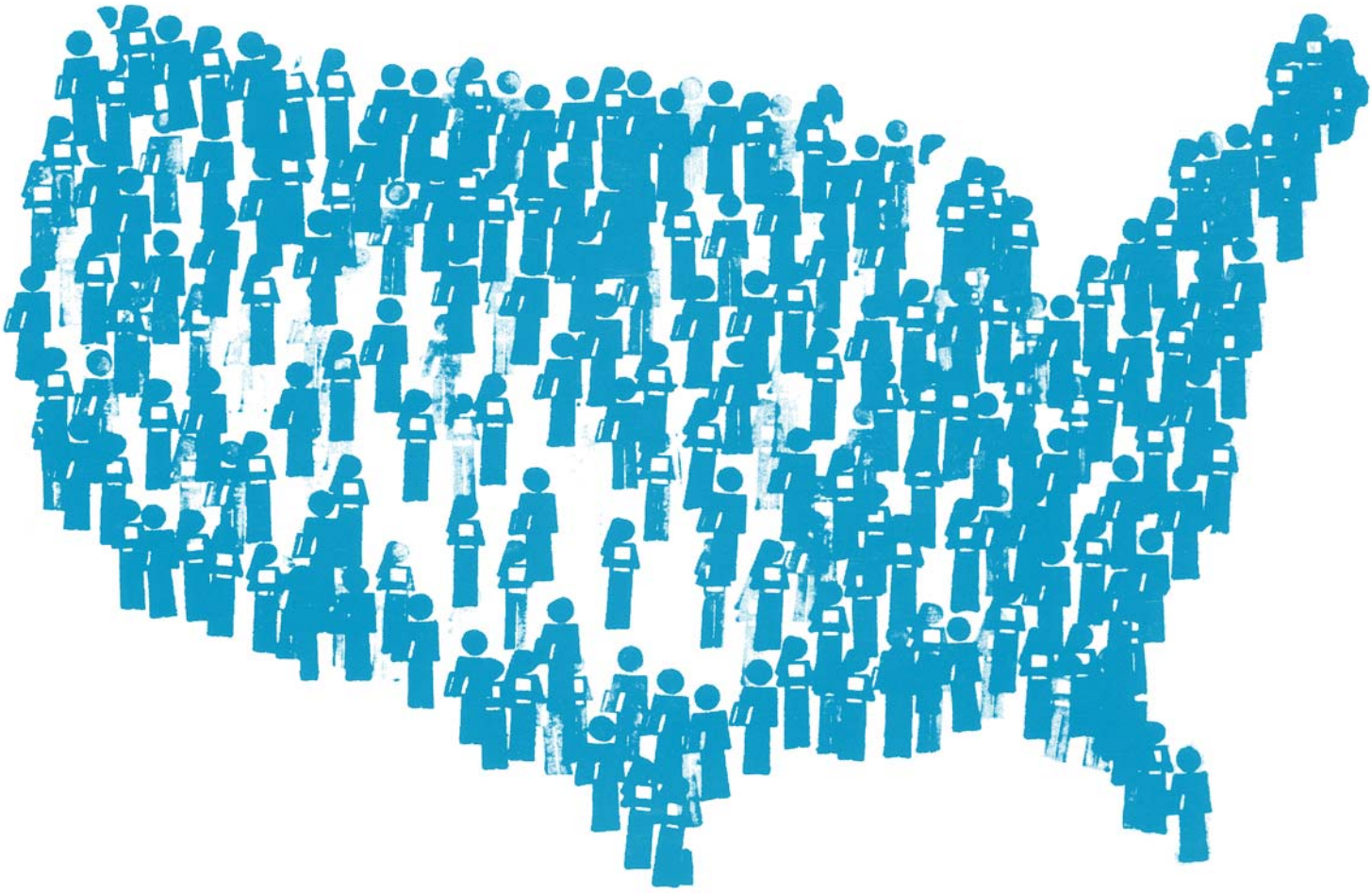
The American Freshman: Forty Year Trends

John H. Pryor
Sylvia Hurtado
Victor B. Saenz
José Luis Santos
William S. Korn



Cooperative Institutional Research Program
Higher Education Research Institute • University of California, Los Angeles

The American Freshman

Forty Year Trends

CONTENTS

TABLES

FIGURES

PREFACE

In celebration of 40 years of data collection on American freshmen, the Higher Education Research Institute (HERI) is pleased to present this report as well as a series of new reports on specific student populations. These trends data now constitute a national treasure, documenting the changing nature of students' characteristics, aspirations, values, attitudes, expectations, and behaviors. As college participation and high school graduation rates increase, these data become ever more important in documenting the changing nature of students seeking access to higher education. The CIRP Freshman Survey trends are a result of the joint effort between participating colleges and universities who use and administer the surveys on campus, higher education associations that foresaw the need to assess higher education impact, numerous foundations and three federal agencies that have offered financial support over the years, and the involvement of key researchers and advisors who have guided the development of the CIRP as the longest continuing study of higher education. Special thanks are due to each and every individual and organization that has contributed over the last 40 years. Without continuing interest and commitment to the CIRP, we would not have been able to generate the data that serves as the basis of this report and many others to be released in the future (visit http://www.gseis.ucla.edu/heri/publications.html for reports).

The most significant contribution to the CIRP over the years has been the insight and energy of Alexander W. Astin. He conceptualized and implemented the survey in 1965, transferred operations from the American Council on Education to UCLA in 1973, and successfully directed the project during its first 25 years. He has single-handedly influenced institutional research efforts and shaped our knowledge about higher education and its practice using the CIRP as empirical evidence on students. His national research projects, 21 books, and hundreds of research articles make use of CIRP data to tell the story of students and institutions in American higher education. As a result of his research design, we have maintained nationally normative data on students at four-year colleges and universities. A core group of institutional participants also have 40 years of data to use on their own campuses. At each five-year anniversary, we provide all institutions with their own trend reports, and in any single year, they are able to compare themselves with similar types of institutions.

The influence of Helen S. Astin is also evident in these data in that we have produced reports separately for men and women over the 40 years. These data have served to document significant gender shifts in higher education as well as the impact of college on women's development. Together, through their research using CIRP data, the Astins have contributed to our understanding of many areas of student development, questioned our assumptions about higher education, and promoted institutional change and transformation. Many others have now followed in their footsteps in analyzing the data and addressing significant problems in higher education. We thank them for their contributions and seek to encourage other researchers to use the data to study emerging issues that may help improve institutional practice as we move further into the 21st century.

CIRP data have served several important purposes over the years. First, the data have served as an alert to the public and helped shape public opinion about key issues associated with the concerns of college youth. This has been accomplished through release of the data at national conferences, in national, local and student newspapers, as well as through television and radio interviews about the findings. This general public interest is often linked with key policy considerations in education, making CIRP data relevant to these decisions. Most

importantly, however, is that these freshmen data document student predispositions, which help colleges to determine their impact on student recruitment, student development, and student retention and career preparation. The trends data in this report, and reports provided to institutions, help campuses determine how much their student body has changed over the years as a result of institutional policy and how they might design more effective ways of reaching students new to higher education. CIRP data have also served as the basis for numerous national studies that have expanded the scholarly literature in higher education in such important areas as college access, retention, college impact on a wide range of cognitive and affective outcomes, student transition to college, and diversity in higher education (for example, see Astin ,1977; Astin, 1993; McDonough, Antonio, Walpole, & Perez, 1998; Sax, 2001; Astin & Oseguera, 2002; Gurin, Dey, Hurtado, & Gurin, 2002; Keup & Stolzenberg, 2004; Allen, Jayakumar, Griffin, Korn, & Hurtado, 2005; Chang, Denson, Saenz, & Misa, 2006; Sax, forthcoming). Over the years, many institutions have been asked to take part in specific national studies that have been vital to our understanding of the long-term impact on students and the particular institutions they attend. Finally, CIRP data have been an important focus for training in evaluation and assessment. Since 1973, CIRP data have been used to train hundreds of students preparing for careers in higher education. Many of them have become institutional researchers, research-informed practitioners, and/or noted scholars of higher education. Since 1995, the Higher Education Research Institute has offered a summer workshop to institutional researchers to make the best use of CIRP data for institutional assessment and reporting.

One can easily see that CIRP data have become a national resource in more ways than one. I want to offer special thanks to all the staff and graduate students at HERI that have helped make our surveys successful and worked with campuses to make their institutional efforts successful over the years. We are committed to generating studies and data that will improve higher education's ability to develop the talent of its students and the next generation of leaders. We offer this report with this goal in mind. Special thanks for preparation of this report are due to John Pryor who manages the surveys and manages to do just about everything, William S. Korn whose wizardry prevents us from becoming hopelessly mired in the decades of data, Victor Saenz who manages research with optimism and keeps us connected to policy, Jose Luis Santos who has offered his economist's lens to our work, Jessica Korn who assisted with publication, and graduate students Hoi Ning Ngai and Hanna Song for helping us to prepare the report.

Sylvia Hurtado
Director, Higher Education Research Institute

THE AMERICAN FRESHMAN: FORTY-YEAR TRENDS, 1966-2006

Many changes have occurred in American higher education in the last 40 years. Most significant has been the unprecedented growth in enrollments accompanied by changes in the proportions who are female, who are students of color, who attend full time, and who attend four-year institutions (NCES, 2006). The opening of pathways to the baccalaureate for women, racial/minority students, first-generation college students, and low-income students who had limited opportunity before the 1960s occurred as a result of the civil rights and women's movements and a series of policy initiatives to increase access to higher education. The baccalaureate degree has become a minimum and essential credential for employers in a wide array of occupations, as higher education and training beyond high school is no longer optional for those who aspire towards upward social and economic mobility in American life (NCPPHE, 2002). As a result, we could not have predicted the number of high school graduates who would take advantage of expanded opportunity to higher education. Moreover, higher education enrollments are projected to continue increasing from 2006 through 2015: Full-time undergraduate enrollment is expected to continue growing more rapidly than part-time enrollment, and the growth in enrollment at four-year institutions is expected to be greater than at two-year institutions during this period (NCES, 2006).

From 1972 to 2004, college participation rates increased, with high school graduates enrolled in college immediately after high school increasing from 49 to 67 percent (NCES, 2006). Additionally, for the past 35 years, undergraduate enrollment has been larger in four-year institutions than in two-year institutions, and aside from a slowdown in the early 1990s, enrollment has grown fairly steadily at four-year institutions since 1970 (NCES, 2006). These changes were greatly facilitated by the introduction of policy initiatives (e.g., Higher Education

Act of 1965 and subsequent reauthorizations; Middle-Income Student Assistance Act of 1978) and financial aid grant and loan programs (e.g., Pell Grants, Perkins Loans, Stafford Loans) that provided aid directly to students to allow them mobility and choice regardless of income.

The contributions of the women's and civil rights movement were equally felt in American higher education, as well as a new set of institutionally-based policies and programs to help reduce educational and societal inequalities and enhance the racial/ethnic diversity of institutions. However, substantial gaps remain between racial/ethnic groups, schools, and states in raising levels of educational attainment. More recently, new initiatives, such as the federally-sponsored GEAR UP program, have been developed to support educational alliances between schools and colleges, with the goal of improving college access (see Pathways to College Network at: www.pathwaystocollege.net/aboutus).

