college choice process: A long study of decision making among*

students and families. Philadelphia: University of Pennsylvania Press.

Yeung, N., & Yeung, A. S. (2001). *Does school motivation change over secondary school years?* Paper presented at the Australian Association for Research in Education International Education Research Conference.

Yoshida, T. (2005). *A longitudinal study of parent involvement as social capital in promoting college enrollment for diverse groups.* Honolulu: University Of Hawaii Press.

Zarate, A., & Gallimore, M. (2005). Gender differences in factors leading to college enrollment: A longitudinal analysis of Latina and Latino students. *Harvard Educational Review, 75,* 28.

APPENDIX A: College Enrollment Data

Table 179. Total fall enrollment in degree-granting institutions, by attendance status, sex of student, and control of institution: Selected years, 1947 through 2005

Year	Total enrollment	Attendance status			Sex of student			Control of institution			
		Full-time	Part-time	Percent part-time	Male	Female	Percent female	Public	Private		
									Total	Not-for-profit	For-profit
1	2	3	4	5	6	7	8	9	10	11	12
1947\1\ ..	2,338,226	---	---	---	1,659,249	678,977	29.0	1,152,377	1,185,849	---	---
1948\1\ ..	2,403,396	---	---	---	1,709,367	694,029	28.9	1,185,588	1,217,808	---	---
1949\1\ ..	2,444,900	---	---	---	1,721,572	723,328	29.6	1,207,151	1,237,749	---	---
1950\1\ ..	2,281,298	---	---	---	1,560,392	720,906	31.6	1,139,699	1,141,599	---	---
1951\1\ ..	2,101,962	---	---	---	1,390,740	711,222	33.8	1,037,938	1,064,024	---	---
1952\1\ ..	2,134,242	---	---	---	1,380,357	753,885	35.3	1,101,240	1,033,002	---	---
1953\1\ ..	2,231,054	---	---	---	1,422,598	808,456	36.2	1,185,876	1,045,178	---	---
1954\1\ ..	2,446,693	---	---	---	1,563,382	883,311	36.1	1,353,531	1,093,162	---	---
1955\1\ ..	2,653,034	---	---	---	1,733,184	919,850	34.7	1,476,282	1,176,752	---	---
1956\1\ ..	2,918,212	---	---	---	1,911,458	1,006,754	34.5	1,656,402	1,261,810	---	---
1957	3,323,783	---	---	---	2,170,765	1,153,018	34.7	1,972,673	1,351,110	---	---
1959	3,639,847	2,421,016	1,218,831 \2\	33.5	2,332,617	1,307,230	35.9	2,180,982	1,458,865	---	---
1961	4,145,065	2,785,133	1,359,932 \2\	32.8	2,585,821	1,559,244	37.6	2,561,447	1,583,618	---	---
1963	4,779,609	3,183,833	1,595,776 \2\	33.4	2,961,540	1,818,069	38.0	3,081,279	1,698,330	---	---
1964	5,280,020	3,573,238	1,706,782 \2\	32.3	3,248,713	2,031,307	38.5	3,467,708	1,812,312	---	---
1965	5,920,864	4,095,728	1,825,136 \2\	30.8	3,630,020	2,290,844	38.7	3,969,596	1,951,268	---	---
1966	6,389,872	4,438,606	1,951,266 \2\	30.5	3,856,216	2,533,656	39.7	4,348,917	2,040,955	---	---
1967	6,911,748	4,793,128	2,118,620 \2\	30.7	4,132,800	2,778,948	40.2	4,816,028	2,095,720	---	---
1968	7,513,091	5,210,155	2,302,936	30.7	4,477,649	3,035,442	40.4	5,430,652	2,082,439	---	---
1969	8,004,660	5,498,883	2,505,777	31.3	4,746,201	3,258,459	40.7	5,896,868	2,107,792	---	---
1970	8,580,887	5,816,290	2,764,597	32.2	5,043,642	3,537,245	41.2	6,428,134	2,152,753	---	---
1971	8,948,644	6,077,232	2,871,412	32.1	5,207,004	3,741,640	41.8	6,804,309	2,144,335	---	---
1972	9,214,820	6,072,350	3,142,470	34.1	5,238,718	3,976,102	43.1	7,070,635	2,144,185	---	---
1973	9,602,123	6,189,493	3,412,630	35.5	5,371,052	4,231,071	44.1	7,419,516	2,182,607	---	---
1974	10,223,729	6,370,273	3,853,456	37.7	5,622,429	4,601,300	45.0	7,988,500	2,235,229	---	---
1975	11,184,859	6,841,334	4,343,525	38.8	6,148,997	5,035,862	45.0	8,834,508	2,350,351	---	---
1976	11,012,137	6,717,058	4,295,079	39.0	5,810,828	5,201,309	47.2	8,653,477	2,358,660	2,314,298	44,362
1977	11,285,787	6,792,925	4,492,862	39.8	5,789,016	5,496,771	48.7	8,846,993	2,438,794	2,386,652	52,142
1978	11,260,092	6,667,657	4,592,435	40.8	5,640,998	5,619,094	49.9	8,785,893	2,474,199	2,408,331	65,868
1979	11,569,899	6,794,039	4,775,860	41.3	5,682,877	5,887,022	50.9	9,036,822	2,533,077	2,461,773	71,304
1980	12,096,895	7,097,958	4,998,937	41.3	5,874,374	6,222,521	51.4	9,457,394	2,639,501	2,527,787	111,714 \3\
1981	12,371,672	7,181,250	5,190,422	42.0	5,975,056	6,396,616	51.7	9,647,032	2,724,640	2,572,405	152,235 \3\
1982	12,425,780	7,220,618	5,205,162	41.9	6,031,384	6,394,396	51.5	9,696,087	2,729,693	2,552,739	176,954 \3\
1983	12,464,661	7,261,050	5,203,611	41.7	6,023,725	6,440,936	51.7	9,682,734	2,781,927	2,589,187	192,740
1984	12,241,940	7,098,388	5,143,552	42.0	5,863,574	6,378,366	52.1	9,477,370	2,764,570	2,574,419	190,151
1985	12,247,055	7,075,221	5,171,834	42.2	5,818,450	6,428,605	52.5	9,479,273	2,767,782	2,571,791	195,991
1986	12,503,511	7,119,550	5,383,961	43.1	5,884,515	6,618,996	52.9	9,713,893	2,789,618	2,572,479	217,139 \4\
1987	12,766,642	7,231,085	5,535,557	43.4	5,932,056	6,834,586	53.5	9,973,254	2,793,388	2,602,350	191,038 \4\
1988	13,055,337	7,436,768	5,618,569	43.0	6,001,896	7,053,441	54.0	10,161,388	2,893,949	2,673,567	220,382
1989	13,538,560	7,660,950	5,877,610	43.4	6,190,015	7,348,545	54.3	10,577,963	2,960,597	2,731,174	229,423
1990	13,818,637	7,820,985	5,997,652	43.4	6,283,909	7,534,728	54.5	10,844,717	2,973,920	2,760,227	213,693
1991	14,358,953	8,115,329	6,243,624	43.5	6,501,844	7,857,109	54.7	11,309,563	3,049,390	2,819,041	230,349
1992	14,487,359	8,162,118	6,325,241	43.7	6,523,989	7,963,370	55.0	11,384,567	3,102,792	2,872,523	230,269
1993	14,304,803	8,127,618	6,177,185	43.2	6,427,450	7,877,353	55.1	11,189,088	3,115,715	2,888,897	226,818
1994	14,278,790	8,137,776	6,141,014	43.0	6,371,898	7,906,892	55.4	11,133,680	3,145,110	2,910,107	235,003
1995	14,261,781	8,128,802	6,132,979	43.0	6,342,539	7,919,242	55.5	11,092,374	3,169,407	2,929,044	240,363
1996	14,367,520	8,302,953	6,064,567	42.2	6,352,825	8,014,695	55.8	11,120,499	3,247,021	2,942,556	304,465
1997	14,502,334	8,438,062	6,064,272	41.8	6,396,028	8,106,306	55.9	11,196,119	3,306,215	2,977,614	328,601
1998	14,506,967	8,563,338	5,943,629	41.0	6,369,265	8,137,702	56.1	11,137,769	3,369,198	3,004,925	364,273
1999\5\ ..	14,791,224	8,786,494	6,004,730	40.6	6,490,646	8,300,578	56.1	11,309,399	3,481,825	3,051,626	430,199
2000	15,312,289	9,009,600	6,302,689	41.2	6,721,769	8,590,520	56.1	11,752,786	3,559,503	3,109,419	450,084
2001	15,927,987	9,447,502	6,480,485	40.7	6,960,815	8,967,172	56.3	12,233,156	3,694,831	3,167,330	527,501
2002	16,611,711	9,946,359	6,665,352	40.1	7,202,116	9,409,595	56.6	12,751,993	3,859,718	3,265,476	594,242
2003\6\ ..	16,911,481	10,326,133	6,585,348	38.9	7,260,264	9,651,217	57.1	12,858,698	4,052,783	3,341,048	711,735
2004	17,272,044	10,610,177	6,661,867	38.6	7,387,262	9,884,782	57.2	12,980,112	4,291,932	3,411,685	880,247
2005	17,487,475	10,797,011	6,690,464	38.3	7,455,925	10,031,550	57.4	13,021,834	4,465,641	3,454,692	1,010,949

---Not available.

\1\Degree-credit enrollment only.

\2\Includes part-time resident students and all extension students.

\3\Large increases are due to the addition of schools accredited by the Accrediting Commission of Career Schools and Colleges of Technology.

\4\Because of imputation techniques, data are not consistent with figures for other years.

\5\Data were imputed using alternative procedures. (See Guide to Sources for details.)

\6\Data revised from previously published figures.

NOTE: Data through 1995 are for institutions of higher education, while later data are for degree-granting institutions. Degree-granting institutions grant associate's or higher degrees and participate in Title IV federal financial aid programs. The degree-granting classification is very similar to the earlier higher education classification, but it includes more 2-year colleges and excludes a few higher education institutions that did not grant degrees. (See Guide to Sources for details.)

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Biennial Survey of Education in the United States; Opening Fall Enrollment in Higher Education,* 1963 through 1965; Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys, 1966 through 1985; and 1986 through 2005 Integrated Postsecondary Education Data System, "Fall Enrollment Survey" (IPEDS-EF:86-99), and Spring 2001 through Spring 2006. (This table was prepared August 2007.)

APPENDIX B: College Enrollment by Race/Ethnicity

Table 181. College enrollment and enrollment rates of recent high school completers, by race/ethnicity: 1960 through 2004

[Numbers in thousands]