At the same time that access has reached unprecedented levels, additional issues have emerged that raise serious questions about whether four-year colleges and universities are doing their fair share of achieving educational equity, meeting students' needs and aspirations, and developing students' values, skills, and knowledge that equip them for an increasingly complex and global society. Institutions do not operate entirely autonomously from larger social and political pressures in society. Some contend our higher education system has become more stratified in terms of students and institutions (Bastedo & Gumport, 2003; Astin & Oseguera, 2004), preserving education of the elite in an era of increased access. Our system is strongly driven by economic and market forces that increase competition for resources and talented students, promote the view of students as self-interested consumers who know how to best meet their educational needs, result in declining funds for public higher education, and increase privatization of many previously public services. With such driving forces, how are

students today to develop a commitment to the public good, a life of service, and ethical decision-making skills that may involve a departure from goals of self-interest? While the documentation of all these forces that shape higher education and student development in college is beyond the scope of this report, we are fortunate to have national data at our disposal to observe changes in students' aspirations, values, attitudes, and behaviors to understand both the continuing advances and new challenges that have emerged in educating the American college student.

The Cooperative Institutional Research Program

The Cooperative Institutional Research Program (CIRP) Freshman Survey is coordinated by the staff of the Higher Education Research Institute (HERI), located in the Graduate School of Education and Information Studies at the University of California at Los Angeles (UCLA). While the CIRP Freshman Survey is designed to be the initial instrument in a program of assessment that includes two follow-up surveys, the Your First College Year (YFCY) and College Senior Survey (CSS), it also provides a unique snapshot of the changes in cohorts of American college freshmen over the past four decades.

The fall of 2006 marked the 40th anniversary of the CIRP Freshman Survey. Since 1966, the first year of the survey, 8,309,318 incoming first-year students at 1,201 colleges and universities across the United States have completed the instrument and been included in the national normative reports published by HERI. The CIRP Freshman Survey is the largest and longest-running survey of American college students. Hundreds of journal articles, monographs, and books have been written in the past 40 years using CIRP data, adding to what we know about the college experience and the characteristics of college students.

The 40th anniversary of the CIRP has been the occasion for a series of publications addressing issues of equity and progress for different groups. In 2005, HERI published *Black Undergraduates from Bakke to Grutter: Freshmen Status, Trends, and Prospects, 1971-2004* (Allen, Jayakumar, Griffin, Korn, & Hurtado, 2005). We have a report in press, *First In My Family: A Profile of First-Generation College Students at Four-Year Institutions Since 1971*, that examines first-generation college students (Saenz, Hurtado, Barrera, Wolf, & Yeung, 2007). Manuscripts in preparation, to be released later this year, will illustrate trends for Latinos and Asian Americans. Finally, the former director of the CIRP, Linda Sax, will release a book later this year entitled *The Gender Gap in College: Differential Patterns of Change and Development for Women and Men*.

Changing Demographic Trends

One of the most dramatic changes in higher education over the last 40 years has been the composition of entering students that has accompanied increased enrollments at baccalaureate-granting institutions. Four decades of CIRP Freshman Survey data reveal several interesting trends with regard to the increased diversification of baccalaureate-granting colleges and universities.

Racial/Ethnic Diversity Reflect Distinct Group Dynamics

White students represented 90.9 percent of the first-time, full-time freshmen in 1971 and their proportion declined to 76.5 percent in 2006, indicating proportional increases in the representation of other racial/ethnic groups and demographic shifts in the U.S. population (Table 1). Most notably, Asian American/Asian students' representation has nearly doubled

each decade, constituting 0.6 percent of freshmen in 1971 and now representing 8.6 percent of first-time, full-time freshmen. Similarly, although they are more likely than other groups to begin at community colleges, the percentage of Latinos entering baccalaureate-granting institutions has also steadily increased, due primarily to sheer demographic growth. Their representation among first-time, full-time freshmen increased from .06 percent in 1971 to 7.3 percent in 2006, with trends indicating their representation doubled from 1971 to 1980 and then tripled from 1990 to 2000. In contrast, the representation of African American/Black students has increased, stalled, and slightly declined over time. While African American/Black students represented 7.5 percent of freshmen in 1971 and increased to 12.5 percent all of students in 1980, this group subsequently declined to represent 10.5 percent in 2006 across all baccalaureate-granting institutions (inclusive of historically Black colleges and universities or HBCUs). (See Allen, Jayakumar, Griffin, Korn,, & Hurtado, 2005 for a full report on the status and trends.) Overall, these differences across groups reflect U.S. population shifts, changes in college admissions criteria (from race-conscious to race-neutral), and variability in access and opportunity within and between schools for various groups.

These numbers do not exactly map onto IPEDS figures for different racial/ethnic groups entering baccalaureate-granting institutions primarily because CIRP surveys give students the opportunity to indicate more than one racial/ethnic category, and also because IPEDS does not capture the racial/ethnic make-up of students who indicate they are not U.S. citizens. However, the survey has allowed us to identify another important national trend: an increasing proportion of multi-racial/ethnic students or students who identify themselves as belonging to more than one racial/ethnic group. In 1971, relatively few students (1.3 percent)

categorized themselves in more than one group, but by 2006 this figure had increased to 7.4 percent of all entering college students.

Table 1.
Racial/Ethnic Representation of First-Time, Full-Time Freshmen (CIRP Survey)

	Percent in				
Racial/Ethnic Group	1971	1980	1990	2000	2006
White/Caucasian	90.9	84.1	80.7	76.1	76.5
African American/Black	7.5	12.5	12.1	10.4	10.5
American Indian	0.9	0.8	1.3	1.9	2.2
Asian/Asian American	0.6	1.4	3.8	7.1	8.6
Latina/o	0.6	1.4	2.2	6.7	7.3
Other Race	1.0	1.7	1.8	3.6	3.6
Multiracial (two or more groups)	1.3	1.2	1.7	4.8	7.2

Note: Percentages may total more than 100.0 since respondents were allowed to mark more than one category. The "Asian/Asian American" category includes students who reported being a "Native Hawaiian/Pacific Islander," which was first included in the 2002 survey. The "Multiracial" category includes students that reported two or more groups, and are counted in the previous cells as well.

Other Key Demographic Trends

First-time, Full-time Women Become a Stable Majority. In previous decade reports, we have noted the significant shift in gender composition of college freshmen (Astin, Green & Korn, 1987; Astin, Parrott, Korn, & Sax, 1997). During the first five years of the Freshman Survey (1966-70), most entering college students were men (53-55 percent). From 1971 on, however, the percentage of women steadily increased, overtaking the percentage of men in 1976 and increasing until 2001, when women constituted about 55 percent of entering students. In the last five years, this proportion has remained relatively stable. This trend is beginning to manifest itself in graduate/professional schools, as women do better than men with regard to retention and grades in college.

Religious Preferences Decline. Increasing numbers of students report having no religious affiliation, from 13.6 percent in 1966 to 19.1 percent in 2006. A decline was reported in categories aggregated as Protestant (Christian), moving from more than half (54.5 percent) to 48.0 percent; Catholic members remained fairly stable and are currently at 27.7 percent; and a decline was noted for students who identified as Jewish, dropping by almost half (moving from 4.9 percent of freshmen to 2.6 percent). A similar pattern of decline in religious affiliation among mothers and fathers was evident. While more than three-quarters of students (76.9) reported in 2006 that they attended a religious service in the last year of high school, this proportion has steadily declined since 1968 (91.1 percent).

Older Students Entering College for the First Time. Although up to 67 percent of high school graduates enter college immediately after high school today, we have noted a shift in students that enter college at a later age. In 1967, 80.5 percent of entering first-year students was 18 years old, while only 13.7 percent was 19 and older. By 2006, 68.5 percent of entering students was 18, while the percentage of students 19 and older more than doubled to 29.6 percent. This shift was more substantial in the last 20 years than in the first 20 years of the survey, perhaps indicating some students may take longer to meet new standards and/or pursue postgraduate work at private high schools to increase their chances of getting into the colleges of their choice.

Increase in Learning-Disabled Students. The percentage of incoming students reporting a learning disability was 2.8 percent in 2004 (the most recent year we asked about disabilities) – more than five times the 0.5 percent reported in 1983. This increase in the

proportion of learning-disabled students entering college is mirrored in similar trends in elementary and secondary school populations (NCES, 2006).

Fewer Students Report Parents are Married or Living Together. In 1972, we started to ask regularly about the marital status of students' parents. At that time, 84.8 percent of students' parents lived with each other, 7.9 percent had parents that lived apart, and 7.3 percent had one or both parents deceased. By 2006, the percentage of students with two parents that lived together had dropped to 71.2 percent, those with parents who lived apart increased to one out of four students (25.2 percent), and those with one or more deceased parents dropped to 3.7 percent.

Parental Income Steadily Increases Among Entering Freshmen. Parental income for the entering college freshmen is rising faster than national average income, a pattern that accelerated during the mid 1980s. Freshmen are coming from more economically advantaged homes than their predecessors. This shift has occurred at both public and private institutions, but parental incomes are rising faster among students attending public institutions, indicating more advantaged families may be choosing public institutions because the costs are lower. (See details in section on Parental Income, Affordability, and Financial Concerns.)

Decline in Proportion of First-Generation Freshmen. Since 1971, CIRP Freshman Survey data has monitored the educational background of parents. (See mother's and father's education levels in Weighted National Norms in the statistical tables section of this report.) However, aggregating data for those students whose parents have had no college or post-secondary experiences — first-generation college students — has allowed us to determine how these students fare in access and success. The trends show that the proportion of first-

generation college students at baccalaureate-granting institutions has steadily declined. In 1971, first-generation students represented 39.3 percent of all first-time, full-time college freshmen, a figure that drops in half by 1992. By 2005, the proportion of first-generation college students declined to 16.5 percent of all entering freshmen. A closer look at the demographic data reveals some slight differences by gender since the late 1980s, with women somewhat more likely than men to be first-generation students. However, differences across racial/ethnic groups remain evident: The proportion of first-generation students was much higher for Hispanics (57.7 percent) in 1975 and remains the highest (38.2 percent) of all groups in 2005; African Americans show the fastest rate of decline of first-generation students compared to other groups (from 51.5 percent to 20.4 percent). (For a complete report, see Saenz, Hurtado, Barrera, Wolf, & Yeung, 2007).

Preparation for a Diverse Society: Attitudes and Interactions

The past 40 years of CIRP Freshman Survey data show that the incoming first-year class at baccalaureate-granting institutions has become increasingly more diverse and somewhat more socioeconomically homogeneous (based on parental income and education). However, the question remains whether racial/ethnic experiences and tolerance are salient for freshmen who must eventually be prepared to enter an increasingly diverse workforce and society. We examined several items that tap into students' experiences with diverse racial groups, cross-racial interactions in high school, expectations for college, and students' goals and beliefs.

In 1983, we began monitoring the racial composition of the neighborhood and high schools of entering college freshmen (Table 2). At that time, 78.5 percent of freshmen came from mostly or completely White high schools and 85.1 percent grew up in mostly or

completely White neighborhoods. By 2006, 64.1 percent came from mostly or completely White high schools and 73.7 percent grew up in mostly or completely White neighborhoods. While this may indicate some desegregation of high schools in particular, a breakdown by racial group over this time period reveals distinct differences across groups in the racial composition of pre-college contexts. African Americans continue to be most highly represented in predominantly non-White pre-college contexts and it is the group least likely to be represented in predominantly White schools or neighborhoods (see also Pryor, Hurtado, Saenz, Korn, Santos, & Korn, 2006). In contrast, White students are more likely to be socialized in predominantly White environments. Specifically, Table 2 shows that about three-quarters of White students attended a predominantly White high school (74.9 percent) and 87.3 percent grew up in predominantly White neighborhoods in 2006 — it is the group least likely to have changed over time. Asian and Latino students are less likely to come from predominantly White contexts compared to 20 years ago, indicating they are more likely to be in mixed-race schools and neighborhoods.

Table 2.
Racial Composition of Neighborhood and High School by Race/Ethnicity

		Percent in				Percent Change
	Race/Ethnic Group	1983	1988	1990	2006	1983-2006
Completely/mostly White: Neighborhood where you grew up	All Students	85.1	82.6	81.6	73.7	-13.4
	White	94.6	93.5	93.2	87.3	-7.7
	African American	17.6	20.8	19.1	23.1	31.7
	American Indian	54.9	54.3	63.3	49.9	-9.2
	Asian/Pacific Islander	69.4	66.6	65.1	42.1	-39.3
	Hispanic	46.7	45.4	42.0	33.3	-28.7
	Other Race	58.2	59.6	56.0	51.5	-11.5
	Multiracial	75.8	71.4	70.8	61.7	-18.6
Completely/mostly White: High School you last attended	All Students	78.5	75.1	73.9	64.1	-18.4
	White	84.9	82.8	82.2	74.8	-11.9
	African American	35.3	34.4	33.2	29.0	-17.8
	American Indian	52.4	53.9	58.6	44.8	-14.6
	Asian/Pacific Islander	64.5	59.6	57.2	37.5	-41.9
	Hispanic	46.3	42.1	37.5	31.7	-31.5
	Other Race	57.2	54.9	52.1	44.0	-23.1
	Multiracial	73.5	65.0	63.2	52.8	-28.2

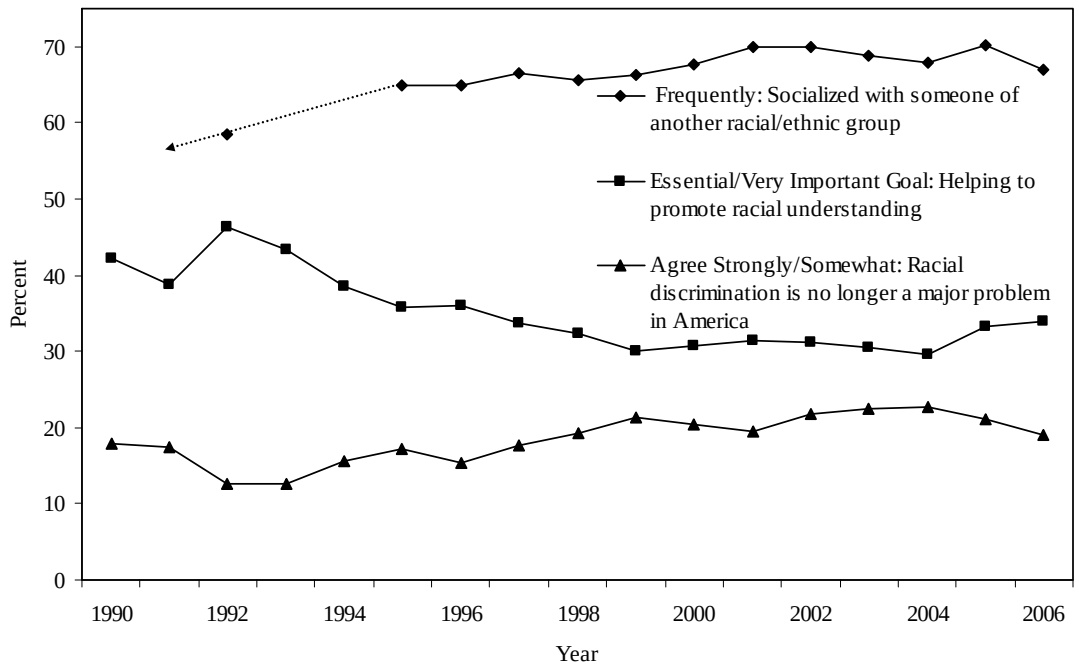
Note: The racial composition scale ranged from Completely White, Mostly White, Half White/Half non-White, Mostly non-White, and Completely non-White.

We further investigated the extent to which students are socially integrated and interacted across race/ethnicity (Figure 1). In 2006, more than two-thirds (66.9 percent) of students stated that they socialized with someone of another racial/ethnic group in high school — a proportion that has varied between 65 and 70 percent over the last ten years, up from 58.4 percent in 1992 (when we first asked this question). Moreover, an almost equal percentage

(64.8 percent) of students in 2006 expected to socialize with someone from another racial/ethnic group in college, a slight decrease from 65.6 percent in 2000.

While there are obvious differences in contact across groups, students' personal goals and beliefs at college entry may be cause for concern. Only slightly more than a third of students (34.0 percent) rated the objective of helping to promote racial understanding as "essential" or "very important," a goal that has declined since it peaked in 1992 (46.4 percent), a time period following the Rodney King decision and riots in Los Angeles.

Figure 1. Goals, Interactions, and Views on Race



Over the same time period, the proportion of students who agreed "strongly" or "somewhat" with the statement that "racial discrimination is no longer a major problem in America" reached a low in 1992, but steadily increased to 22.7 percent in 2004 and is now at

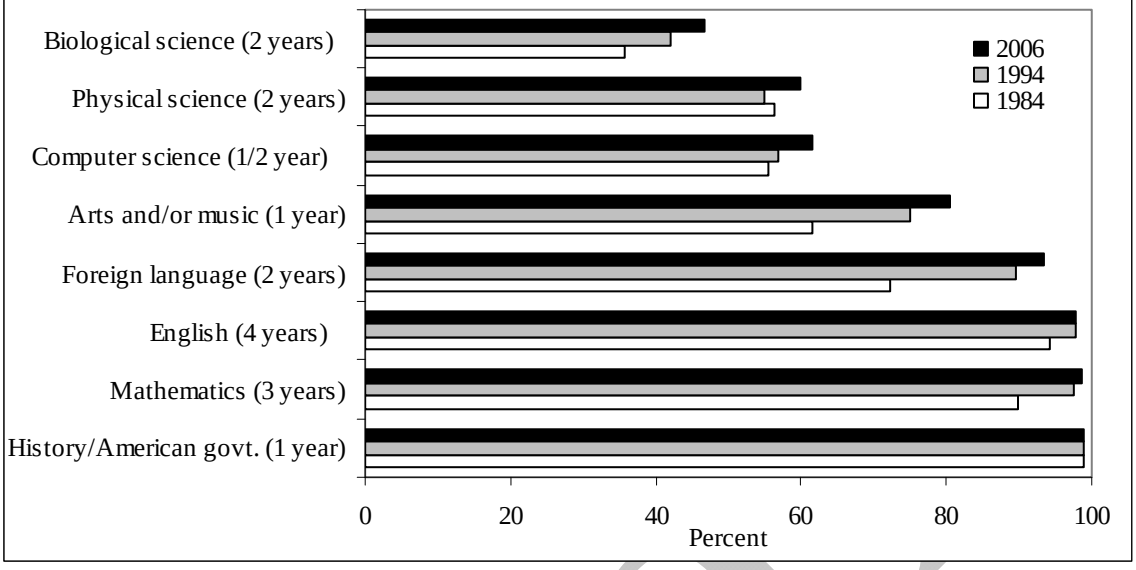
19.1 percent. This suggests that students may be less likely to see problems associated with race compared with previous cohorts 14 or 15 years ago, and it is interesting to note that these shifts also coincided with presidential election years. In order to encourage students to address diversity and racial inequalities after college, institutions should seek to capitalize on students' expectations by providing opportunities for meaningful contact experiences, broad knowledge about different racial/ethnic groups, and tools that allow students to confidently assume social responsibility for addressing difficult social problems associated with diversity and inequality. One positive note is that, since 9/11, all students have steadily increased in their personal goal of improving their understanding of other countries or cultures (from 43.2 percent in 2002 to 49.1 percent in 2006). This suggests students enter college willing to develop greater awareness of important issues associated with diversity.

Academic Preparation for College-Level Work

Within the last few years, the release of several national reports has placed renewed emphasis on the academic preparation of all students who aspire to a college education (U.S. DOE, 2006; AACU, 2007). Since the National Commission on Excellence in Education released its report, *A Nation at Risk* (NCEE, 1982), we have monitored basic levels of high school preparation in various subject areas to document whether college freshmen meet or exceed recommendations for the minimum number of years of study. After the call for reform in high school curriculum to establish baseline levels for college preparation, several states instituted their own recommended years of study beyond the initial national imperative to ensure that students are sufficiently prepared for college level work. Figure 2 shows the percentage of freshmen cohorts by subject area that meet or exceed requirements for years of

study. The good news is that the percentage of entering freshmen taking the recommended number of courses in all key subject areas has increased, with the exception of history or American government, which was already at its highest point (99 percent) in 1984. The largest increases between 1984 and 2006 occurred in foreign language study (20 percentage point increase), arts and music (19 percentage point increase), biological science (11 percentage point increase), and mathematics (9 percentage point increase). Comparing cohorts in 1984, 1994, and 2006, however, it appears that most of the improvement in students' course-taking patterns occurred within the first ten years of the call for reform. In the last ten years, very modest but important increases have occurred in the percentage of students taking at least two years of physical science and a half-year of computer science. This may reflect some state initiatives to ensure high school preparation for careers that will attract higher wages and jobs to their state. However, the percentage of students in 2006 taking the recommended years of study in biology (46.8 percent), physical science (59.9), and computer science (61.6) is well below that of other subject areas, indicating there is substantial room for improvement. It could be an indication that high schools are having difficulty providing a second year of physical science and biology, and a half-year of computer science, to large numbers of high school students, many of them bound for studies at four-year colleges.

Figure 2. Percentage of Freshman Cohorts Meeting or Exceeding Recommended Years of High School Study in Key Subject Areas



Note: Trends data from 1984 are used because these survey items were first asked in that year. Years of study for each discipline are based on the high school curriculum recommendations of the National Commission on Excellence in Education.

Even after 20 years of progress in which all students increased their minimum levels of preparation, gender differences persist in the science-related disciplines in two important areas: Women are less likely to have taken two years of physical science (56.7 percent) and a half year of computer science (56.9 percent) than men (63.7 percent and 67.2 percent, respectively) (Table 3). However, the gender gap has closed in terms of the minimum standards for mathematics preparation. In 1984, about 87.8 percent of female students and 91.9 percent of male students reported three or more years of mathematics study in high school, figures that have increased to 98.6 percent for women and 98.5 percent for men in the last 22 years. Both male and female students showed significant increases in terms of the proportions reporting two or more years of biological science study, increasing by 34.5 percent for male students and 28.0 percent for female students since 1984. It is important to note that women were always somewhat more likely than men to have taken two years of biology prior to college entry, an

advantage that now appears to have multiplied with the increased representation of women in baccalaureate-granting institutions, likely contributing to higher percentages of women applying to medical schools (www.aamc.org/data/facts/2006/2006summary.htm). (For additional trends in gender differences using CIRP data, see Sax, forthcoming; trends by racial/ethnic group are also available in forthcoming reports from the Higher Education Research Institute.)