Year	Number of high school completers\1\								Enrolled in college\2\															
									Total				White, non-Hispanic				Black, non-Hispanic\3\				Hispanic\3\			
																					Percent			
	Total		White, non-Hispanic		Black, non-Hispanic\3\		Hispanic\3\		Number		Percent		Number		Percent		Number		Percent		Number		Annual	3-year moving average
1	2		3		4		5		6		7		8		9		10		11		12		13	14
1960	1,679	(43.8)	1,565	(44.7)	---	(†)	---	(†)	758	(40.9)	45.1	(2.13)	717	(40.2)	45.8	(2.21)	---	(†)	---	(†)	---	(†)	---	(†)
1961	1,763	(46.0)	1,612	(46.9)	---	(†)	---	(†)	847	(42.9)	48.0	(2.09)	798	(42.2)	49.5	(2.19)	---	(†)	---	(†)	---	(†)	---	(†)
1962	1,838	(43.6)	1,660	(45.2)	---	(†)	---	(†)	900	(43.2)	49.0	(2.05)	840	(42.4)	50.6	(2.15)	---	(†)	---	(†)	---	(†)	---	(†)
1963	1,741	(44.2)	1,615	(45.2)	---	(†)	---	(†)	784	(41.5)	45.0	(2.09)	736	(40.7)	45.6	(2.17)	---	(†)	---	(†)	---	(†)	---	(†)
1964	2,145	(43.0)	1,964	(45.4)	---	(†)	---	(†)	1,037	(45.6)	48.3	(1.89)	967	(44.8)	49.2	(1.98)	---	(†)	---	(†)	---	(†)	---	(†)
1965	2,659	(47.7)	2,417	(50.6)	---	(†)	---	(†)	1,354	(51.4)	50.9	(1.70)	1,249	(50.4)	51.7	(1.78)	---	(†)	---	(†)	---	(†)	---	(†)
1966	2,612	(45.0)	2,403	(48.0)	---	(†)	---	(†)	1,309	(50.2)	50.1	(1.72)	1,243	(49.6)	51.7	(1.79)	---	(†)	---	(†)	---	(†)	---	(†)
1967	2,525	(37.9)	2,267	(40.3)	---	(†)	---	(†)	1,311	(40.9)	51.9	(1.42)	1,202	(40.1)	53.0	(1.50)	---	(†)	---	(†)	---	(†)	---	(†)
1968	2,606	(37.3)	2,303	(40.4)	---	(†)	---	(†)	1,444	(41.7)	55.4	(1.39)	1,304	(40.9)	56.6	(1.47)	---	(†)	---	(†)	---	(†)	---	(†)
1969	2,842	(36.0)	2,538	(39.8)	---	(†)	---	(†)	1,516	(42.5)	53.3	(1.34)	1,402	(42.0)	55.2	(1.41)	---	(†)	---	(†)	---	(†)	---	(†)
1970	2,758	(37.4)	2,461	(40.7)	---	(†)	---	(†)	1,427	(42.2)	51.7	(1.36)	1,280	(41.2)	52.0	(1.44)	---	(†)	---	(†)	---	(†)	---	(†)
1971	2,875	(38.0)	2,596	(41.1)	---	(†)	---	(†)	1,538	(43.2)	53.5	(1.33)	1,402	(42.5)	54.0	(1.40)	---	(†)	---	(†)	---	(†)	---	(†)
1972	2,964	(37.8)	2,520	(31.2)	316	(18.3)	101	(14.2)	1,459	(43.1)	49.2	(1.31)	1,252	(39.0)	49.7	(1.42)	141	(16.7)	44.6	(4.62)	46	(11.7)	45.0	(9.74)	---	(†)
1973	3,058	(37.1)	2,590	(30.8)	324	(18.5)	119	(13.7)	1,424	(43.0)	46.6	(1.29)	1,238	(39.2)	47.8	(1.40)	105	(15.2)	32.5	(4.30)	64	(13.0)	54.1	(9.01)	48.7	(5.33)
1974	3,101	(38.6)	2,620	(31.4)	325	(19.0)	121	(15.2)	1,475	(43.7)	47.6	(1.28)	1,236	(39.4)	47.2	(1.39)	154	(17.4)	47.2	(4.58)	57	(12.9)	46.9	(8.94)	33.7	(6.01)
1975	3,185	(38.6)	2,701	(31.9)	302	(15.4)	132	(15.8)	1,615	(44.8)	50.7	(1.26)	1,381	(40.5)	51.1	(1.37)	126	(13.6)	41.7	(3.97)	77	(14.5)	58.0	(8.44)	36.9	(5.63)
1976	2,986	(39.8)	2,492	(33.1)	290	(15.8)	152	(16.2)	1,458	(43.6)	48.8	(1.31)	1,217	(39.1)	48.8	(1.43)	129	(13.8)	44.4	(4.08)	80	(14.8)	52.7	(7.97)	53.8	(4.68)
1977	3,141	(40.7)	2,618	(34.0)	325	(19.3)	155	(16.0)	1,590	(45.4)	50.6	(1.29)	1,331	(40.8)	50.8	(1.41)	161	(17.9)	49.5	(4.65)	79	(14.8)	50.8	(7.96)	48.5	(4.72)
1978	3,163	(39.7)	2,615	(33.7)	345	(18.4)	135	(15.3)	1,585	(45.2)	50.1	(1.28)	1,321	(40.6)	50.5	(1.41)	160	(17.7)	46.4	(4.51)	56	(13.0)	42.0	(8.44)	45.9	(4.69)
1979	3,160	(40.0)	2,629	(32.7)	319	(19.7)	155	(16.1)	1,559	(45.1)	49.3	(1.28)	1,313	(40.5)	49.9	(1.41)	149	(17.5)	46.7	(4.69)	70	(14.3)	45.0	(7.92)	46.4	(4.83)
1980	3,088	(39.4)	2,554	(30.9)	350	(19.7)	130	(17.1)	1,523	(44.6)	49.3	(1.30)	1,273	(39.6)	49.8	(1.43)	149	(17.7)	42.7	(4.44)	68	(14.4)	52.3	(8.70)	49.8	(4.78)
1981	3,056	(42.2)	2,490	(34.1)	349	(20.5)	146	(17.6)	1,648	(45.8)	53.9	(1.30)	1,367	(40.5)	54.9	(1.44)	149	(17.8)	42.7	(4.44)	76	(15.1)	52.1	(8.19)	49.2	(4.68)
1982	3,100	(40.4)	2,474	(32.9)	382	(19.6)	173	(18.2)	1,569	(46.9)	50.6	(1.36)	1,303	(41.5)	52.7	(1.52)	137	(17.9)	35.8	(4.33)	75	(15.8)	43.2	(7.96)	49.8	(4.94)
1983	2,963	(41.6)	2,363	(33.1)	390	(21.1)	138	(17.8)	1,562	(46.7)	52.7	(1.39)	1,301	(40.9)	55.0	(1.55)	149	(18.7)	38.2	(4.34)	75	(15.7)	54.2	(8.96)	47.3	(4.73)
1984	3,012	(36.5)	2,331	(29.1)	433	(18.5)	187	(17.0)	1,663	(46.0)	55.2	(1.37)	1,375	(39.9)	59.0	(1.54)	172	(19.4)	39.8	(4.15)	83	(16.2)	44.3	(7.67)	49.9	(4.89)
1985	2,668	(40.1)	2,104	(32.3)	332	(19.3)	141	(19.7)	1,540	(45.1)	57.7	(1.45)	1,264	(39.2)	60.1	(1.62)	140	(17.8)	42.2	(4.78)	72	(17.0)	51.0	(9.76)	46.5	(5.19)
1986	2,786	(38.6)	2,146	(30.3)	378	(18.4)	169	(21.7)	1,498	(45.0)	53.8	(1.43)	1,219	(38.8)	56.8	(1.62)	140	(17.9)	36.9	(4.38)	74	(17.7)	44.0	(8.85)	42.9	(5.21)
1987	2,647	(40.9)	2,040	(32.4)	333	(20.6)	176	(20.9)	1,503	(45.1)	56.8	(1.46)	1,195	(38.7)	58.6	(1.65)	174	(19.3)	52.2	(4.82)	59	(16.1)	33.5	(8.25)	44.9	(5.04)
1988	2,673	(47.0)	2,013	(37.9)	378	(22.3)	179	(26.6)	1,575	(50.3)	58.9	(1.57)	1,230	(42.9)	61.1	(1.79)	168	(21.1)	44.4	(4.91)	102	(23.6)	57.1	(10.14)	48.6	(5.99)
1989	2,450	(46.5)	1,889	(37.3)	332	(21.3)	168	(26.5)	1,460	(48.7)	59.6	(1.64)	1,147	(41.7)	60.7	(1.85)	177	(20.9)	53.4	(5.27)	93	(22.9)	55.1	(10.51)	51.6	(6.33)
1990	2,362	(43.0)	1,819	(32.2)	331	(21.9)	121	(21.8)	1,420	(45.9)	60.1	(1.60)	1,147	(38.5)	63.0	(1.80)	155	(19.7)	46.8	(5.08)	52	(16.0)	42.7	(10.82)	51.7	(5.70)
1991	2,276	(41.0)	1,727	(30.3)	310	(20.2)	154	(23.5)	1,423	(44.8)	62.5	(1.62)	1,129	(37.2)	65.4	(1.82)	144	(18.8)	46.4	(5.25)	88	(19.9)	57.2	(9.58)	51.6	(5.52)
1992	2,397	(40.4)	1,724	(30.9)	354	(21.4)	198	(23.0)	1,483	(45.4)	61.9	(1.58)	1,109	(37.4)	64.3	(1.84)	171	(20.2)	48.2	(4.92)	109	(21.0)	55.0	(8.50)	58.1	(5.04)
1993	2,342	(41.4)	1,719	(32.6)	304	(20.4)	201	(23.1)	1,467	(45.4)	62.6	(1.59)	1,082	(37.9)	62.9	(1.85)	169	(19.6)	55.6	(5.28)	125	(21.9)	62.2	(8.22)	55.4	(4.97)
1994	2,517	(38.1)	1,915	(27.0)	316	(17.9)	178	(17.3)	1,559	(43.0)	61.9	(1.43)	1,236	(35.5)	64.5	(1.61)	161	(16.7)	50.8	(4.42)	87	(14.0)	49.1	(6.28)	55.0	(3.23)
1995	2,599	(40.9)	1,861	(30.1)	349	(19.2)	288	(19.4)	1,610	(44.5)	61.9	(1.41)	1,197	(36.1)	64.3	(1.64)	179	(17.6)	51.2	(4.20)	155	(17.6)	53.7	(4.92)	51.2	(3.18)
1996	2,660	(40.5)	1,875	(30.8)	406	(17.3)	227	(18.9)	1,729	(46.1)	65.0	(1.42)	1,264	(37.5)	67.4	(1.67)	227	(19.0)	56.0	(4.03)	115	(16.3)	50.8	(5.79)	56.7	(2.97)
1997	2,769	(41.8)	1,909	(31.8)	384	(19.2)	336	(19.0)	1,856	(47.3)	67.0	(1.38)	1,301	(38.1)	68.2	(1.64)	225	(19.4)	58.5	(4.12)	220	(19.7)	65.6	(4.53)	54.6	(2.94)
1998	2,810	(43.9)	1,980	(33.0)	386	(20.2)	314	(20.8)	1,844	(48.3)	65.6	(1.38)	1,357	(39.0)	68.5	(1.61)	239	(20.0)	61.9	(4.05)	149	(18.3)	47.4	(4.92)	51.8	(2.79)
1999	2,897	(41.5)	1,978	(31.8)	436	(15.2)	329	(20.9)	1,822	(47.8)	62.9	(1.38)	1,311	(38.6)	66.3	(1.64)	257	(19.1)	58.9	(3.86)	139	(18.0)	42.3	(4.76)	47.5	(2.84)
2000	2,756	(45.3)	1,938	(32.9)	393	(20.0)	300	(22.4)	1,745	(48.4)	63.3	(1.41)	1,272	(38.8)	65.7	(1.66)	216	(19.5)	54.9	(4.11)	159	(19.2)	52.9	(5.03)	49.0	(2.96)
2001	2,549	(46.5)	1,834	(34.8)	381	(20.3)	241	(21.1)	1,574	(47.5)	61.8	(1.48)	1,178	(38.7)	64.3	(1.72)	210	(19.4)	55.0	(4.17)	124	(17.4)	51.7	(5.63)	52.7	(2.93)
2002	2,796	(42.7)	1,903	(31.3)	382	(19.1)	344	(21.6)	1,824	(46.1)	65.2	(1.31)	1,314	(36.5)	69.1	(1.55)	227	(18.7)	59.4	(3.90)	184	(19.2)	53.6	(4.46)	54.6	(2.75)
2003\4\	2,677	(42.2)	1,832	(30.8)	327	(18.4)	314	(20.9)	1,711	(45.2)	63.9	(1.35)	1,213	(35.9)	66.2	(1.61)	188	(17.4)	57.5	(4.25)	184	(18.9)	58.6	(4.61)	58.0	(2.66)
2004\4\	2,752	(40.0)	1,854	(30.9)	398	(15.5)	286	(19.9)	1,835	(44.9)	66.7	(1.31)	1,276	(36.1)	68.8	(1.57)	249	(17.9)	62.5	(3.77)	177	(18.4)	61.8	(4.76)	---	(†)

---Not available.

†Not applicable.

\1\Individuals ages 16 to 24 who graduated from high school or completed a GED during the preceding 12 months.

\2\Enrollment in college as of October of each year for individuals ages 16 to 24 who completed high school during the preceding 12 months.

\3\Due to the small sample size, data are subject to relatively large sampling errors.

\4\White, non-Hispanic and Black, non-Hispanic data exclude persons identifying themselves as multi-racial. High school completion data in this table differ from

APPENDIX C: College Enrollment by Sex and Race/Ethnicity

Table 195. Enrollment rates of 18- to 24-year-olds in degree-granting institutions, by sex and race/ethnicity: 1967 through 2006

	Enrollment as a percent of all 18- to 24-year-olds						Enrollment as a percent of all 18- to 24-year-old high school completers\1\					
		Sex		Race/ethnicity				Sex		Race/ethnicity		
Year	Total	Male	Female	White	Black	Hispanic	Total	Male	Female	White	Black	Hispanic
1	2	3	4	5	6	7	8	9	10	11	12	13
1967\2\ .	25.5 (0.44)	33.1 (0.71)	19.2 (0.54)	26.9 (0.48)	13.0 (1.16)	--- (†)	33.7 (0.55)	44.7 (0.87)	25.1 (0.67)	34.5 (0.58)	23.3 (1.96)	--- (†)
1968\2\ .	26.1 (0.44)	34.1 (0.70)	19.5 (0.53)	27.5 (0.48)	14.5 (1.18)	--- (†)	34.2 (0.54)	45.9 (0.86)	25.0 (0.66)	34.9 (0.57)	25.2 (1.92)	--- (†)
1969\2\ .	27.3 (0.44)	35.2 (0.69)	20.9 (0.54)	28.7 (0.47)	16.0 (1.20)	--- (†)	35.0 (0.53)	45.6 (0.82)	26.4 (0.65)	35.6 (0.56)	27.2 (1.90)	--- (†)
1970\2\ .	25.7 (0.42)	32.1 (0.65)	20.3 (0.52)	27.1 (0.45)	15.5 (1.15)	--- (†)	32.6 (0.50)	41.0 (0.78)	25.5 (0.63)	33.2 (0.53)	26.0 (1.81)	--- (†)
1971\2\ .	26.2 (0.41)	32.5 (0.63)	20.8 (0.52)	27.2 (0.44)	18.2 (1.19)	--- (†)	33.2 (0.49)	41.5 (0.76)	26.0 (0.63)	33.5 (0.52)	29.2 (1.78)	--- (†)
1972	25.5 (0.37)	30.2 (0.56)	21.2 (0.47)	27.2 (0.41)	18.3 (1.18)	13.4 (1.83)	31.9 (0.44)	38.2 (0.66)	26.3 (0.57)	32.6 (0.48)	27.2 (1.65)	25.8 (3.27)
1973	24.0 (0.35)	27.7 (0.54)	20.5 (0.46)	25.5 (0.40)	15.9 (1.09)	16.1 (2.02)	29.7 (0.42)	34.6 (0.63)	25.3 (0.55)	30.2 (0.46)	23.8 (1.55)	29.1 (3.36)
1974	24.6 (0.35)	27.7 (0.53)	21.7 (0.47)	25.8 (0.40)	17.6 (1.14)	18.0 (1.95)	30.5 (0.42)	34.7 (0.63)	26.7 (0.56)	30.5 (0.46)	26.2 (1.60)	32.3 (3.17)
1975	26.3 (0.36)	29.0 (0.53)	23.7 (0.48)	27.4 (0.40)	20.4 (1.18)	20.4 (2.09)	32.5 (0.42)	36.2 (0.63)	29.2 (0.57)	32.3 (0.46)	31.5 (1.69)	35.5 (3.27)
1976	26.7 (0.35)	28.2 (0.52)	25.2 (0.48)	27.6 (0.40)	22.5 (1.20)	20.0 (2.00)	33.1 (0.42)	35.6 (0.62)	30.9 (0.57)	32.8 (0.46)	33.4 (1.66)	35.9 (3.22)
1977	26.1 (0.38)	28.1 (0.56)	24.3 (0.52)	27.2 (0.43)	21.1 (1.18)	17.2 (1.87)	32.5 (0.46)	35.6 (0.68)	29.7 (0.61)	32.3 (0.50)	31.3 (1.63)	31.5 (3.11)
1978	25.3 (0.38)	27.1 (0.55)	23.6 (0.51)	26.5 (0.43)	20.1 (1.15)	15.2 (1.74)	31.4 (0.45)	34.1 (0.66)	28.8 (0.60)	31.3 (0.49)	29.6 (1.59)	27.2 (2.89)
1979	25.0 (0.37)	25.9 (0.54)	24.2 (0.52)	26.3 (0.43)	19.8 (1.13)	16.7 (1.77)	31.2 (0.45)	32.9 (0.66)	29.6 (0.61)	31.3 (0.49)	29.4 (1.58)	30.2 (2.93)
1980	25.7 (0.38)	26.4 (0.54)	25.0 (0.52)	27.3 (0.43)	19.4 (1.12)	16.1 (1.64)	31.8 (0.45)	33.5 (0.66)	30.3 (0.61)	32.1 (0.49)	27.6 (1.51)	29.9 (2.80)
1981	26.1 (0.37)	27.1 (0.54)	25.2 (0.51)	27.7 (0.43)	19.9 (1.09)	16.6 (1.63)	32.4 (0.44)	34.7 (0.65)	30.4 (0.60)	32.7 (0.49)	28.0 (1.46)	29.9 (2.69)
1982	26.6 (0.39)	27.2 (0.57)	26.0 (0.55)	28.1 (0.46)	19.9 (1.14)	16.8 (1.77)	33.0 (0.47)	34.5 (0.68)	31.6 (0.64)	33.3 (0.52)	28.1 (1.52)	29.2 (2.83)
1983	26.2 (0.39)	27.3 (0.57)	25.1 (0.54)	27.9 (0.46)	19.2 (1.12)	17.3 (1.77)	32.5 (0.47)	35.0 (0.69)	30.3 (0.63)	33.0 (0.52)	27.0 (1.50)	31.5 (2.94)
1984	27.1 (0.40)	28.6 (0.58)	25.6 (0.55)	28.9 (0.47)	20.3 (1.15)	17.9 (1.80)	33.2 (0.47)	36.0 (0.70)	30.6 (0.64)	33.9 (0.53)	27.2 (1.47)	29.9 (2.77)
1985	27.8 (0.41)	28.4 (0.60)	27.2 (0.57)	30.0 (0.49)	19.6 (1.16)	16.9 (1.84)	33.7 (0.48)	35.3 (0.70)	32.3 (0.65)	34.9 (0.55)	26.0 (1.47)	26.8 (2.75)
1986	27.9 (0.42)	28.2 (0.60)	27.6 (0.58)	29.7 (0.50)	21.9 (1.21)	17.6 (1.76)	34.0 (0.49)	35.3 (0.71)	32.8 (0.67)	34.5 (0.56)	28.6 (1.52)	29.4 (2.72)
1987	29.6 (0.43)	30.6 (0.62)	28.7 (0.59)	31.9 (0.51)	22.8 (1.25)	17.5 (1.73)	36.2 (0.50)	38.3 (0.73)	34.4 (0.68)	37.3 (0.58)	29.5 (1.54)	28.4 (2.61)
1988	30.3 (0.47)	30.2 (0.68)	30.4 (0.66)	33.2 (0.57)	21.2 (1.33)	17.0 (2.00)	37.2 (0.55)	38.3 (0.81)	36.3 (0.75)	38.6 (0.63)	28.1 (1.69)	30.8 (3.31)
1989	30.9 (0.48)	30.2 (0.68)	31.6 (0.67)	34.2 (0.58)	23.4 (1.38)	16.1 (1.90)	38.1 (0.56)	38.3 (0.81)	37.9 (0.77)	39.8 (0.65)	30.7 (1.72)	28.7 (3.12)
1990	32.0 (0.47)	32.3 (0.68)	31.8 (0.66)	35.1 (0.57)	25.4 (1.37)	15.8 (1.67)	39.1 (0.54)	40.0 (0.79)	38.3 (0.75)	40.4 (0.63)	32.7 (1.68)	28.7 (2.79)
1991	33.3 (0.48)	32.8 (0.68)	33.6 (0.67)	36.8 (0.58)	23.5 (1.34)	17.9 (1.72)	41.0 (0.55)	41.5 (0.80)	40.5 (0.77)	42.4 (0.64)	31.2 (1.68)	34.3 (2.94)
1992	34.4 (0.49)	32.7 (0.68)	36.0 (0.69)	37.3 (0.59)	25.2 (1.37)	21.3 (1.87)	41.7 (0.56)	40.7 (0.80)	42.7 (0.77)	42.6 (0.64)	33.5 (1.71)	36.8 (2.90)
1993	34.0 (0.49)	33.6 (0.69)	34.4 (0.68)	36.8 (0.59)	24.5 (1.35)	21.7 (1.88)	41.3 (0.56)	41.7 (0.80)	40.9 (0.77)	42.3 (0.65)	32.4 (1.69)	35.5 (2.79)
1994	34.6 (0.42)	33.1 (0.59)	36.0 (0.60)	38.1 (0.53)	27.7 (1.17)	18.8 (1.10)	42.3 (0.49)	41.6 (0.70)	43.0 (0.68)	43.7 (0.57)	35.6 (1.42)	33.1 (1.76)
1995	34.3 (0.44)	33.1 (0.63)	35.5 (0.63)	37.9 (0.55)	27.5 (1.18)	20.7 (1.13)	42.3 (0.51)	41.7 (0.73)	43.0 (0.72)	44.0 (0.61)	35.4 (1.43)	35.2 (1.74)
1996	35.5 (0.47)	34.1 (0.66)	37.0 (0.67)	39.5 (0.59)	27.4 (1.23)	20.1 (1.18)	43.4 (0.54)	42.5 (0.77)	44.3 (0.75)	45.1 (0.64)	35.9 (1.51)	34.5 (1.83)
1997	36.8 (0.47)	35.0 (0.66)	38.7 (0.67)	40.6 (0.59)	29.8 (1.25)	22.4 (1.21)	45.2 (0.54)	44.0 (0.77)	46.3 (0.75)	46.6 (0.64)	39.5 (1.54)	36.0 (1.77)
1998	36.5 (0.46)	34.5 (0.65)	38.6 (0.66)	40.6 (0.59)	29.8 (1.24)	20.4 (1.11)	45.2 (0.53)	44.3 (0.77)	46.1 (0.74)	46.9 (0.64)	40.0 (1.54)	33.9 (1.68)
1999	35.6 (0.46)	34.1 (0.64)	37.0 (0.65)	39.4 (0.58)	30.4 (1.24)	18.7 (1.08)	43.7 (0.52)	42.9 (0.75)	44.4 (0.73)	45.3 (0.63)	39.2 (1.50)	31.6 (1.68)
2000	35.5 (0.45)	32.6 (0.62)	38.4 (0.65)	38.7 (0.57)	30.5 (1.21)	21.7 (1.12)	43.2 (0.52)	40.8 (0.73)	45.6 (0.72)	44.1 (0.62)	39.3 (1.46)	36.2 (1.69)
2001	36.3 (0.45)	33.6 (0.63)	39.0 (0.64)	39.5 (0.57)	31.4 (1.22)	21.7 (1.10)	44.3 (0.51)	42.4 (0.73)	46.1 (0.72)	45.4 (0.62)	40.2 (1.45)	34.8 (1.61)
2002	36.7 (0.43)	33.7 (0.59)	39.7 (0.61)	40.9 (0.55)	31.9 (1.18)	19.9 (0.94)	44.7 (0.48)	42.5 (0.69)	46.7 (0.68)	46.7 (0.59)	40.2 (1.39)	31.6 (1.38)
2003\3\ .	37.8 (0.43)	34.3 (0.59)	41.3 (0.61)	41.6 (0.55)	32.3 (1.20)	23.5 (1.02)	45.7 (0.48)	42.8 (0.69)	48.3 (0.67)	47.2 (0.59)	41.4 (1.43)	35.8 (1.42)
2004\3\ .	38.0 (0.42)	34.7 (0.59)	41.2 (0.61)	41.7 (0.55)	31.8 (1.18)	24.7 (1.02)	45.8 (0.48)	43.0 (0.68)	48.4 (0.67)	47.4 (0.59)	40.8 (1.41)	37.3 (1.40)
2005\3\ .	38.9 (0.43)	35.3 (0.59)	42.5 (0.61)	42.8 (0.55)	33.1 (1.18)	24.8 (1.02)	46.8 (0.48)	44.3 (0.68)	49.1 (0.67)	48.6 (0.59)	41.4 (1.39)	37.4 (1.41)
2006\3\ .	37.3 (0.42)	34.1 (0.58)	40.6 (0.60)	41.0 (0.54)	32.6 (1.16)	23.6 (0.99)	45.0 (0.47)	42.2 (0.67)	47.7 (0.67)	46.5 (0.58)	42.0 (1.38)	35.5 (1.37)

---Not available.