Table 3.
Years of High School Study in Subject Areas by Gender

	Women			Men		
	1984	2006	Percent change	1984	2006	Percent change
Mathematics (3 years)	87.8	98.6	12.3	91.9	98.5	7.2
Physical science (2 years)	50.5	56.7	12.3	62.4	63.7	2.1
Biological science (2 years)	37.9	48.5	28.0	33.3	44.8	34.5
Computer science (1/2 year)	50.1	56.9	13.6	61.4	67.2	9.4

Note: Trends data from 1984 are used because these items were first asked in that year. Years of study for each discipline are based on the curriculum recommendations of the National Commission on Excellence in Education. Percent change refers to proportion or relative percent change between 1984 and 2006.

Trends for Remedial Education

In the last ten years, no less than 41 state legislatures, governing boards, and higher education systems have considered or enacted policy initiatives directed at limiting or reforming remedial education in two- and four-year institutions (Mazzeo, 2002). In 2000, an NCES survey of all Title IV degree-granting, 2-year and 4-year institutions found that 76 percent offered at least one remedial reading, writing, or mathematics course (NCES, 2003). Over 98 percent of public 2-year institutions offered remedial courses, while 80 percent of public four-year institutions and 59 percent of private four-year institutions offered such courses. Over time, more four-year institutions have moved away from offering remedial or developmental courses (NCES, 2003). However, many policy and empirical questions remain as to whether remediation should continue to be offered by all sectors of higher education or

whether it should be relegated to the two-year sector and/or the K-12 public education system. Perhaps the most central policy concern is the challenge of the under-prepared student and the attendant effects of remedial programs on student achievement and matriculation through the higher education pipeline.

CIRP Freshman Survey trends data offer an additional dimension to these institutional trends on remediation, as they indicate that the need to help students meet college-level expectations persists and requires creative, new initiatives that bridge the gap between high school curricula and basic college preparation. While many more students are meeting the minimum standards for coursework in high school, these data do not delve into the quality of these courses. We do not know, for example, whether three years of mathematics coursework actually prepares students for college-level work. For this reason, we ask students to indicate whether they had special tutoring or remedial work in high school in each of these key subject areas (Table 4).

While there have been some increases since 1979 in the percentage of students reporting they had special tutoring or remedial work in high school, the largest increases have occurred in mathematics, with 12.7 percent of students in 2005 compared with 7.5 percent in 1979. However, there have been remarkably small changes in the last ten years. In general, the percentage of students reporting they feel they need remediation upon college entry has declined since 1971, particularly in foreign language, science, and mathematics.

Table 4.
Percentage of Students Reporting Special Tutoring or Remedial Work

	Percent in			
	1971*	1979*	1995	2005
Had tutoring or remedial work in high school				
English	NA	5.8	4.9	6.0
Reading	NA	5.9	4.4	5.0
Mathematics	NA	7.5	11.2	12.7
Social studies	NA	4.9	3.2	3.6
Science	NA	4.6	4.3	4.9
Foreign language	NA	3.8	4.4	5.0
Will need special tutoring or remedial work in college				
English	14.7	10.9	9.9	9.4
Reading	10.0	4.9	4.4	4.4
Mathematics	34.6	21.5	24.6	24.1
Social studies	3.4	2.5	3.3	3.3
Science	22.3	9.7	11.1	10.9
Foreign language	23.0	9.5	11.3	11.1

Note: * Indicates first year survey item was introduced on the survey.

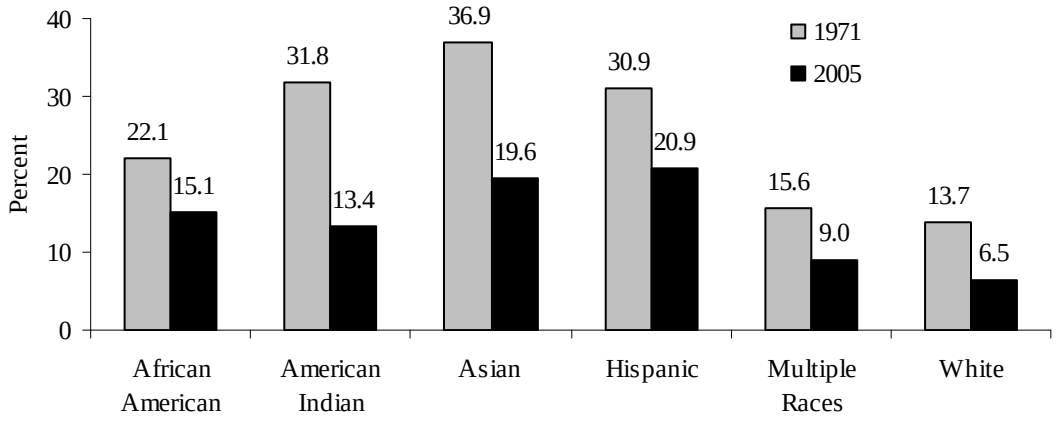
More significantly, there has been virtually no change over the last ten years in the percentage of students who feel they need tutoring or remedial work in college. Almost a quarter of students entering college (24.1 percent) still feel they need special tutoring or remedial work in mathematics. This is occurring at the same time that many public four-year colleges have begun to move away from offering remedial or developmental coursework and relegated such offerings to community colleges and high schools (Ignash, 1997). As such, state legislators are concerned for those students who have done well in high school but find that they are unable to meet college-level standards for academic performance (Mazzeo, 2002).

Perhaps even more compelling are the trends for remedial education across racial/ethnic groups. Figures 3 and 4 reveal important differences across race/ethnicity that serve to reaffirm the academic preparation gap that exists at college entry. Over the last 35 years,

student expectations for needing college remedial work in English and mathematics have decreased for all groups, although persistent gaps remain.

For example, in 1971, White students reported the lowest expectation for needing remedial work in English (13.7 percent), a figure that was about half that for African American students (22.1 percent) and almost two-thirds less than for Asian students (36.9 percent). By 2005, the percentage point differences between these comparison groups had dropped significantly. Asians and Hispanics (most likely second language users) reported considerable drops but these are the groups still most likely to report some tutoring or coursework needed in English preparation at college entry.

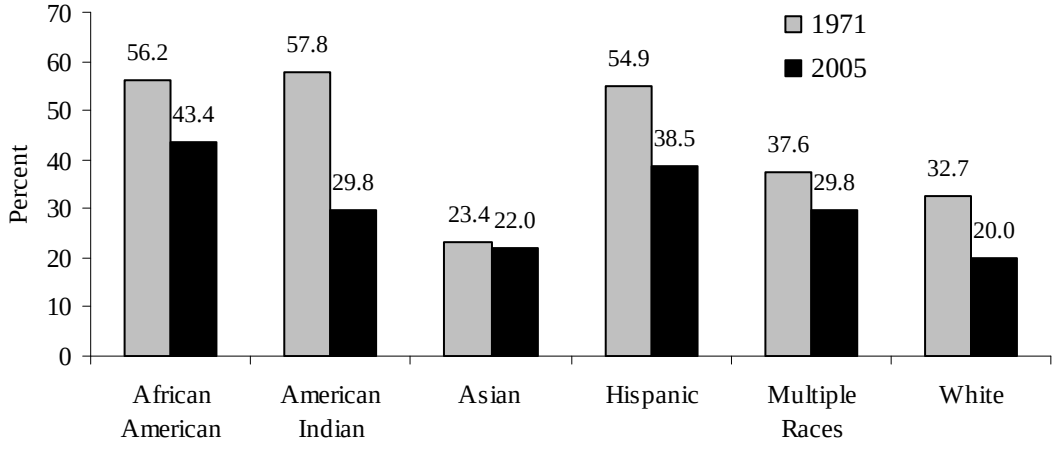
Figure 3. Will Need Special Tutoring or Remedial Work in English During College



Mathematics preparation at the K-12 level is acknowledged as the critical gatekeeper for entry into many science, technology, and engineering disciplines and career paths for students. Student trends data suggest that critical differences persist across groups, with racial/ethnic minority students still lagging behind their Asian and White peers with respect to academic preparedness in mathematics upon college entry. In 1971, over half of all entering

students from African American, American Indian, and Hispanic racial/ethnic backgrounds expected to need college remedial work in mathematics, figures that have steadily dropped to the 2005 levels observed in Figure 4. Yet, while drops are apparent for all groups, the between-group differences have been preserved over time, and they remain a cause for continuing concern as well as a driver of policy and programmatic intervention. American Indians reported the greatest decline in need for remedial work, while African Americans (43.4 percent) and Hispanics (38.5 percent) are more likely to report they will need some type of special tutoring or coursework in mathematics. In addition, one in five White students enters college reporting a need for remedial work or special tutoring in mathematics. Placement tests administered during orientation, about the same time that students take the Freshman Survey, may have influenced their expressed need to meet the demands of college level work.

Figure 4. Will Need Special Tutoring or Remedial Work in Mathematics During College



While the data indicate that today's freshmen, compared with cohorts 35 years ago, report less of a need for remedial English and math preparation, it is important to note that many of these figures have changed very little in the last ten years despite the "No Child Left Behind" initiative and state interest in removing remedial education in many four-year college

and university systems. It may be premature to abandon special coursework to help students meet the demands of college-level work, particularly in mathematics and English. Recent research on the impact of remediation at the college level reveals that students required to take remedial coursework in English or mathematics in college were more likely to persist, transfer to a higher-level college, and complete a baccalaureate degree; thereby increasing degree attainment in states that need it most to improve their economies (Bettinger & Long, 2005).

At the same time that students have indicated a continuing need for better high school preparation, we have witnessed changes in students' self-ratings of academic ability. Table 5 shows the trend for increases in key academic self-ratings. Most significantly, from 1966 to 2006, the highest increases have occurred in intellectual self-confidence (20.7 percentage point increase from 39.0 percent to 59.7 percent), writing ability (17.7 percentage point increase from 30.0 percent to 47.7 percent) and drive to achieve (12.4 percentage point increase from 60.2 percent to 72.6 percent). In fact, students' self-ratings indicating their drive to achieve are at an all-time high in 2006.

Table 5.
Student Self-Ratings: Above Average or Highest 10% Compared to Average Peer

	Percent in		
	1966	1991	2006
Academic ability	64.3	64.2	68.6
Creativity	NA	NA	56.6
Drive to achieve	60.2	72.0	72.6
Mathematical ability	39.2	43.1	43.7
Self confidence (intellectual)	NA	58.5	59.7
Writing ability	30.0	45.9	47.7

However, as the trend lines indicate, it should be noted that most of the dramatic increases occurred during the first 20 years of the survey. That is, a heightened sense of academic ability is not characteristic only of the millennial cohorts. Much smaller increases were reported in areas of mathematics ability and academic self-confidence, while self-ratings of creativity posted the largest increase in the last ten years.

Other Key Academic Trends

Higher Proportions Report Coming Late to Class, Signs of Abatement. The proportion of students who report coming late to class in the last year of high school increased from 48.2 percent in 1966 to 60.6 percent in 2006. This may well be a sign of "senioritis," although it is important to note that this is an improvement from its all-time high five years ago (65.1 percent in 2001). That is, in the last five years, there has been a slight reversal of this trend. It could be that students are aware that more college admissions officers are evaluating academic rigor and involvement through the senior year of high school. Recent national reports call for greater attention to better preparing students in the last year of high school for college (AACU, 2007).