†Not applicable.

\1\Includes students who were enrolled in college, but did not report high school completion.

\2\White and Black data include persons of Hispanic ethnicity.

\3\White and Black data exclude persons identifying themselves as multiracial.

NOTE: Data are based on sample surveys of the civilian noninstitutional population. Percents based on 18- to 24-year-old high school completers for 1992 and later years use a slightly different definition of completion and may not be precisely comparable with figures for other years. All college students are counted as high school completers. Totals include other racial/ethnic groups not separately shown. Race categories exclude persons of Hispanic ethnicity except where otherwise noted. Standard errors appear in parentheses.

SOURCE: U.S. Department of Commerce, Census Bureau, Current Population Survey (CPS), October, 1967 through 2006. (This table was prepared August 2007.)

APPENDIX D: College Enrollment by Student Level, Type of Institution, Age, and Major Field of Study

Table 223. Graduate enrollment in science and engineering programs in degree-granting institutions, by field of study: Fall 1993 through fall 2005

Field of engineering or science	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Percent change, 1993 to 2005
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Total, all sciences and engineering	**504,409**	**504,399**	**499,640**	**494,079**	**487,208**	**485,627**	**493,256**	**493,311**	**509,620**	**540,417**	**567,170**	**574,937**	**583,226**	**15.6**
Engineering	116,872	113,024	107,201	103,224	101,148	100,038	101,691	104,112	109,493	119,668	127,377	123,566	120,473	3.1
Aerospace	3,940	3,715	3,343	3,208	3,083	3,137	3,349	3,407	3,451	3,685	4,048	4,089	4,170	5.8
Agricultural	1,018	1,061	1,037	1,012	941	975	986	943	947	952	1,058	1,041	1,059	4.0
Biomedical	2,675	2,750	2,732	2,732	2,847	2,855	3,069	3,197	3,599	4,338	5,301	5,807	6,067	126.8
Chemical	7,554	7,639	7,452	7,408	7,288	7,093	6,883	7,056	6,913	7,414	7,516	7,452	7,173	-5.0
Civil	19,583	19,925	19,218	18,528	17,193	16,517	16,226	16,451	16,665	17,713	18,890	18,561	18,050	-7.8
Electrical	35,290	33,020	30,861	29,941	30,787	31,384	31,822	33,611	36,100	39,948	41,763	38,995	37,444	6.1
Engineering science	2,180	2,089	1,955	1,751	1,647	1,701	1,627	1,632	1,798	2,121	2,240	2,198	1,951	-10.5
Industrial/manufacturing	13,905	13,992	13,475	12,675	11,957	11,221	11,803	12,119	12,940	14,033	14,313	13,852	13,614	-2.1
Mechanical	18,477	17,761	16,363	15,509	15,045	14,696	14,956	15,235	15,852	17,139	18,393	17,852	17,387	-5.9
Metallurgical/materials	5,410	5,228	4,956	4,747	4,688	4,680	4,481	4,377	4,721	4,992	5,131	5,059	5,160	-4.6
Mining	427	424	373	371	348	304	328	287	240	267	278	308	279	-34.7
Nuclear	1,306	1,246	1,154	980	868	821	830	792	801	795	885	971	1,013	-22.4
Petroleum	725	624	610	562	561	571	642	627	656	766	849	845	808	11.4
Other engineering	4,382	3,550	3,672	3,800	3,895	4,083	4,689	4,378	4,810	5,505	6,712	6,536	6,298	43.7
All sciences	387,537	391,375	392,439	390,855	386,060	385,589	391,565	389,199	400,127	420,749	439,793	451,371	462,753	19.4
Physical sciences	35,328	34,466	33,399	32,333	31,105	30,575	30,691	30,385	31,038	32,341	34,298	35,761	36,396	3.0
Astronomy	880	973	912	874	778	820	832	888	916	990	1,080	1,119	1,191	35.3
Chemistry	20,131	19,803	19,570	19,334	18,774	18,482	18,416	18,105	18,366	19,045	20,049	20,776	21,122	4.9
Physics	13,841	13,162	12,425	11,728	11,147	10,809	10,869	10,841	11,248	11,701	12,555	13,298	13,472	-2.7
Other physical sciences	476	528	492	397	406	464	574	551	508	605	614	568	611	28.4
Earth, atmospheric, and ocean sciences	15,721	15,957	15,716	15,183	14,548	14,258	14,083	13,941	13,841	14,240	14,620	15,131	14,827	-5.7
Atmospheric sciences	1,112	1,109	1,072	1,086	1,092	965	913	963	924	1,036	1,150	1,086	1,146	3.1
Geosciences	7,759	7,713	7,582	7,304	6,959	6,687	6,637	6,596	6,544	6,712	6,889	7,358	7,212	-7.0
Oceanography	2,627	2,870	2,723	2,615	2,479	2,562	2,624	2,668	2,585	2,618	2,695	2,801	2,760	5.1
Other environmental sciences	4,223	4,265	4,339	4,178	4,018	4,044	3,909	3,714	3,788	3,874	3,886	3,886	3,709	-12.2
Mathematical sciences	20,000	19,573	18,504	18,008	16,719	16,485	16,257	15,650	16,651	18,163	19,465	19,931	20,210	1.1
Mathematics and applied mathematics	16,945	16,457	15,386	14,948	14,027	13,827	13,521	12,823	13,569	14,702	15,569	15,964	16,106	-5.0
Statistics	3,055	3,116	3,118	3,060	2,692	2,658	2,736	2,827	3,082	3,461	3,896	3,967	4,104	34.3
Computer sciences	36,213	34,158	33,458	34,626	35,991	38,027	42,478	47,350	52,196	55,269	53,696	50,016	48,046	32.7
Life sciences	136,948	143,560	148,286	148,948	148,486	149,634	151,345	148,080	150,252	159,356	170,374	178,735	186,016	35.8
Agricultural sciences	11,950	12,242	12,768	12,301	12,203	12,168	12,312	12,023	12,235	12,698	13,197	13,445	13,123	9.8
Biological sciences	56,292	58,033	58,344	57,749	56,705	56,695	56,959	56,282	57,639	61,088	64,701	66,548	68,449	21.6
Anatomy	961	1,018	850	878	856	785	749	795	735	906	908	897	938	-2.4
Biochemistry	5,489	5,615	5,562	5,275	5,102	5,148	5,101	4,966	4,917	5,190	5,552	5,612	5,814	5.9
Biology	14,330	14,208	14,280	14,611	14,646	14,277	13,989	13,407	13,352	13,822	14,770	15,458	15,668	9.3
Biometry/epidemiology	2,658	2,710	2,810	3,005	2,896	3,514	3,704	3,615	3,817	4,071	4,439	4,674	4,805	80.8
Biophysics	780	794	845	833	748	737	710	751	877	953	1,032	1,180	1,183	51.7
Botany	2,714	2,748	2,295	2,213	2,082	2,042	1,974	1,904	1,921	1,973	1,901	1,831	1,860	-31.5
Cell biology	3,440	3,829	4,174	4,207	4,300	4,379	4,637	4,820	4,911	5,375	5,689	5,830	6,177	79.6
Ecology	1,410	1,566	1,702	1,632	1,640	1,670	1,704	1,762	1,888	1,967	2,230	2,185	2,165	53.5
Entomology/parasitology	1,247	1,263	1,241	1,234	1,161	1,168	1,145	1,104	1,170	1,191	1,206	1,241	1,126	-9.7
Genetics	1,785	1,699	1,712	1,741	1,776	1,727	1,783	1,712	1,841	1,909	2,073	2,129	2,155	20.7
Microbiology, immunology, and virology	5,021	5,094	5,026	4,912	4,805	4,773	4,815	4,814	4,798	5,208	5,256	5,375	5,401	7.6
Nutrition	4,388	4,791	5,071	4,918	4,604	4,486	4,508	4,413	4,429	4,539	4,695	4,771	4,817	9.8
Pathology	1,575	1,707	1,670	1,656	1,674	1,580	1,580	1,531	1,637	1,613	1,541	1,540	1,576	0.1
Pharmacology	2,651	2,839	2,710	2,663	2,597	2,730	2,757	2,963	3,140	3,234	3,357	3,122	3,114	17.5
Physiology	2,372	2,378	2,540	2,377	2,298	2,151	2,083	2,015	1,967	2,076	2,328	2,409	2,399	1.1
Zoology	2,042	2,028	1,958	1,808	1,627	1,586	1,523	1,445	1,411	1,349	1,301	1,236	1,264	-38.1
Other biosciences	3,429	3,746	3,898	3,786	3,893	3,942	4,197	4,265	4,828	5,712	6,423	7,058	7,987	132.9
Health fields	68,706	73,285	77,174	78,898	79,578	80,771	82,074	79,775	80,378	85,570	92,476	98,742	104,444	52.0
Medical fields	14,233	15,065	15,538	15,363	15,470	16,643	17,276	16,407	17,363	19,166	20,574	20,879	21,566	51.5
Other health fields	54,473	58,220	61,636	63,535	64,108	64,128	64,798	63,368	63,015	66,404	71,902	77,863	82,878	52.1
Dentistry	1,228	1,298	1,338	1,388	1,491	1,518	1,467	1,430	1,494	1,446	1,654	1,978	1,783	45.2
Nursing	24,781	26,997	28,405	27,388	26,861	25,591	25,074	23,457	23,609	24,715	26,649	29,781	31,670	27.8
Pharmaceutical sciences	2,859	2,887	2,808	2,846	2,710	2,882	3,422	3,611	3,679	4,538	5,493	5,218	6,091	113.0
Speech pathology/audiology	10,740	11,356	11,982	12,857	13,212	13,198	13,600	13,636	13,193	13,368	13,694	14,152	14,975	39.4
Veterinary sciences	924	922	975	997	1,224	1,288	1,314	1,367	1,476	1,691	1,719	1,732	1,970	113.2
Other health related	13,941	14,760	16,128	18,059	18,610	19,651	19,921	19,867	19,564	20,646	22,693	25,002	26,389	89.3
Psychology	54,557	54,554	53,641	53,122	53,126	52,557	51,727	50,466	50,467	51,165	52,211	54,218	57,412	5.2
Psychology, general	18,962	18,356	12,519	12,787	13,098	12,733	12,798	12,488	12,488	12,609	13,118	13,771	14,283	-24.7
Clinical psychology	12,526	12,684	17,647	16,833	17,249	17,098	16,238	15,624	15,837	15,159	15,580	16,276	16,786	34.0
Other psychology	23,069	23,514	23,475	23,502	22,779	22,726	22,691	22,354	22,142	23,397	23,513	24,171	26,343	14.2
Social sciences	88,770	89,107	89,435	88,635	86,085	84,053	84,984	83,327	85,682	90,215	95,129	97,579	99,846	12.5
Agricultural economics	2,415	2,289	2,338	2,117	2,043	1,995	2,014	2,079	2,161	2,187	2,318	2,195	2,118	-12.3
Anthropology	7,361	7,665	7,693	7,773	7,560	7,577	7,633	7,626	7,491	7,481	7,789	7,826	7,706	4.7
Economics (except agricultural)	13,214	12,913	12,673	12,080	11,097	10,701	10,562	10,748	11,408	12,009	12,316	12,318	11,805	-10.7
Geography	4,378	4,502	4,371	4,331	4,287	4,326	4,250	4,036	4,304	4,383	4,721	4,809	4,772	9.0
History and philosophy of science	369	387	401	409	443	508	557	532	571	663	737	994	965	161.5
Linguistics	3,321	3,279	3,194	3,156	3,068	2,935	2,799	2,674	2,744	2,875	3,028	2,941	3,187	-4.0
Political science	35,076	34,317	34,298	33,252	32,083	30,828	31,372	31,131	31,805	34,934	36,880	39,270	41,106	17.2
Sociology	9,425	9,498	9,564	9,425	9,413	9,058	8,966	8,652	8,812	8,946	9,127	8,874	9,037	-4.1
Sociology/anthropology	935	987	941	923	948	857	741	745	808	719	773	839	848	-9.3
Other social sciences	12,276	13,270	13,962	15,169	15,143	15,268	16,090	15,104	15,578	16,018	17,440	17,513	18,302	49.1

NOTE: The survey on which this table is based includes institutions in other jurisdictions, including Guam, Puerto Rico, and the U.S. Virgin Islands. Some data have been revised from previously published figures. Detail may not sum to totals because of rounding.
SOURCE: National Science Foundation, Division of Science Resources Studies, Survey of Graduate Students and Postdoctorates in Science and Engineering, 1993 through 2005. (This table was prepared May 2007.)

APPENDIX E: College-Going Rates by County

	High School First-Time				College-Going Rate			
Graduates	Freshmen							
High School								
County	Public	UC	CSU	CCC	Total	UC	CSU	CCC	Total
Alameda	12,917	1,610	1,757	4,313	7,680	12.50%	13.60%	33.40%	59.50%
Alpine *	0	0	0	0	0	N/A	N/A	N/A	N/A
Amador	426	17	23	125	165	4.00%	5.40%	29.30%	38.70%
Butte	2,220	73	245	972	1,290	3.30%	11.00%	43.80%	58.10%
Calaveras	504	18	51	34	103	3.60%	10.10%	6.70%	20.40%
Colusa	265	4	28	37	69	1.50%	10.60%	14.00%	26.00%
Contra Costa	9,935	977	1,265	1,849	4,091	9.80%	12.70%	18.60%	41.20%
Del Norte	280	4	25	51	80	1.40%	8.90%	18.20%	28.60%
El Dorado	2,017	120	236	785	1,141	5.90%	11.70%	38.90%	56.60%
Fresno	9,588	341	1,466	217	2,024	3.60%	15.30%	2.30%	21.10%
Glenn	353	7	66	150	223	2.00%	18.70%	42.50%	63.20%
Humboldt	1,266	49	126	419	594	3.90%	10.00%	33.10%	46.90%
Imperial	2,071	88	167	1,037	1,292	4.20%	8.10%	50.10%	62.40%

Inyo	228	6	12	47	65	2.60%	5.30%	20.60%	28.50%
Kern	8,810	301	870	2,710	3,881	3.40%	9.90%	30.80%	44.10%
Kings	1,202	40	114	96	250	3.30%	9.50%	8.00%	20.80%
Lake	613	16	48	152	216	2.60%	7.80%	24.80%	35.20%
Lassen	382	4	20	61	85	1.00%	5.20%	16.00%	22.30%
Los Angeles	85,386	6,888	10,033	27,723	44,644	8.10%	11.80%	32.50%	52.30%
Madera	1,498	36	124	73	233	2.40%	8.30%	4.90%	15.60%
Marin	1,985	258	267	357	882	13.00%	13.50%	18.00%	44.40%
Mariposa	191	3	16	43	62	1.60%	8.40%	22.50%	32.50%
Mendocino	835	53	89	317	459	6.30%	10.70%	38.00%	55.00%
Merced	3,259	149	348	1,018	1,515	4.60%	10.70%	31.20%	46.50%
Modoc	174	3	12	14	29	1.70%	6.90%	8.00%	16.70%
Mono	87	7	8	21	36	8.00%	9.20%	24.10%	41.40%
Monterey	3,458	192	359	657	1,208	5.60%	10.40%	19.00%	34.90%
Napa	1,105	94	88	172	354	8.50%	8.00%	15.60%	32.00%
Nevada	1,329	57	82	276	415	4.30%	6.20%	20.80%	31.20%
Orange	29,685	2,496	3,461	12,011	17,968	8.40%	11.70%	40.50%	60.50%
Placer	4,129	228	517	1,493	2,238	5.50%	12.50%	36.20%	54.20%
Plumas	221	6	14	79	99	2.70%	6.30%	35.70%	44.80%
Riverside	21,736	1,111	1,699	5,448	8,258	5.10%	7.80%	25.10%	38.00%
Sacramento	13,498	837	1,381	5,630	7,848	6.20%	10.20%	41.70%	58.10%

San Benito	646	24	78	230	332	3.70%	12.10%	35.60%	51.40%
San Bernardino	21,995	1,080	2,335	3,964	7,379	4.90%	10.60%	18.00%	33.50%
San Diego	29,138	1,859	3,707	10,450	16,016	6.40%	12.70%	35.90%	55.00%
San Francisco	3,613	798	574	1,179	2,551	22.10%	15.90%	32.60%	70.60%
San Joaquin	6,594	258	598	2,395	3,251	3.90%	9.10%	36.30%	49.30%
San Luis Obispo	2,684	142	289	1,039	1,470	5.30%	10.80%	38.70%	54.80%
San Mateo	5,370	621	691	1,434	2,746	11.60%	12.90%	26.70%	51.10%
Santa Barbara	3,671	234	243	1,354	1,831	6.40%	6.60%	36.90%	49.90%
Santa Clara	14,545	2,051	1,865	2,799	6,715	14.10%	12.80%	19.20%	46.20%
Santa Cruz	2,535	172	235	154	561	6.80%	9.30%	6.10%	22.10%
Shasta	1,946	66	116	45	227	3.40%	6.00%	2.30%	11.70%
Sierra	45	4	4	5	13	8.90%	8.90%	11.10%	28.90%
Siskiyou	367	12	25	269	306	3.30%	6.80%	73.30%	83.40%
Solano	4,068	261	463	1,262	1,986	6.40%	11.40%	31.00%	48.80%
Sonoma	4,399	272	435	1,904	2,611	6.20%	9.90%	43.30%	59.40%
Stanislaus	5,766	196	592	358	1,146	3.40%	10.30%	6.20%	19.90%
Sutter	1,171	43	93	123	259	3.70%	7.90%	10.50%	22.10%

Tehama	682	6	45	95	146	0.90%	6.60%	13.90%	21.40%
Trinity	141	5	9	13	27	3.50%	6.40%	9.20%	19.10%
Tulare	4,487	151	406	291	848	3.40%	9.00%	6.50%	18.90%
Tuolumne	566	25	39	45	109	4.40%	6.90%	8.00%	19.30%
Ventura	8,686	574	773	4,457	5,804	6.60%	8.90%	51.30%	66.80%
Yolo	1,805	223	176	434	833	12.40%	9.80%	24.00%	46.10%
Yuba	733	21	55	62	138	2.90%	7.50%	8.50%	18.80%
Statewide Total	347,306	25,191	38,863	102,748	166,802	7.30%	11.20%	29.60%	48.00%

APPENDIX F: SAT Score Averages of College-Bound Seniors, by Race/Ethnicity: Selected Years, 2000-07

Race/ethnicity	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2001-02 to 2002-03	2002-03 to 2003-04	2003-04 to 2004-05	2004-05 to 2005-06	2005-06 to 2006-07
1	6	7	8	9	10	11	12	16	17	18	19	20
SAT—Critical reading												
All students	506	504	507	508	508	503	502	3	1	0	-5	-1
White	529	527	529	528	532	527	527	2	-1	4	-5	0
Black	433	430	431	430	433	434	433	1	-1	3	1	-1
Mexican American	451	446	448	451	453	454	455	2	3	2	1	1
Puerto Rican	457	455	456	457	460	459	459	1	1	3	-1	0
Other Hispanic	460	458	457	461	463	458	459	-1	4	2	-5	1
Asian/												
Pacific Islander	501	501	508	507	511	510	514	7	-1	4	-1	4
American Indian/												
Alaska Native	481	479	480	483	489	487	487	1	3	6	-2	0
Other	503	502	501	494	495	494	497	-1	-7	1	-1	3
SAT—Mathematics												
All students	514	516	519	518	520	518	515	3	-1	2	-2	-3
White	531	533	534	531	536	536	534	1	-3	5	0	-2
Black	426	427	426	427	431	429	429	-1	1	4	-2	0
Mexican American	458	457	457	458	463	465	466	0	1	5	2	1
Puerto Rican	451	451	453	452	457	456	454	2	-1	5	-1	-2
Other Hispanic	465	464	464	465	469	463	463	0	1	4	-6	0
Asian/												
Pacific Islander	566	569	575	577	580	578	578	6	2	3	-2	0

American Indian/												
Alaska Native	479	483	482	488	493	494	494	-1	6	5	1	0
Other	512	514	513	508	513	513	512	-1	-5	5	0	-1
SAT—Writing												
All students						497	494					-3
White						519	518					-1
Black						428	425					-3
Mexican American						452	450					-2
Puerto Rican						448	447					-1
Other Hispanic						450	450					0
Asian/												
Pacific Islander						512	513					1
American Indian/												
Alaska Native						474	473					-1
Other						493	493					0

†Not applicable

NOTE: Data are for seniors who took the SAT any time during their high school years through March of their senior year If a student took a test more than once, the most recent score was used The SAT was formerly known as the Scholastic Assessment Test and the Scholastic Aptitude Test Possible scores on each part of the SAT range from 200 to 800 The critical reading section was formerly known as the verbal section The writing section was introduced in March 2005

SOURCE: College Entrance Examination Board, College-Bound Seniors: Total Group Profile [National] Report, selected years, 1986-87 through 2006-07, retrieved August 28, 2007, from http://wwwcollegeboardcom/about/news_info/cbsenior/yr2007/reportshtml (This table was prepared August 2007)

APPENDIX G: ACT Score Averages and Standard Deviations, by Sex and Race/Ethnicity, and Percentage of ACT Test Takers, by Selected Composite Score Ranges and Planned Fields of Study: Selected Years, 1995 through 2007

Score type and test-taker characteristic	Number											Standard deviation[1]							
	1995	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	1998	1999	2000	2001	2002	2003	2004	2005
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Total test takers																			
Number (in thousands)	945	995	1,019	1,065	1,070	1,116	1,175	1,171	1,186	1,206	1,301	†	†	†	†	†	†	†	†
Percentage of graduates	37.5	37.7	36.9	37.6	37.6	38.4	38.9	38.2	38.1	38.0	40.2	†	†	†	†	†	†	†	†
	Average test score[2]																		
Composite, total	20.8	21.0	21.0	21.0	21.0	20.8	20.8	20.9	20.9	21.1	21.2	4.7	4.7	4.7	4.7	4.8	4.8	4.8	—
Sex																			
Male	21.0	21.2	21.1	21.2	21.1	20.9	21.0	21.0	21.1	21.2	21.2	4.9	4.9	4.9	4.9	5.0	5.0	5.0	5.0
Female	20.7	20.9	20.9	20.9	20.9	20.7	20.8	20.9	20.9	21.0	21.0	4.6	4.6	4.6	4.6	4.7	4.7	4.7	4.7
Race/ethnicity																			
White	—	22.7	22.7	22.7	21.8	21.7	21.7	21.8	21.9	22.0	22.1	—	—	—	—	—	—	—	—
Black	—	17.9	17.9	17.8	16.9	16.8	16.9	17.1	17.0	17.1	17.0	—	—	—	—	—	—	—	—
Mexican American	—	19.6	19.6	19.5	18.5	18.2	18.3	18.4	18.4	—	—	—	—	—	—	—	—	—	—

Other Hispanic	—	20.7	20.7	20.5	19.4	18.8	19.0	18.8	18.9	—	—	—	—	—	—	—	—	—
Hispanic	—	—	—	—	—	18.4	18.5	18.5	18.6	18.6	18.7	†	†	†	†	—	—	—	—
Asian American or Pacific Islander	—	22.6	22.3	22.4	21.7	21.6	21.8	21.9	22.1	22.3	22.6	—	—	—	—	—	—	—	—
American Indian/Alaska Native	—	20.4	20.4	20.4	18.8	18.6	18.7	18.8	18.7	18.8	18.9	—	—	—	—	—	—	—	—