Declining Proportion of Students Report Studying/Doing Homework. Fewer students in 2006 (32.8 percent) report spending six or more hours per week studying or doing homework as seniors in high school than in 1987 (47.0 percent), when we first introduced a time diary to record student involvement. The proportion of students who spent at least six hours represents an all-time low in the last two years. A little over half (52.9 percent) spent between 1 and 5 hours a week studying in high school.

Declining Interaction With High School Teachers. The percentage of students who report having been a guest in a teacher's home at least occasionally has dropped from 39.7 percent in 1967 to almost half that level, 22.9 percent in 2006. Those who reported frequently asking teachers for advice after class dropped slightly, from 28.2 percent in 1967 to 26.0 percent in 2006. The students' time diary gives a more exact account of how frequently they interact with teachers: About 10 percent of students report that they do not talk to teachers outside of class at all on a weekly basis (an increase from 6 percent in 1987), and about 43 percent indicate they spend less than an hour. Fewer students spend an hour (or more) per week compared to cohorts 20 years ago. These statistics are concerning given that faculty interaction in college is associated with a host of educational outcomes (Astin, 1993; Pascarella & Terenzini, 2005). Moreover, interaction with instructors may be critical to students understanding course content, acquiring academic skills, and feeling academically integrated.

Low Grades a Thing of the Past? Only 1.3 percent of entering freshmen in 2006 report making a C average in high school compared with 8.6 percent of students in 1966**.** This trend of high grades, referred to as "grade inflation," has continued unabated since we first reported it in 1987 (Astin, Green, & Korn, 1987), with the most dramatic increases in the last 20 years. In the last ten years, increases have continued to occur in the proportion of students reporting an A- average, reaching a high point in 2006 (24.1 percent). The highest proportion of students who reported an A or A+ high school grade point average was reached in 2004 (23.7 percent). A deeper examination of the trends data confirms that, as students take a higher proportion of honors and AP courses, they are more likely to report a higher high school grade point average at college entry (Table 6). Moreover, upon college entry, 60.6 percent of

freshmen in 2006 state that they expect to earn at least a B average in college compared to only 26.7 percent in 1967.

Table 6.
AP Course/Exam Patterns by High School Grade Point Average (2006 only)

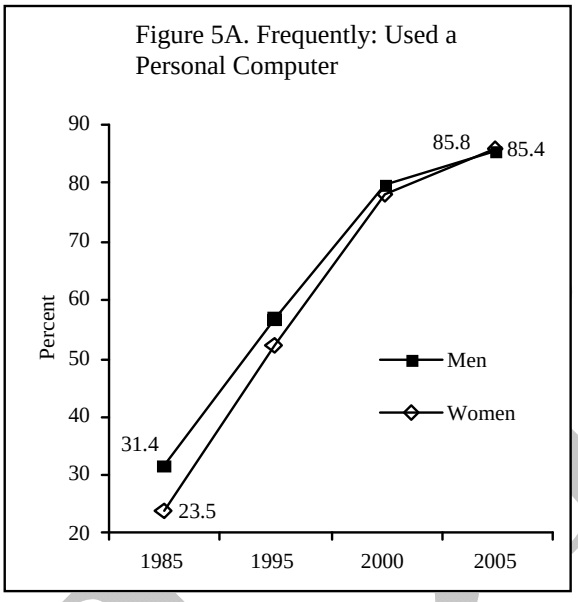
		C+ or less	B- to B+	A- or higher
AP COURSES taken	None offered at my high school	5.6	44.5	49.8
	No AP Courses	9.2	66.9	23.9
	1 to 4	2.4	45.7	51.9
	5 to 9	0.6	23.3	76.2
	10 or more	1.3	19.1	79.5
	Total	4.5	49.0	46.5
AP EXAMS taken				
	None offered at my high school	5.6	45.2	49.1
	No AP Exams	7.9	63.9	28.2
	1 to 4	1.9	41.8	56.3
	5 to 9	0.5	21.2	78.3
	10 or more	1.2	16.7	82.1
	Total	4.5	49.0	46.5

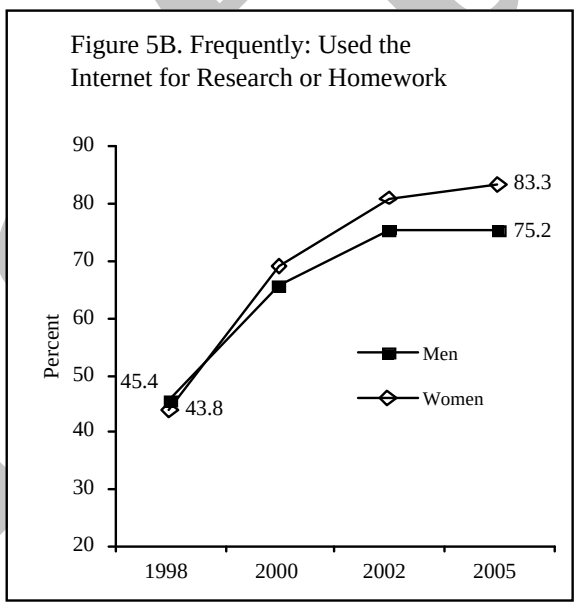
Trends in Technology Use Among Entering College Students

In more recent years, entering college students have likely grown up in a world that is fully wired, integrated, and web-enabled, resulting in some interesting trends related to their use of computer and internet technologies. In its 2004 report, *A Nation Online,* the National Telecommunications and Information Administration reported that 86.7 percent of the "in-school population between the ages of 18-24 had some form of internet access (e.g., at home, at school, local library)" (NTIA, 2004). This represented the highest rate among any age subgroup in the entire survey, including adults in the age range of 25 to 49 that were in the labor force (71.7 percent).

This same age cohort for young adults (18-24) closely resembles the entering college student population within our CIRP Freshman Survey trends data. Figures 5A and 5B display

students' frequency of use of personal computers in general as well as their use of the internet for research and homework. Not surprisingly, given the broader trends noted by NTIA, entering college students have reported more frequent use of computers and the internet over the last decade. In fact, frequent use of a personal computer among entering female students has more than tripled in the last 20 years, from 23.5 percent in 1985 to 85.8 percent in 2005. Frequent computer usage rates for male students have also increased dramatically in this time span (85.4 percent in 2005).





Female incoming students have surpassed their male counterparts in their utilization of the internet for research or homework, as their rates of frequent use have almost doubled from 43.8 percent in 1998 to 83.3 percent in 2005. Entering college male students have also shown an increased utilization of the internet for educational purposes, increasing from 45.4 percent in 1998 to 75.2 percent in 2005. Growth in frequent use of the internet for both groups is clearly evident, and it is a sign of the increased utility of the internet as a medium for educational intervention and instructional practice. However, there does appear to be an increasing gap

between male and female students in their use of the internet for educational purposes, which may be emblematic of their varied interests and motivations for using the internet. This growing dichotomy in the use of the internet should be closely watched by institutions that are increasingly moving towards more web-based and interactive methods of instruction. A recent set of questions on the CIRP Freshman Survey indicates that incoming women are more likely to frequent blogs, while men are more likely to access internet news sites.

Other prominent gaps in computer and internet use are also evident when examining trends data along racial/ethnic and socioeconomic lines (Table 7). Within the broader U.S. population, NTIA (2004) reported that 65.1 percent of the White (only) population and 63.0 percent of the Asian American/Pacific Islander population were internet users, while these rates were significantly lower for the Black (45.2 percent) and Hispanic (37.2 percent) populations. Comparing these data with our CIRP trends data reveals similar differences across racial/ethnic groups for entering college students. In 1998, 40.5 percent of White (only) and 51.0 percent of Asian American/Pacific Islanders reported frequent use of the internet for research or homework, a significant difference when compared against Black (only) and Hispanic students (at 32.1 percent and 34.2 percent, respectively). By 2005, all racial/ethnic groups showed dramatic increases in the frequent use of the internet for research or homework. More importantly, while the racial/ethnic group differences in this kind of internet use have diminished somewhat, these differences remain salient for institutions as they contend with pervasive gaps in other benchmarks, such as academic achievement, success, and retention for under-represented groups.

Table 7.
Internet Use by Racial/Ethnic Group and Family Income

Category	Internet Users, U.S. Pop. (2004)	"Frequent" Use of the Internet for Research or Homework	
		Entering College Freshmen (1998)	Entering College Freshmen (2005)
Racial/Ethnic Group	%	%	%
White (only)	65.1	40.5	80.0
Black (only)	45.2	32.1	75.9
Asian Amer. & Pac. Isl. (only)	63.0	51.0	82.2
Hispanic (of any race)	37.2	34.2	77.8
Family Income			
Less than $15,000	31.2	30.6	72.5
$50,000 - $74,999	71.8	42.5	79.3
$75,000 - $99,999	79.8	45.9	80.7
$150,000 & above	86.1	52.1	83.5

Note: The word "only" in parentheses indicates that students in this group include only those students that reported belonging to this racial/ethnic group at the exclusion of all others. Hispanics can be of any race.
Sources: U.S. population data is from NTIA, 2004; CIRP Freshman Survey Trends Data is from 1998 and 2005.

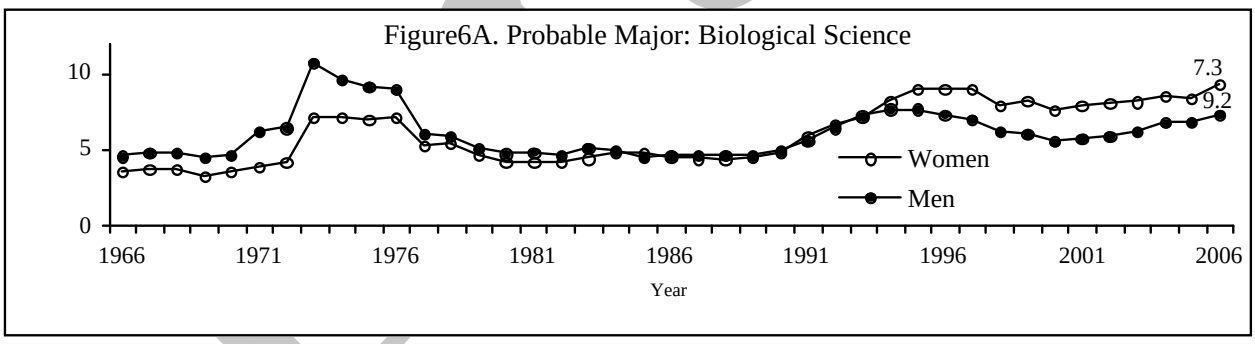
Even greater gaps in internet use were noted across household income categories, as only 30.6 percent of entering college students in 1998 from the lowest income range reported using the internet for research or homework compared to 52.1 percent of those in the highest income range. Seven years later, the gap in internet use (i.e., for research or homework) between the lowest and highest income range students had diminished considerably, from a difference of 21.5 percentage points in 1998 to 11.0 percentage points in 2005. In short, persistent gaps between student groups in the use of the internet as a tool in the educational experience remain, but much progress has been made in recent years in closing these gaps across race and family income levels.

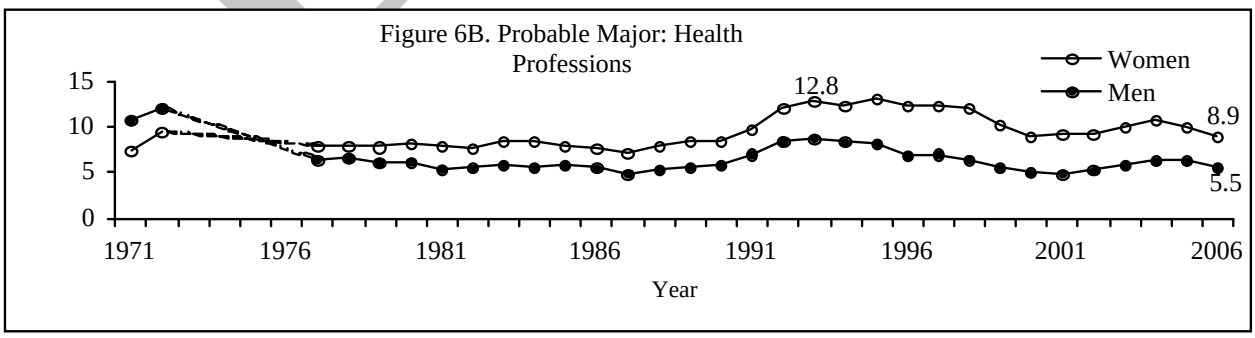
Interest in Biological and Health Science is on the Rise, Women Take the Lead

In recent years, policy imperatives have been continually raised with regards to science and math preparation as well as the attendant shortages in those professions that require strong science and math orientations. The Spellings Commission report (U.S. DOE, 2006)

highlighted these shortages as a key area of concern for the future of higher education. CIRP Freshman Survey trends data reveal some promising developments with regards to growing interest in the sciences and health professions as fields of study.

Figures 6A-C track probable majors in the biological sciences, health professions, and nursing. Trend data on these probable majors reveal a mixed portrait of changing interests for both male and female students at college entry. In the biological sciences, a key finding is that interest in this field has been on an upswing since the early 1980s. Even more interesting is the fact that female students have eclipsed male students since the mid 1990s in reporting a strong interest in majoring in this field. Most importantly, the proportions of female (9.2 percent) and male (7.3 percent) students who reported a probable major in the biological sciences are at their highest levels since 1976. The challenge for institutions is to sustain and nurture interest in these critical science fields through the college years.

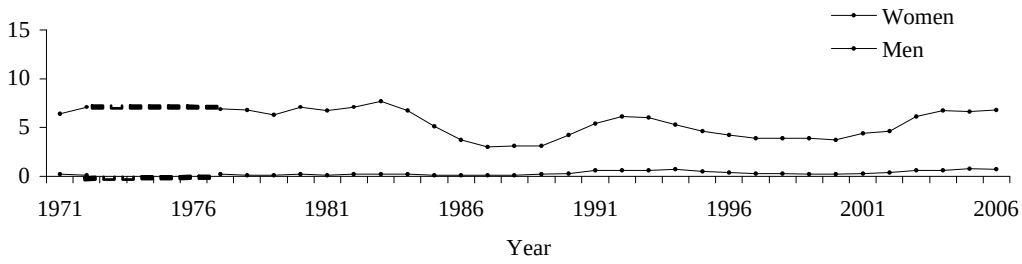




Note: The health professional major includes Medical, Dental, Veterinary, Pharmacy, and Therapy (occupational, physical, speech). For purposes of this trend, it excludes nursing, which is illustrated in the following figure dashed lines indicate that data for these major categories were not available for the corresponding years.

Similarly, interest in the health professions has been stronger among female students than their male counterparts since the mid 1970s, as women have surpassed men in reporting interest in the fields within this category. The cyclical popularity of these major fields over the last 15 years is evident in the various periods of up and down trends for each group. Interest in these majors for female students reached a high point in 1993 with 12.8 percent reporting an interest in the health professions, and this trend has steadily declined since then to its current level of 8.9 percent for 2006. Meanwhile, the trend for male students majoring in these fields has also declined since the mid 1990s.

Figure 6C. Probable Major: Nursing



A more striking gender gap has persisted in students' interest in the nursing major over the last 40 years (Figure 6C). In fact, male student interest in nursing (or lack thereof) has continued to be a dilemma for both higher education institutions and for this health profession sector, which is intent on diversifying and growing its labor force, which is in dire need of more skilled workers. On a positive note, in 2006, women reported their highest level of interest since 1983 for this probable major. Women have remained significantly more interested than men in the nursing major at college entry, and this persistent difference is also

manifested in students' career aspirations and their general over-representation in the nursing field (Astin, Oseguera, Sax & Korn, 2002).

Given the increasing workforce demands for skilled professionals in these critical health profession fields, institutions should pay close attention to the changing interests of their entering student populations, with an eye towards supporting and sustaining student interest in the science and health profession majors and career tracks. Students' commitment to science and innovation remain most apparent in their strong desire to make a theoretical contribution to their chosen science fields. Student commitment has grown in recent years, and is strongest for male students (22.3 percent), who report this goal as essential or very important at college entry in 2006. Women, as well, have reported an increased commitment to this goal in recent years. Such a trend among incoming student populations should serve as notice that interest and commitment to science should to be nourished with appropriate new pedagogies, curricula, and technologies to improve learning in these fields, a priority articulated by both policy imperatives (U.S. DOE, 2006) and workforce needs and realities (NSB, 2002).

College Access and Choice

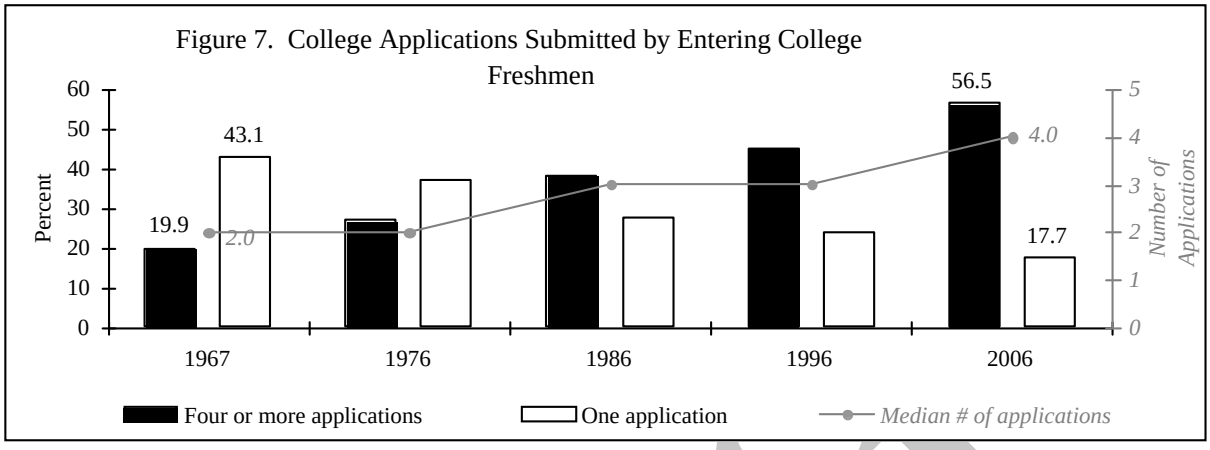
In recent years, higher education researchers and administrators have paid greater attention to the college choice process for students and their parents. In truth, an entire for-profit cottage industry has arisen that offers students a variety of services, resources, how-to books, and multi-college tours, all designed to influence the college choice process. Colleges and universities too have succumbed to market pressures, as they have grown increasingly proactive in their marketing and outreach campaigns, intended to attract the best and brightest to their campuses. Jostling for students, resources, top-notch campus facilities, and high rankings is emblematic of the re-defined cultural norms of the college choice process in the

four-year sector. Institutions have had to become smarter about their packaging and marketing, and students and families in turn are becoming savvier about "shopping" for the best educational value in making their final college choice.

Students Increasingly Apply to More Colleges

In tracking the various factors involved in affecting a students' decision to attend a particular college, the CIRP Freshman Survey trends data highlight many important changes that reflect the evolving nature of the college choice process. One very important contextual fact to establish about the choice process is that students are more likely than ever to apply to a higher number of institutions (Figure 7). In 1967, less than one in five entering college students (19.9 percent) reported applying to four or more colleges, a figure that has nearly tripled to 56.5 percent in 2006. In contrast, the number of students who reported submitting only one college application has declined by more than half during this same time span (from 43.1 percent to 17.7 percent). A closer look at the actual number of college applications submitted by students indicates that this figure has doubled over the last 40 years, a trend that shows little sign of slowing down as the application process becomes increasingly streamlined and web-enabled.

Every spring, when admissions decisions are communicated, one hears stories about the student who applied to 20 or more colleges. In fact, only 2.2 percent of students in 2006 had applied to twelve or more schools, a figure that has increased from 1.3 percent in 2000, but still represents a very low proportion of all students submitting applications.



Note: Data are weighted to reflect a national normative population of first-time, full-time freshmen at four-year institutions. The scale for median number of applications is reflected on the right-hand side of this figure.

Perceived Importance of a College Education Increases

It is interesting to note that almost all listed reasons for attending college have increased in importance over time. This suggests that, over the last 40 years, the college experience is increasingly seen as more multi-faceted by today's incoming students, leading one to infer that the expectations of these students might be even higher than students in the past. This also suggests that students increasingly view a college education as a necessary component to achieving their goals in life.

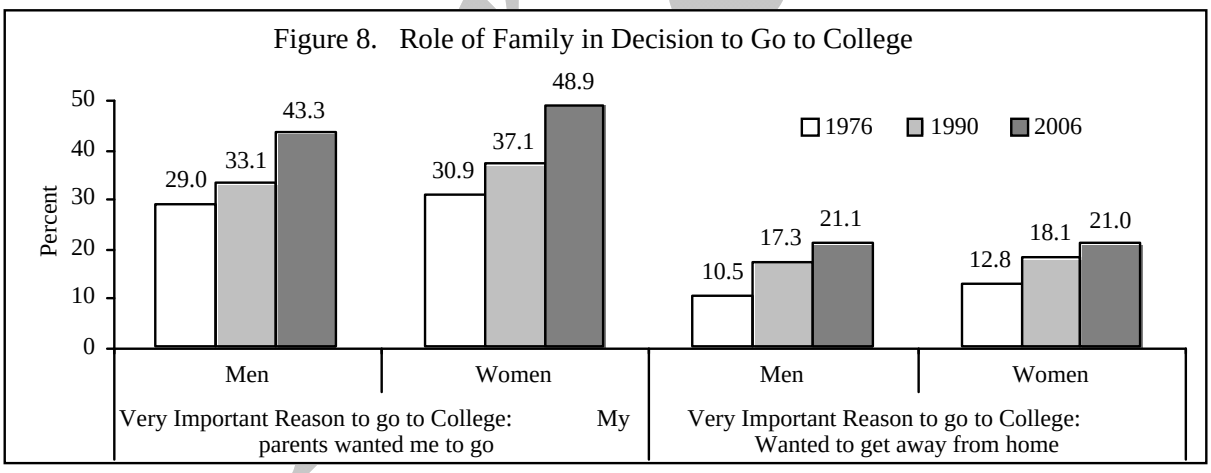
Many of the same reasons for attending college in 1976 (when this question was first regularly asked on the CIRP Freshman Survey) remain important to students making those same decisions today. The top two important reasons in 1976 ("to learn about things that interest me" and "to get a better job") are the top two important reasons 30 years later in 2006. One change has been seen in the importance of seeing the college degree as a way "to be able to make more money." This was a very important reason to go to college for only half (49.9 percent) of incoming students in 1976, but moved up dramatically over the following seven years to 64.9 percent before staying relatively stable in the late 1980s and reaching 69.0

percent in 2006. Another change has been in the proportion of students who reported that preparation for graduate or professional school was a "very important" reason for attending college: from 34.9 percent in 1971 to 57.7 percent in 2006, an increase of about one-third.