Subject area																			
English	20.2	20.4	20.5	20.5	20.5	20.2	20.3	20.4	20.4	20.6	20.7	5.4	5.5	5.5	5.6	5.8	5.8	5.9	—
Male	19.8	19.9	20.0	20.0	20.0	19.7	19.8	19.9	20.0	20.1	20.2	5.4	5.5	5.6	5.6	5.8	5.8	5.9	6.0
Female	20.6	20.8	20.9	20.9	20.8	20.6	20.7	20.8	20.8	21.0	21.0	5.4	5.5	5.5	5.6	5.7	5.8	5.8	5.9
Mathematics	20.2	20.8	20.7	20.7	20.7	20.6	20.6	20.7	20.7	20.8	21.0	5.1	5.0	5.0	5.0	5.0	5.1	5.0	—
Male	20.9	21.5	21.4	21.4	21.4	21.2	21.2	21.3	21.3	21.5	21.6	5.3	5.2	5.2	5.2	5.3	4.8	5.3	5.3
Female	19.7	20.2	20.2	20.2	20.2	20.1	20.1	20.2	20.2	20.3	20.4	4.8	4.7	4.8	4.7	4.8	5.3	4.8	4.8
Reading	21.3	21.4	21.4	21.4	21.3	21.1	21.2	21.3	21.3	21.4	21.5	6.0	6.0	6.1	6.0	6.1	6.1	6.0	—
Male	21.1	21.1	21.1	21.2	21.1	20.9	21.0	21.1	21.0	21.1	21.2	6.2	6.1	6.1	6.1	6.3	5.3	6.1	6.1
Female	21.4	21.6	21.6	21.5	21.5	21.3	21.4	21.5	21.5	21.6	21.6	5.9	5.9	6.0	6.0	6.1	4.8	5.9	6.0
Science reasoning	21.0	21.1	21.0	21.0	21.0	20.8	20.8	20.9	20.9	20.9	21.0	4.6	4.5	4.5	4.6	4.6	4.6	4.6	—
Male	21.6	21.8	21.5	21.6	21.6	21.3	21.3	21.3	21.4	21.4	21.4	4.9	4.8	4.8	4.9	4.9	4.9	4.9	4.9
Female	20.5	20.6	20.6	20.6	20.6	20.4	20.4	20.5	20.5	20.5	20.5	4.3	4.2	4.3	4.3	4.3	4.3	4.3	4.3
	Percent																		
Obtaining composite scores of—																			
28 or above	—	10	10	10	10	10	10	10	10	11	11	—	—	—	—	—	—	—	—

17 or below	—	25	25	25	25	27	27	26	26	25	25	—	—	—	—	—	—	—	—
Planned major field of study																			
Business[3]	13	12	12	11	11	10	10	9	9	9	8	—	—	—	—	—	—	—	—
Engineering[4]	8	8	8	8	7	7	7	6	6	6	5	—	—	—	—	—	—	—	—
Social science[5]	9	9	9	9	9	8	8	7	7	6	5	—	—	—	—	—	—	—	—
Education[6]	8	9	9	9	8	8	7	7	6	6	5	—	—	—	—	—	—	—	—

SOURCE: ACT, High School Profile Report, selected years, 1995 through 2007. (This table was prepared August 2007.)

APPENDIX H: High School Dropout Rates

State or other jurisdiction	High school graduates, by race/ethnicity, 2004-05						Event dropout rates (percent of 9th- to 12th-graders who dropped out) during 2003-04, by race/ethnicity\1\					
	Total	White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaska Native	Total	White	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaska Native
United States\2,3\	2,789,447	1,851,023	384,681	380,733	142,554	30,456	3.9	2.9	6.4	5.9	2.5	7.2
California	350,452	140,807	26,800	129,671	50,224	2,950	3.3	2.0	6.5	4.3	1.7	4.1

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 2005-06, and "State-Level Public School Dropouts," 2003-04; and unpublished tabulations. (This table was prepared June 2007.)

APPENDIX I: Dropouts by Ethnic Designation, Ventura Unified for 2006-07

	Reported Dropouts and 1-Year Dropout Rate by Ethnic Designation (Rate is the Grade 9-12 divided by Grade 9-12 enrollment for the subgroup)								Reported Total Grade 9-12 Dropouts	Grade 9-12 1-year Dropout Rate
	American Indian or Alaska Native	Asian	Pacific Islander	Filipino	Hispanic or Latino	African American	White	Multiple		
Ventura Middle	0	0	0	0	0	0	0	0	0	**
Balboa Middle	0	0	0	0	0	0	0	0	0	**
Blanche Reynolds Elementary	0	0	0	0	0	0	0	0	0	**
Buena High	0	2	0	0	12	1	10	0	25	1.10%
Buena Vista High	0	0	0	0	0	0	0	0	0	0
Cabrillo Middle	0	0	0	0	0	0	0	0	0	**
De Anza Middle	0	0	0	0	0	0	0	0	0	**
El Camino High	0	0	0	0	0	0	2	0	2	0.90%
Foothill Technology High	0	0	0	0	0	0	0	0	0	0
Homestead (Alternative)	0	0	0	0	0	0	0	0	0	**
Nonpublic, nonsectarian school	0	0	0	0	1	0	0	0	1	10.00%

Pacific High	0	0	0	0	12	0	1	2	15	7.10%
Ventura High	0	1	0	0	11	0	10	0	22	1.00%
Ventura Islands High	0	0	0	0	0	0	0	0	0	0
District Total:	0	3	0	0	36	1	23	2	65	1.10%
Countywide	9	13	6	17	713	26	320	22	1,126	2.40%
Statewide	998	3,234	715	1,284	45,624	12,016	18,081	2,651	84,603	4.20%

Source: California Department of Education, Educational Demographics Office

APPENDIX J: Survey Questions

Part 1 Student background

1. Describe the present or most recent job of your mother or female guardian.
    a. She is currently unemployed, retired, or disabled
    b. If she is working, what kind of work does she normally do?
    c. Is alive, but not living with me
    d. Is living with me
2. Your father
    a. Is alive, but not living with me
    b. Is living with me
3. Describe the present or most recent job of your father or male guardian,
    a. He is unemployed, retired, or disabled
    b. If he is working, what kind of work does he normally do?
4. How old are you?
5. What is your gender?
    a. Boy
    b. Girl
6. What type of high school do you expect to attend?
    a. Public
    b. Private religious
    c. Private non-religious

Part 2: Language use

1. Before you started going to school, did you speak any language other than English?
    a. Yes
    b. No
2. What is your first language?
    a. What other language(s) did you begin to speak before you started going to school?
3. What language do you usually speak at home now?

4. What language do the people in your home usually speak?
    a. What other languages are spoken in your home?
5. For languages that you understand other than English, do you
    a. Understand that language when people speak it: Yes, No
    b Speak that language: Yes, No
    c. Read that language: Yes, No
6. Were you ever enrolled in an English language assistance program for students whose native language is not English?
    a. Yes
    b. No

    In which grade(s) were you enrolled in this type of program?

Part 3: Your family

1. Which best describes you?
    a. Asian or Pacific islander
    b. Hispanic
    c. African American
    d. White, not of Hispanic origin
    e. Native Indian or
    f. Other
2. How many people live in your household? Please include any stepbrothers and/or stepsisters who live in your home.
    a. None
    b. One
    c. Two
    d. Three
    e. Four
    f. Five
    g. Six or more
3. What is the greatest extent of your female guardian's education?

a. Did not finish high school
b. Graduated from high school or equivalent (GED)
c. After graduating from high school, attended a vocational school, a junior college, a community college, or another type of two-year school
d. After graduating from high school, went to college but did not complete a four-year degree
e. Graduated from college
f. Masters degree or equivalent
g. PhD, M.D. or other advanced professional degree

Your male guardian's education?

a. Did not finish high school
b. Graduated from high school or equivalent (GED)
c. After graduating from high school, attended a vocational school, a junior college, a community college, or another type of two-year school
d. After graduating from high school, went to college but did not complete a four-year degree
e. Graduated from college
f. Masters degree or equivalent
g. PhD, M.D. or other advanced professional degree

4. Since the beginning of the school year, how often have you discussed the following with either or both of your parents or guardians?
    a. Selecting courses or programs at school
    b. School activities (for example, field trips or science fairs)
    c. Things you have studied in class
    d. Extracurricular activities (like sports or community programs)
5. Since the beginning of the school year, has any of your parents or guardians done any one of the following?
    a. Attended a PTA meeting
    b. Phoned or spoken to your teacher or counselor

c. Visited your classes
d. Attended a school event such as a play, concert, gym exhibit, sports competition, honor ceremony or science fair in which you participated

6. How often do your parents or guardians do the following? (Please choose one of the following: More than once a day, once a day, about once or twice a week, less than once a week)
    a. Check whether you have done your homework?
    b. Require you to do chores around the home?
    c. Limit the amount TV you watch?

Part 5: Your plans for the future

1. As things stand now; how far in school do you think you will get school?
    a. Won't finish high school
    b. Will graduate from high school, but won't go any further
    c. Will go to vocational or trade school after high school
    d. Will attend college
    e. Will graduate from college
    f. Will attend a higher level of school after graduating from college, such as graduate school, medical school, or law school
2. How sure are you that you will graduate from high school?
    a. Very sure I'll graduate
    b. I'll probably graduate
    c. I probably won't graduate
    d. Very sure I won't graduate
3. How sure are you that you will go on for further education after you leave high school?
    a. Very sure
    b. I'll probably pursue an education after college
    c. I probably won't pursue an education after college
    d. Very sure I won't pursue an education after college

4. What level of education do you think your parents or guardians want you to achieve?
    a. Less than high school graduation.
    b. Graduate from high school but not go any further
    c. Go to vocational or trade school after high school
    d. Attend college
    e. Graduate from college
    f. Attend a higher level of school after graduating from college
    g. Don't know
5. In which of the following programs do you expect to enroll in high school?
    a. College prep, or specialized academic programs (such as programs focusing on math and science)
    b. Vocational, technical, or business and career programs
    c. General high school program
    d. Other specialized high school programs (such as those focused on the fine arts and theater)
    e. Other
6. Which of the following people have you discussed your high school program with?
    a. Your father (or male guardian)
    b. Your mother (Or female guardian)
    c. A guidance counselor
    d. Teachers
    e. Other adult
    f. Friends or relatives
    g. Have not discussed high school with anyone
7. Since the beginning of this school year, have you talked to a counselor at your school, a teacher at your school, or another adult relative or adult friend (other than your parents), for any of the following reasons?
    a. To get information about high schools or high school programs

b. To get information about jobs or careers that you might be interested in after finishing school
c. To help improve your academic work in school right now
d. To select courses or programs at school
e. Things you've studied in class

8. What kind of work do you expect to be doing when you are 30 years old?
    a. Craftsperson or operator such as baker, mechanic, cook, machine operator television repairer, telephone repairer, clothing presser. Bus driver, taxi driver, truck driver
    b. Farmer or farm manager
    c. Homemaker
    d. Laborer or farm worker such as farm hand, garbage collector, car washer, construction worker
    e. Military, police, or security officer such as career officer or enlisted person in the armed forces, police officer, security guard, firefighter, detective
    f. Professional business or managerial position such as professor, teacher, librarian, nurse, doctor, dentist, restaurant manager, business executive
    g. Owning a business or service establishment
    h. Technical such as draftsman, medical or dental technician, computer programmer
    i. Salesperson, clerical or office worker Such as sales clerk, real estate agent, newsstand operator, data entry clerk, secretary, bank teller
    j. Science or engineering professional such as engineer or scientist
    k. Service worker such as waiter, hairdresser, worker in fast food establishment, cook, janitor, beautician, childcare worker
    l. Other

Part 8 Your school work

1. What ability group do you feel you are in for the following classes? (please answer above average, average, below average)
    a. Mathematics
    b. Science
    c. Language Arts such as English or Spanish
    d. Social Studies
2. Did a parent, teacher or counselor talk to you about taking an advanced math or science course this year?
    Yes
    No
3. Were you asked by the principal or another school staff member if you wanted to take an algebra course?
    Yes
    No
4. Are you enrolled in advanced, enriched, or accelerated courses in any of the following areas?
    a. Language arts such as English or Spanish
    b. Social studies
    c. Math or science
5. Which of the following classes do you attend at least once a week this school year?
    a. Home Economics
    b. Shop
    c. Consumer Education
    d. Agriculture
6. Are you enrolled in any of the following special programs/services?
    a. Classes for gifted or talented students
    b. Special instruction for those whose first language is not English (ESL, for instance)
    c. None of the above

7. Mathematics (please answer yes or no for the following)
    a. I usually look forward to mathematics
    b. I often am afraid to ask questions in mathematics class
    c. Math will be useful in my future
8. English
    a. I usually look forward to English
    b. I often am afraid to ask questions in English class
    c. English will be useful in my future
9. Social studies
    a. I usually look forward to Social Studies
    b. I often am afraid to ask questions in Social Studies class
    c. Social Studies will be useful in my future
10. Science
    a. I usually look forward to Science
    b. I often am afraid to ask questions in Science class
    c. Science will be useful in my future
11. How many days at school did you miss over the past four weeks?
    a. None
    b. 1 or 2 days
    c. 3 or 4 days
    d. 5 to 10 days
    e. More than 10 days