Greater Influence of Parents

Trends data in Figure 8 show that entering college students are placing more importance on parental encouragement in deciding to attend college. In 1976, 29.0 percent of male students and 30.9 percent of female students reported parental encouragement as a very important reason for going to college. This figure has increased steadily for both groups through 2006, with female students slightly outpacing their male counterparts. On the other hand, students are also increasingly reporting that getting away from home is a "very important" reason for going to college, nearly doubling in the last 30 years.

Figure 8. Role of Family in Decision to Go to College



Note: Data are weighted to reflect a national normative population of first-time, full-time freshmen at four-year institutions.

The trends for each group in Figure 8 show the relative similarity with which parents of female students encourage them to pursue higher education compared to the parents of male students. The awareness and the value placed on higher education align with larger societal

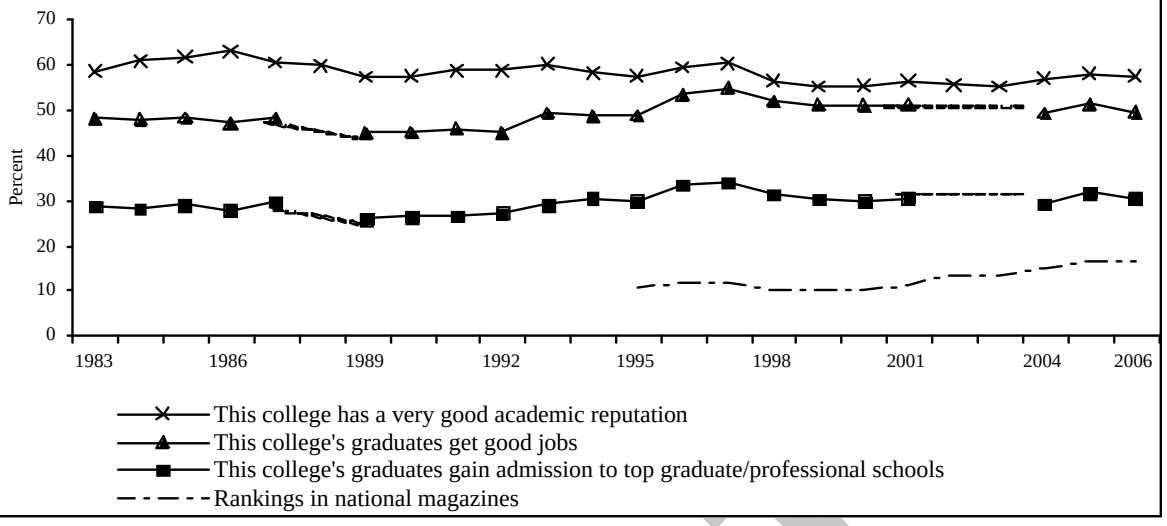
shifts from the industrial employment sector to more technological fields, shifts that are emblematic of how more education is essential in the new global economy. These results further suggest that parents may have increasingly central roles in shaping student's orientation for higher education. Recognizing the perceived increased influence of parents in the college experience, we introduced a new set of items to the 2007 CIRP Freshman Survey that will examine this phenomenon more closely.

Choosing Your College: Relative Importance of Rankings

Entering freshmen are apt to consider a college's academic reputation, the likelihood of gaining entry into a top graduate/professional program, and an institution's national ranking as very important reasons for choosing their respective colleges, and these reasons have not changed much in importance to students in the last 20 years (Figure 9). In 2006, more than half (57.4 percent) of all entering college students indicated that the school's good academic reputation was a "very important" reason for selecting their particular college, almost equivalent to the proportion in 1983 (58.4 percent). Two other characteristics that have held steady as very important reasons for colleges being selected by students are institutional track records of placing graduates in good jobs and in graduate school.

In the last decade, more students relied on rankings to choose a particular college. It should be noted, however, that despite all the hype, only 16.4 percent of incoming students in 2006 reported that rankings were very important in their decision to attend their particular college. Finally, the proportion of students who report that information from a website helped them to choose a particular college has more than doubled in the last five years, from 6.8 percent in 2000 to 17.0 percent in 2006.

Figure 9. Very Important Reasons for Choosing This College



During the spring college decision season, the advent of college rankings has reinforced the competitive dynamic within the higher education marketplace. In some ways, the increasing popularity and use of rankings that purport to categorize the "best colleges" (e.g., U.S. News & World Report) or the "best college buys" (e.g., Money Magazine) or the "best sports schools" (e.g., Sports Illustrated) has re-normalized the entire college decision process to give additional advantage to more affluent students and families. McDonough et al. (1998) contend that, while some may characterize college rankings as the further democratization of college knowledge for the benefit of all, their findings suggested quite the contrary. Namely, they found that more affluent families were much more likely to value college rankings and use them in informing their college choice. The patterns of use of college rankings point to the further reinforcement of advantages that more affluent students already possess with respect to the college choice process, which can lead to greater challenges for lower socioeconomic groups wanting to gain access to the most selective institutions.

Fewer Students Attending Their First Choice Institutions

Fewer students today are attending their first choice institution compared with students in the 1970s. In 1975, 79.7 percent of freshmen reported they were attending their first choice institution. This has reached a new low in 2006, with only 67.3 percent enrolled in their first choice. Further, the percentage of students who report they chose a particular college because they received financial assistance rose from 19.5 percent in 1972 to over one third in 2006 (34.3 percent) — a percentage that has hovered in that range since 1995. In fact, our analysis of college choice and financial concerns indicate that significant numbers of students who had been admitted to their first-choice college are deciding to attend second, third, or fourth (or more) choice institutions based upon economic factors (Pryor et al., 2006).

Parental Income, Affordability, and Financial Concerns

Entering College Freshmen Increasingly Coming from Wealthier Households

Overall, parental income for entering freshmen has markedly increased as measured by students' reported parents' median household income and the U.S. median household income (inflation-adjusted). In addition, parental income for entering college freshmen is rising faster than national income for students attending both private and public institutions, having accelerated during the mid 1980s. In short, today's entering freshmen are more financially advantaged than their predecessors 35 or so years earlier, as they come from households whose incomes are much higher — and the gap is widening. The percentage of incoming students who report having major concerns about financing their education was at 11.6 percent in 2006, the lowest since 1971 (also 11.6 percent) and down from a high of 19.1 percent in 1995.

CIRP Median Household Income vs. National Median Household Income (Current $)

One way to look at the shift in students' parental income is by comparing students' reported median household income and the official national median household income. In 1971, students' median household income was $13,200 while the U.S. median household income stood at $9,028. In 2005, students' median household income was $74,000 while the national median household income in the same year stands at $46,326. As a result, in 1971, entering freshmen came from households where the parental median income was 46 percent above the national median income, and in 2005, that figure increased to 60 percent above the national median income, representing an increase of 14 percentage points. Today's entering freshmen are increasingly coming from wealthier households.

CIRP Median Household Income vs. National Median Household Income (2006 Constant $)

Perhaps the best way to ascertain the relative changes in college students' parental wealth is to compare their median household income with the national median household income while adjusting for inflation. Figure 10A illustrates the general tendencies of college students' parental wealth. Students' parental income rose from $13,200 to $74,000 in current dollars over the 35-year period, representing a 461 percent increase — over five and a half times higher in 2005 than in 1971. National income rose from $9,028 to $46,326 in current dollars from 1971 to 2005, representing a 413 percent increase — five times higher in 2005. Both trends overlaid, and measured in 2006 constant dollars, paint a clearer picture of the sharp increase in college students' parental income relative to national income. In the last 35 years, college student parental income rose from $65,700 to $76,400 (inflation-adjusted), representing

a 16 percent increase, while national income rose from $47,800, to $44,900 (inflation-adjusted), representing a 6.5 percent increase. That is, parental income for the entering college freshmen is outpacing the national income by more than a two-to-one margin. Of particular note is that the mid-1980s ushered in an era where differences between college students' family income and national income were the most pronounced. Between 1983 and 1987, student family income increased from $62,900 to $76,100, representing a 21 percent relative increase, while national income only rose from $42,300 to $46,200, a nine percent relative increase. Thus the 1980s signaled the beginning of an enduring and widening gap: In 1971, students' parental income was $65,700 while national income was $44,900, representing a $20,800 gap (inflation-adjusted), and in 2005, parental income was $76,400 while national income was $47,800, representing a much larger $28,600 gap.

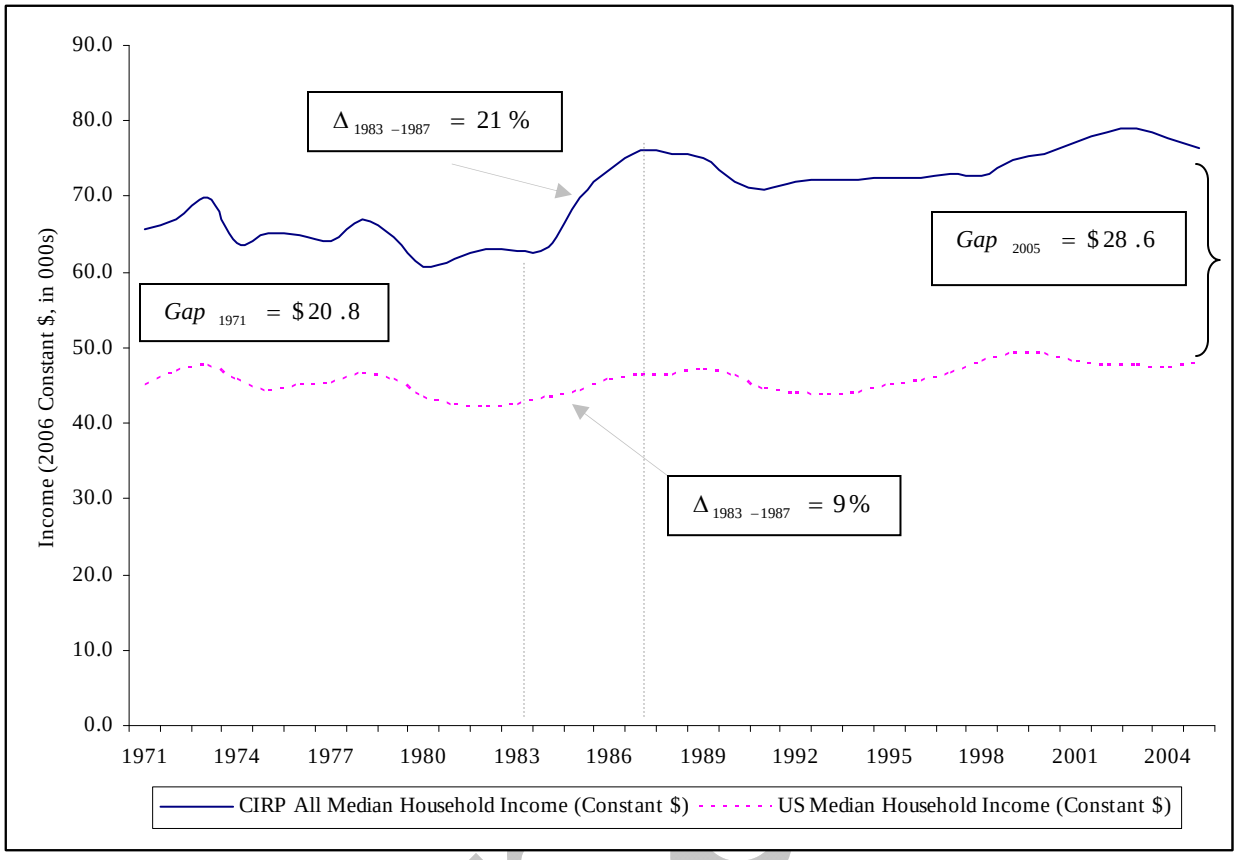


Figure 10A: CIRP Parental Median Household Income and U.S. Median Household Income, in 2006 Constant Dollars: 1971-2005

Note: US Census Official Median Household Income is reported from 1967 to 2005.