14. In the following subjects, about how much time do you spend on homework each week (please answer in hours per week) _
    a. Mathematics homework
    b. Science homework
    c. English homework
    d. Social Studies homework
    e. Homework for all other subjects

15. How much additional reading do you do each week on your own outside school, not in connection with schoolwork? (Do not count any reading done for any school purpose)
    a. 1 hour or less per week
    b. 2 hours
    c. 3 hours
    d. 5 hours
    e. 6 hours or more per week
16. For each of the school subjects listed below, mark the statement that best describes your grades from sixth grade up till now.
    a. Mostly A (90-100)
    b. Mostly Bs (80-89)
    c. Mostly Cs (70-79)
    d. Mostly Ds (60-69)
    e. Mostly below D (below 60)
    f. Does not apply to me — my classes are not graded

Part 9 Your activities

1. Have you or will you have participated in any of the following school activities during the current school year?
    a. Science fairs
    b. Sports (playing against teams from other schools)
    c. Intramural sports (playing against teams from your own school)
    d. Cheerleading
    e. Band or Orchestra
    f. Chorus or choir
    g. Dance
    h. History club
    i. Other subject matter club
    j. Math club

k. Foreign language club
l. Science club
m. Debate or speech team
n. Drama club
o. Academic Honors Society
p. Student newspaper
q. Student yearbook ,
r. Student council
s. Computer club

2. Have you or will you have participated in any of the following extracurricular school activities this year?
    a. Scouting
    b. Religious youth groups
    c. Hobby clubs
    d. Neighborhood clubs or programs
    e. Boys clubs or girls clubs
    f. Non-school team sports
    g. Other youth groups
    h. Summer programs, such as workshops or institutes in science, language, or drama

APPENDIX K: Questions Removed from the Original NELS 88

Part 1 Student background

1. Please print in your name, address, and telephone number.

    Last

    Address

    Number

    City

    1A. Do you have a telephone number?

    Yes

    No

    1B. What is your telephone number?

2. Please print the name of your mother or female guardian. (If you have both a mother and a female guardian, write in the name of the one with whom you are currently living.)

    Mother or female guardian's name:

    Last

    First

    Middle

2a. Is your mother or female guardian living?

    Yes

    No

3 Is your mother or female guardian's address and telephone number the same as yours?

    Yes

    No

3a. Please till In your mother or female guardian's address In the space below.

    Address

    Number

    Apartment Number

City

3b. Does your mother or female guardian have a telephone number?

Yes

No

3c. What is your mother or female guardian's telephone number?

6. What is your Father or male guardian's address and telephone number the same as yours?

Yes

No

6a. Please fill in your father or male guardians address in the space below.-*

Address

Number

City

6b. Does your father or male guardian have a telephone number?

Yes

No

6c. What is your Father or male guardian's telephone number

9. Please write in the name address and telephone number of your family's closest relative or friend who does not live with you.

Name:

Last

Address

Number

Apartment Number

City

9a. Does this person have a telephone?

9b. What is this person's telephone number?

43. How many cigarettes do you usually smoke a day?

53. Not counting chores around the house, how many hours do/did you work a week for pay on your present or most recent job?
54. Which of the job categories below conies closest to the kind of work you do/did to pay on your current or most recent job? (Do not include work around the house. If more than one kind of work, choose the one that paid you the most per hour.)
56. How do you think other students in your classes see you?
74. Were you ever held back (made to repeat) a grade in school?

Part 4: Your opinions about yourself

1. How do you feel about each of the following statements?
    a. a. I feel good about myself
    b. b. I don't have enough control over the direction my life is taking
    c. c. In my life, good luck is more important than hard work for success
    d. d. I feel I am a person of worth
    e. e. I am able to do things as well as most other people
    f. f. Every time I try to get ahead at some activity, something or somebody stops me
    g. g. My plans hardly ever work out, so planning only makes me unhappy
    h. h. On the whole I am satisfied with myself
    i. i. I feel useless at times
    j. j. When I make plans. I am almost certain I can make them work
    k. k. I feel I do not have much to be proud of
    l. Chance and luck are very important for what happens in my life

Part 5,

6. Which of the following people have you discussed your high school program with?
    g. For counseling on personal problems

7. Since the beginning of this school year, have you talked to a counselor at your school, a teacher at your school, or another adult relative or adult friend (other than your parents), for any of the following reasons?
    a. e. Things you've studied in class
    b. f. Because of discipline problems
    c. g. To get information or counseling on alcohol or drug abuse
    d. h. For counseling on personal problems

Part 7: Your school life

1. During the first semester of the current school year, have any of the following things happened to you?
    a. I was sent to the office because of problems with my school work
    b. My parents received a warning about my attendance
    c. My parents received a warning about my grades
    d. My parents received a warning about my behavior
2. Indicate the degree to which each of the following matters are a problem in your school (please answer high, medium, or low).
    a. Student tardiness
    b. Student absence due to problems at home
    c. Students cutting class

Part 8

11

How many days at school did you miss over the past four weeks?

    a. None
    b. 1 or 2 days
    c. 3 or 4 days
    d. 5 to 10 days
    e. More than 10 days

12. How often do you cut or skip a class or classes?

a. Never or almost never

b. Sometimes, but less than once a week

c. Not every day, but at least once a week

d. Daily

13. How many times were you late for school over the past four weeks?

a. None

b.1 or 2 days

c. 3 or 4 days

d.5 to 10 days

e. More than 10 days

APPENDIX L: Survey Results

		n	%
1	Which best describes you?		
	a. Asian or Pacific islander	25	9.20
	b. Hispanic	108	39.60
	c. African American	7	2.60
	d. White, not of Hispanic origin.	108	39.60
	e. Native Indian or	7	2.60
	f. Other	42	15.40
1	What is your gender		
	Male	136	49.80
	Female	137	50.20
3	How old are you? Please state your age in years only		
	12	203	74.40
	13	69	25.30
	14	1	0.40
4	How many people live in your household? Please include any stepbrothers and/or stepsisters that live in your home.		
	1	0	0.00
	2	6	2.20
	3	47	17.40
	4	79	29.30
	5	63	23.30
	6 or more	75	27.80
5	What type of high school do you expect to attend?		
	Public	250	95.10
	Private religious	1	0.40
	Private non-religious	12	4.60
6	Your father		
	Not applicable	10	3.70
	a. Is alive, but not living with me	58	21.40
	b. Is living with me	203	74.90
7	Describe the present or most recent job of your father or male guardian		
	He is unemployed, retired, or disabled	15	5.50

	If he is working, what kind of work does he normally do?	224	82.70
	Not applicable	32	11.80
		227	
8	Describe your mother or female guardian.		
	Not applicable	2	0.70
	a. Is alive, but not living with me	24	8.90
	b. Is living with me	245	90.40
9	Describe the present or most recent job of your mother or female guardian		
	She is unemployed, retired, or disabled	49	18.20
	If she is working, what kind of work does she normally do?	197	73.20
	Not applicable	23	8.60
		197	
10	Before you started going to school, did you speak any language other than English?		
	Yes	90	33.00
	No	183	67.00
		90	
11	What is your first language?		
	English	200	73.30
	Spanish	59	21.60
	Filipino	1	0.40
	Other	13	4.80
12	What language do you usually speak at home now?		
	English	211	79.60
	Spanish	46	17.40
	Filipino	1	0.40
	Other	7	2.60
13	For languages that you understand other than English, do you		
	Understand that language when people speak	94	58.00
	Speak that language	79	48.80
	Read that language	47	29.00
	N/A	44	27.20

14	Were you ever enrolled in an English language assistance program for students whose native language is not English?		
	Yes	32	12.60
	No	221	87.40
15	What is the greatest extent of your female guardian's education		
	Attended a vocational school	0	0.00
	Did not finish high school	36	13.70
	Graduated from high school or equivalent (GED)	49	18.70
	Attended a vocational school	13	5.00
	Junior college,	0	0.00
	Community college, or another type of two-year school	25	9.50
	Went to college but did not complete a four year degree	50	19.10
	Graduated from college	59	22.50
	Masters degree or equivalent	24	9.20
	PhD, M.D. or other advanced professional degree	6	2.30
16	What is the greatest extent of your male guardian's education?		
	Did not finish high school	44	16.70
	Graduated from high school or equivalent (GED)	63	24.00
	Attended a vocational school	11	4.20
	Junior college	3	1.10
	Community college or another type of two-year school	14	5.30
	Went to college but did not complete a four-year degree	46	17.50
	Graduated from college	42	16.00
	Masters degree or equivalent	31	11.80
	PhD, M.D. or other advanced professional degree	9	3.40
17	Since the beginning of the school year, have you discussed the following with either or both of your parents or guardians?		
	Selecting courses or programs at school	100	38.50
	School activities (field trips or science fairs)	96	36.90
	Things you have studied in class	169	65.00
	Extracurricular activities (like sports or community programs)	128	49.20
	N/A	3	1.20
18	Since the beginning of the school year, have any of your parents or guardians done any one of the following		
	Attended a PTA meeting	37	15.60

	Phoned or spoken to your teacher or counselor	139	58.60
	Visited your classes	78	32.90
	Attended a school event such as a play, concert, gym exhibit, sports competition, honor ceremony or science fair in which you participated	110	46.40
19	Do your parents require you to do any of the following?		
	Check whether you have done your homework?	185	69.50
	Require you to do chores around the house?	166	62.40
	Limit the amount of TV you watch?	97	36.50
	Other (please specify)	0	0.00
20	As things stand now; how far in school do you think you will get?		
	Won't finish high school	6	2.20
	Will graduate from high school, but won't go any further	17	6.30
	Will go to vocational or trade school after high school	3	1.10
	Will attend college	46	16.90
	Will graduate from college	113	41.50
	Will attend a higher level of school after graduating from college, such as graduate school, medical school, or law school	96	35.30
21	How sure are you that you will graduate from high school?		
	Very sure I'll graduate	211	77.60
	I'll probably graduate	55	20.20
	I probably won't graduate	5	1.80
	Very sure I won't graduate	1	0.40
22	How sure are you that you will go on for further education after you leave high school?		
	Very sure	164	60.30
	I'll probably pursue an education after high school	77	28.30
	I probably won't pursue an education after high school	22	8.10
	Very sure I won't pursue an education after high school	9	3.30
23	What level of education do you think your parents or guardians want you to achieve?		
	Less than high school graduation.	2	0.70
	Graduate from high school but not go any further	7	2.60
	Go to vocational or trade school after high school	2	0.70
	Attend college	16	5.90
	Graduate from college	128	47.10

	Attend a higher level of school after graduating from college	91	33.50
	Don't know	26	9.60
24	In which of the following programs do you expect to enroll in high school?		
	College prep, or specialized academic programs (such as programs focusing on math and science)	84	31.10
	Vocational, technical, or business and career programs	44	16.30
	General high school program	55	20.40
	Other specialized high school programs (such as those focused on the fine arts and theater)	36	13.30
	Other	85	31.50
25	Which of the following people have you discussed your high school program with?		
	Your father (or male guardian)	136	49.80
	Your mother (Or female guardian)	171	62.60
	A guidance counselor	6	2.20
	Other adult	45	16.50
	Friends or relatives	102	37.40
	For counseling on personal problems	2	0.70
	Have not discussed high school with anyone	47	17.20
26	Since the beginning of this school year, have you talked to a counselor at your school, a teacher at your school, or another adult relative or adult friend (other than your parents), for any of the following reasons?		
	To get information about jobs or careers that you might be interested in after finishing school	54	23.80
	To help improve your academic work in school right now	114	50.20
	To select courses or programs at school	50	22.00
	Things you have studied in class	94	41.40
27	What kind of work do you expect to be doing when you are 30 years old?		
	Architect	18	6.70
	Baker/Cook	11	4.10
	Beautician	12	4.50
	Bus driver, taxi driver	1	0.40
	Business or service establishment owner	20	7.50
	Business or managerial position	9	3.40

Career officer or enlisted person in the armed forces, police, security, firefighter, detective	22	8.20
Childcare worker	11	4.10
Collector	0	0.00
Construction worker	8	3.00
Cook	17	6.30
Dentist	8	3.00
Doctor	43	16.00
Executive in a service sector	2	0.70
Engineer or Scientist	21	7.80
Fast Food Restaurant Worker	2	0.70
Farmer or farm manager	4	1.50
Hairdresser	15	5.60
Homemaker	6	2.20
Janitor	0	0.00
Laborer or farm worker	1	0.40
Librarian	1	0.40
Machine operator	3	1.10
Mechanic	16	6.00
Military, police, or security officer	30	11.20
Nurse	23	8.60
Professor	10	3.70
Real estate agent	8	3.00
Restaurant manager	8	3.00
Salesperson, clerical or office worker Such as sales clerk	3	1.10
Secretary, bank teller	7	2.60
Teacher	21	7.80
Technical such as draftsman, medical or dental technician, computer programmer	13	4.90
Telephone repairer	0	0.00
Waiter	4	1.50
Other	83	31.00
Not specified	13	4.90

28 What ability group do you feel you are in for the following classes? (please answer above average, average, below average)

	Above average	Average	Below average
	n (*p*)	*n* (*p*)	*n* (*p*)

Mathematics	117 (60.0)	65 (33.3)	13 (6.7)
Science	80 (47.3)	76 (45.0)	13 (7.7)
Social Studies	57 (36.1)	83 (52.5)	18 (11.4)

29 Are you enrolled in advanced, enriched, or accelerated courses in any of the following areas?

	Yes *n* (*p*)	No *n* (*p*)
Language arts such as English or Spanish	78 (30.4)	179 (69.6)
Social studies	77 (30.0)	180 (70.0)
Math	105 (41.2)	150 (58.8)
Science	38 (15.4)	208 (84.6)

30 Which of the following classes do you attend at least once a week this school year?

	n	*p*
Home Economics	2	0.80
Shop	23	8.80
Consumer Education	1	0.40
Agriculture	3	1.20
None of the above	232	89.20

31 Are you enrolled in any of the following special programs/services?

programs/services		
Classes for gifted or talented students	72	82.80
Special instruction for those whose first language is not English (ESL, for instance)	15	17.20

32 Mathematics

	Yes *n* (*p*)	No *n* (*p*)	Unsure/No Response *n* (*p*)
I usually look forward to Mathematics	157 (58.6)	36 (13.4)	75 (28.0)

I often am afraid to ask questions in Mathematics class	56 (21.0)	121 (45.3)	90 (33.7)
Math will be useful in my future	189 (70.8)	7 (2.6)	71 (26.6)

33 English

	Yes *n* (*p*)	No *n* (*p*)	Unsure/No Response *n* (*p*)
I usually look forward to English	116 (43.0)	94 (34.8)	60 (22.2)
I often am afraid to ask questions in English class	44 (16.3)	131 (48.5)	95 (35.2)
English will be useful in my future	173 (64.6)	28 (10.4)	68 (25.4)

34 Social Studies

	Yes *n* (*p*)	No *n* (*p*)	Unsure/No Response *n* (*p*)
I usually look forward to Social Studies class	113 (41.9)	101 (37.4)	56 (20.7)
I often am afraid to ask questions in Social Studies class	49 (18.2)	133 (49.4)	87 (32.3)
Social studies will be useful in my future	120 (44.8)	66 (24.6)	82 (30.6)

35 Science

	Yes *n* (*p*)	No *n* (*p*)	Unsure/No Response *n* (*p*)
I usually look forward to Science class	175 (64.6)	51 (18.8)	45 (16.6)
I often am afraid to ask questions in Science class	34 (12.6)	137 (50.9)	98 (36.4)
Science will be useful in my future	142 (52.6)	47 (17.4)	81 (30.0)

36 In the following subjects, about how much time do you spend on homework each week (please answer in hours per week)

	1 hr	2 hrs	3 hrs

	n (*p*)	*n* (*p*)	*n* (*p*)
Mathematics homework	197 (75.2)	51 (19.5)	14 (5.3)
English homework	158 (62.2)	58 (22.8)	38 (15.0)
Social Studies homework	175 (68.1)	62 (24.1)	20 (7.8)
Homework for all other subjects	159 (63.6)	51 (20.4)	40 (16.0)

37 For each of the school subjects listed below, mark the statement that best describes your grades from sixth grade up till now.

	Mostly A (90-100)	Mostly Bs (80-89)	Mostly Cs (70-79)	Mostly Ds (60-69)	Mostly below D (below 60)	Does not apply to me — my classes are not graded
	n (*p*)	*n* (*p*)	*n* (*p*)	*n* (*p*)	*n* (*p*)	*n* (*p*)
Mathematics	130 (48.9)	72 (27.1)	40 (15.0)	21 (7.9)	1 (0.4)	2 (0.8)
Science	159 (60.0)	58 (21.9)	22 (8.3)	21 (7.9)	2 (0.8)	3 (1.1)
English	81 (30.7)	83 (31.4)	68 (25.8)	23 (8.7)	3 (1.1)	6 (2.3)
Social Studies	96 (36.2)	72 (27.2)	63 (23.8)	31 (11.7)	1 (0.4)	2 (0.8)

38 Have you or will you have participated in any of the following school activities during the current school year?

	n	*p*
Sports (playing against teams from your own school)	66	33.00
Science fairs	40	20.00
Sports (playing against teams from other schools)	66	33.00
Cheerleading	19	9.50
Band or Orchestra	51	25.50
Chorus or choir	5	2.50
Dance	24	12.00
History club	0	0.00
Other subject matter club	8	4.00
Math club	3	1.50
Foreign language club	4	2.00
Science club	2	1.00
Debate or speech team	8	4.00

Drama club	9	4.50
Academic Honors Society	5	2.50
Student newspaper	8	4.00
Student yearbook	31	15.50
Student council	16	8.00
Other	1	0.50

39 Have you or will you have participated in any of the following extracurricular school activities this year?

	Yes *n* (*p*)	No *n* (*p*)
Scouting	20 (7.6)	242 (92.4)
Youth groups	45 (17.1)	220 (83.7)
Hobby clubs	18 (6.8)	245 (93.2)
Neighborhood clubs or programs	18 (6.8)	245 (93.2)
Boys clubs or girls clubs	22 (8.6)	233 (91.4)
Non-school team sports	133 (50.4)	131 (49.6)
Summer programs, such as workshops or institutes in science, language, or	28 (10.7)	233 (89.3)
Computer Club	1 (0.6)	174 (99.4)

APPENDIX M: Enrollment of Undergraduate Students at National (US) Level

Race/ethnicity, sex, attendance status, and level of student				Percent		
	2003	2004	2005	2003	2004	2005
Undergraduate, total	14,480.4	14,780.6	14,964.0	100.0	100.0	100.0
White	9,664.6	9,771.3	9,828.6	66.7	66.1	65.7
Total minority	4,498.4	4,695.5	4,820.7	31.1	31.8	32.2
Black	1,838.0	1,918.5	1,955.4	12.7	13.0	13.1
Hispanic	1,579.8	1,666.9	1,733.6	10.9	11.3	11.6
Asian/Pacific Islander	922.7	949.9	971.4	6.4	6.4	6.5
American Indian/Alaska Native	157.8	160.3	160.4	1.1	1.1	1.1
Nonresident alien	317.3	313.8	314.7	2.2	2.1	2.1
Male	6,227.4	6,340.0	6,408.9	100.0	100.0	100.0
White	4,263.1	4,309.9	4,330.4	68.5	68.0	67.6
Total minority	1,806.5	1,877.0	1,926.6	29.0	29.6	30.1
Black	660.4	684.7	697.5	10.6	10.8	10.9
Hispanic	656.8	690.5	718.5	10.5	10.9	11.2
Asian/Pacific Islander	427.9	439.1	448.1	6.9	6.9	7.0
American Indian/Alaska Native	61.5	62.7	62.5	1.0	1.0	1.0
Nonresident alien	157.7	153.1	151.8	2.5	2.4	2.4
Female	8,253.0	8,440.6	8,555.1	100.0	100.0	100.0
White	5,401.5	5,461.4	5,498.2	65.4	64.7	64.3
Total minority	2,691.8	2,818.5	2,894.0	32.6	33.4	33.8
Black	1,177.7	1,233.8	1,257.8	14.3	14.6	14.7
Hispanic	923.0	976.3	1,015.0	11.2	11.6	11.9
Asian/Pacific Islander	494.8	510.8	523.2	6.0	6.1	6.1
American Indian/Alaska Native	96.3	97.6	98.0	1.2	1.2	1.1
Nonresident alien	159.6	160.7	162.9	1.9	1.9	1.9

Note. Data taken from Table 195, Enrollment rates of 18- to 24-year-olds in degree-granting institutions, by sex and race/ethnicity: 1967 through 2006. SOURCE: U.S. Department of Commerce, Census Bureau, Current Population Survey (CPS), October, 1967 through 2006. This table was prepared August 2007.

APPENDIX N: Where the U.S. Ranks Internationally in Math, Science, and Reading

Comparison of U.S. to Participating Countries		Math				Science			Reading			
		TIMSS 2003		PISA 2003	ALL 2003 (numeracy)	TIMSS 2003		PISA 2003	PIRLS 2001	PISA 2000	ALL 2003 (prose literacy)	ALL 2003 (document literacy)
		4th grade	8th grade	Age 15	Ages 16-65	4th grade	8th grade	Age 15	4th grade	Age 15	Ages 16-65	Ages 16-65
No. scoring above U.S.	All participating	11	9	20	4	3	7	15	3	3	4	4
	G8 only	3	1	3	1	1	1	4	1	1	1	1
No. scoring same as U.S.	All participating	0	10	3	0	5	4	10	8	19	0	0
	G8 only	0	1	0	0	2	0	2	3	5	0	0

No. scoring below U.S.	All participating	13	25	6	1	16	33	3	23	5	1	1
	G8 only	1	1	2	1	1	2	0	2	1	1	1

Source: The Center for Public Education <http://www.centerforpubliceducation.org/site/c.kjJXJ5MPIwE/b.2426989/k.C94C/Where_the_US_Ranks_Internationally_in_Reading_Math_and_Science.htm>

The Adult Literacy and Life skills (ALL) Survey is an international comparative study designed to provide participating countries, including the United States, with information about the skills of their adult populations. ALL measured the literacy and numeracy skills of a nationally representative sample from each participating country

The Program for International Student Assessment (PISA) is a system of international assessments that focus on 15-year-olds' capabilities in reading literacy, mathematics literacy, and science literacy. PISA also includes measures of general or cross-curricular competencies such as learning strategies. PISA emphasizes functional skills that students have acquired as they near the end of mandatory schooling

TIMSS: Trends in International Math and Science Study (TIMSS)

APPENDIX O: California Public High School Graduation Rates

Ethnicity	Gender	2000	2001	2002	2003	2004	2005	2006	2007	Average
Black	Men	63%	78%	58%	62%	52%	71%	60%	53%	60%
	Women	59%	74%	60%	65%	61%	71%	62%	68%	66%
Native American	Men	40%	35%	58%	58%	68%	70%	59%	68%	56%
	Women	53%	52%	56%	77%	59%	57%	78%	73%	57%
Asian	Men	79%	96%	91%	100%	80%	79%	98%	75%	90%
	Women	77%	99%	84%	100%	90%	93%	98%	83%	93%
Pacific Islanders	Men	63%	N/A	35%	53%	67%	85%	67%	100%	58%
	Women	68%	50%	52%	100%	67%	100%	74%	65%	59%
Latino	Men	54%	57%	52%	56%	56%	58%	54%	52%	53%
	Women	64%	68%	65%	68%	70%	67%	65%	62%	63%
White	Men	75%	76%	74%	77%	75%	80%	74%	79%	76%
	Women	83%	82%	80%	80%	84%	79%	81%	81%	81%
Filipino	Men	77%	87%	85%	100%	77%	84%	81%	83%	81%
	Women	81%	90%	81%	100%	90%	94%	99%	82%	91%
Overall Rate		70%	73%	69%	73%	72%	72%	70%	69%	70%

Note. Central Coast Region Counties in this region: San Luis Obispo, Santa Barbara, Ventura. The graduation rate is calculated by dividing the number of public high school graduates in a given year by the number of freshmen enrolled four years earlier as reported by the schools. The numbers do not take into account any movement of students.