Source: Bureau of Labor Statistics, CPI-U Annual Average; US Census Table H-5. Race and Hispanic Origin of Householder—Households by Median and Mean Income: 1967 to 2005; Author's Calculations.

CIRP Median Household Income by Institutional Control (Public/Private) vs. National Median Household Income (2006 Constant $)

Figure 10A illustrates the tendencies of entering college freshmen's parental income compared to national median household income across a 35-year period. But what differences exist between entering college students' parental income at public and private institutions relative to national household median income for the same period, 1971-2005 (inflation-adjusted)? Moreover, what differences exist between entering college students' parental income at private institutions relative to entering college students' parental income at public

institutions? By disaggregating CIRP median household income by public and private institutions and comparing each set of reporting students, we are able to tease out the differences in parental income over time relative to each other and relative to the national median household income (Figure 10B).

Private and Public Differences

For entering students at private colleges, parental income rose from $14,500 to $80,900 in current dollars between 1971 and 2005, representing a 458 percent increase. Measured in 2006 constant dollars during the same time period, parental income for students at privates rose from $72,200 to $83,500 (inflation-adjusted), representing a 15.7 percent increase. Relative to national income, in 1971 the gap (inflation-adjusted) was $27,300, while in 2005 the gap widened to $35,700.

For entering students at public colleges, parental income rose from $12,600 to $71,100 in current dollars between 1971 and 2005, representing a 464 percent increase. Measured in 2006 constant dollars during the same time period, parental income for students at publics rose from $62,700 to $73,400 (inflation-adjusted), representing a 17.1 percent increase. Relative to national income, in 1971, the gap (inflation-adjusted) was $17,800, while in 2005 the gap widened to $25,600.

Thus the rate of increase in students' parental income at publics is faster than for students' parental income at privates, thereby reflecting a closing of the income gap for students' parental income between the two sectors.

A Widening Economic Gap: Explanations and Implications

Parental income for all entering college freshmen is rising faster than national income and contributing to the widening gap as illustrated by Figure 10A. This trend supports the

increased social inequality in the U.S. In fact, the gaps between rich and poor in terms of four-year college matriculation widened from about 1979 to the beginning of the new century and has led to increased economic inequality (Neckerman, 2004).

From figure 10B, two stories emerge. First, the gap between parental income for those students attending publics compared to national income has widened from 40 to 54 percent. Second, parental income in real terms for those students attending publics rose at a faster rate than for those students attending privates, at 15.7 and 17.1 percent, respectively.

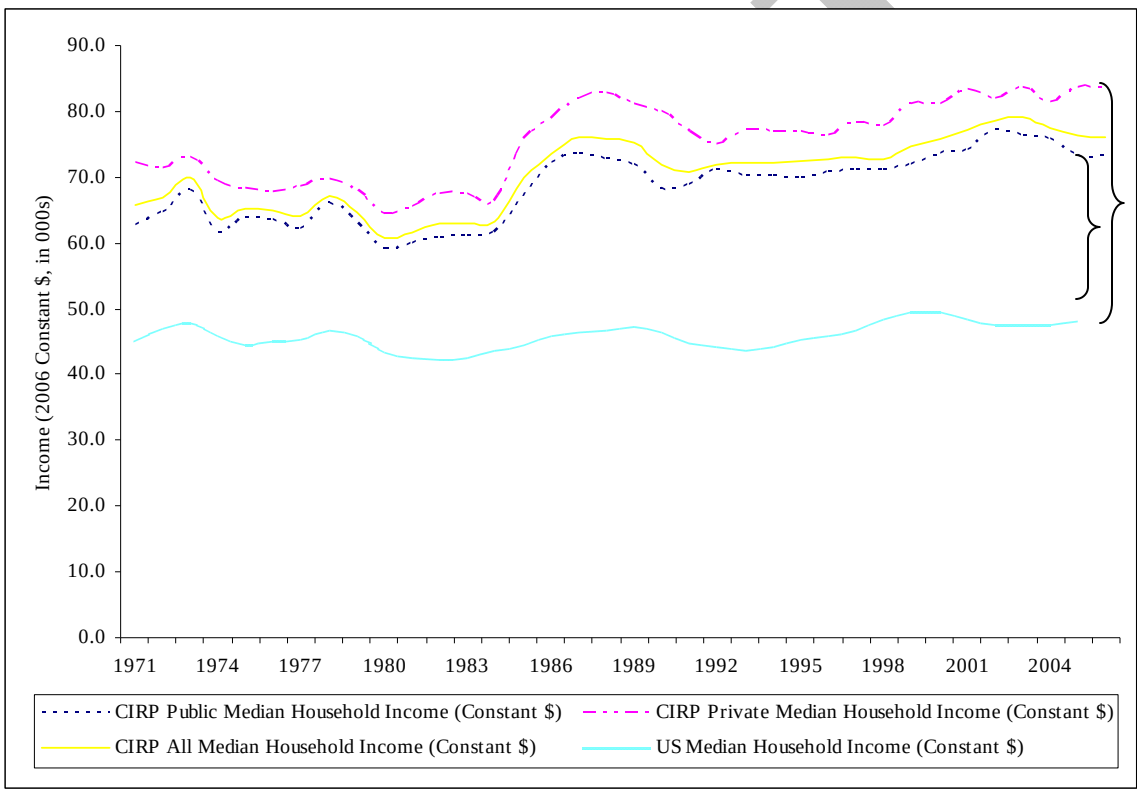


Figure 10B: CIRP Parental Median Household Income (Public/Private) and U.S. Median Household Income, in 2006 Constant Dollars: 1971-2005

Some possible explanations for the widening gaps between parental income for incoming freshmen and national income and the decreasing gap between parental income for those students attending publics versus privates, center around finance policy over the last 30 years or so. According to the College Board (2006), between academic years 1981-82 and 1986-87, the five-year percent change for tuition and fees in 2006 constant dollars increased by 31 percent at public four-year colleges and universities. During the same time period, tuition and fees rose 36 percent at private four-year colleges and universities. It is likely that this large percent change (inflation-adjusted) adversely affected low-income students as these students are most responsive to changes in posted tuition and fee increases, thereby changing the composition of students entering college as measured by median income for the years 1983 through 1987. Between academic years 2001-02 and 2006-07, the five-year percent change for tuition and fees in 2006 constant dollars increased by 35 percent at public four-years and only 11 percent at private four-years. As tuition and fees continue to rise faster (inflation-adjusted) at public-four years than at private four-years, students from lower income families are most affected.

From 2000 through 2005, colleges and universities increased tuition prices at twice the rate of inflation during each year. Moreover, government subsidies have decreased dramatically during the same time period as the federal government has shifted its financial aid policies from grants to loans. State policy has also shifted in some states, favoring merit aid versus need-based aid.

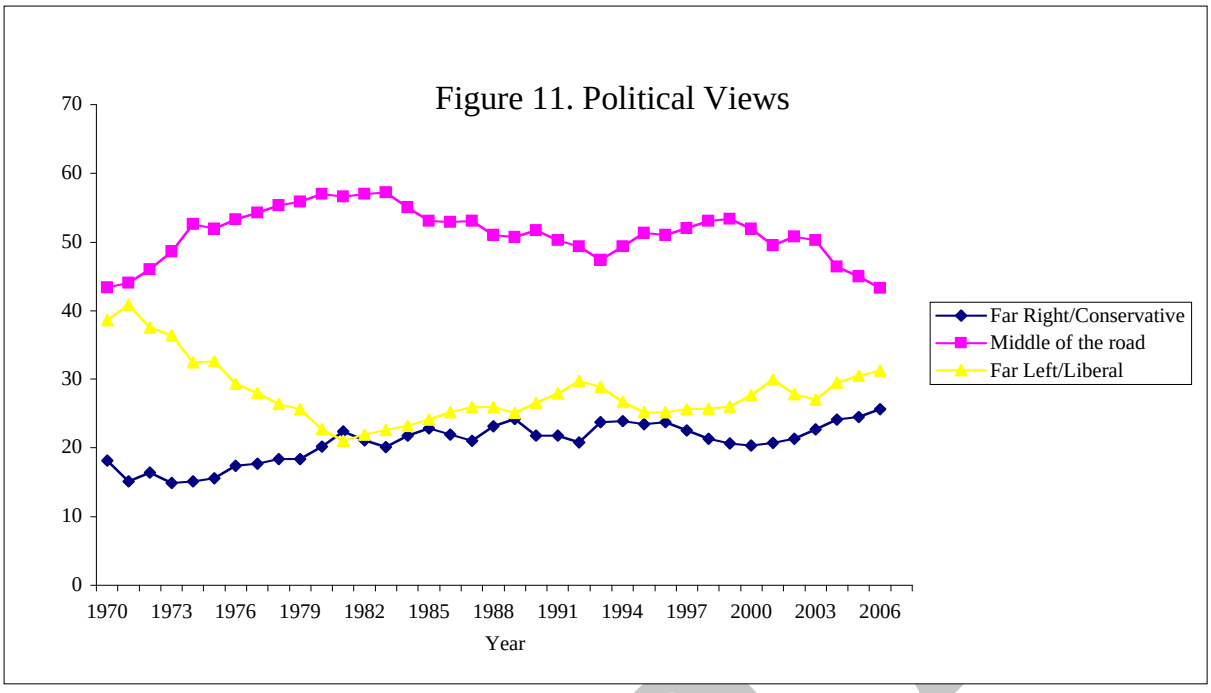
Since the mid to late 1980s, public universities have experienced decreasing state funds in terms of market share in their revenue sources (Mumper, 1996; Hovey, 1999; Boyd, 2002; Santos, 2007) as a share of their revenue sources. This reality has led universities to increase

tuition and fees in an effort to offset state appropriation shortfalls — leading to large percent increases from time to time.

Taken together, major shifts in finance policy have contributed to these results. Moving forward, if finance policy from the federal, state, and institutions continues in this way, we can project that students coming from poorer households will be priced out of the college-going market.

Political Affiliation and Views Become More Polarized in Some Areas

Fewer of today's students self-report their political ideology as middle-of-the-road, and increasing percentages are identifying as liberal or conservative, with both liberal and conservative numbers moving up to high levels (Figure 11). In 1970 (the first year in which this question was asked), 35.7 percent of students identified as liberal, but the percentage quickly declined to under 30 percent in 1976. The 2006 level of 28.4 percent is the highest since the mid 1970s. Students identifying as conservative are at an all-time high in 2006 (23.9 percent). Although the trend has been cyclic over time, there has been a movement away from having a moderate political stance and towards identifying as liberal or conservative since 1999. Accompanying this change has been the increased tendency of students to have discussed politics frequently in high-school, now at an all-time high in 2006 at 33.8 percent.

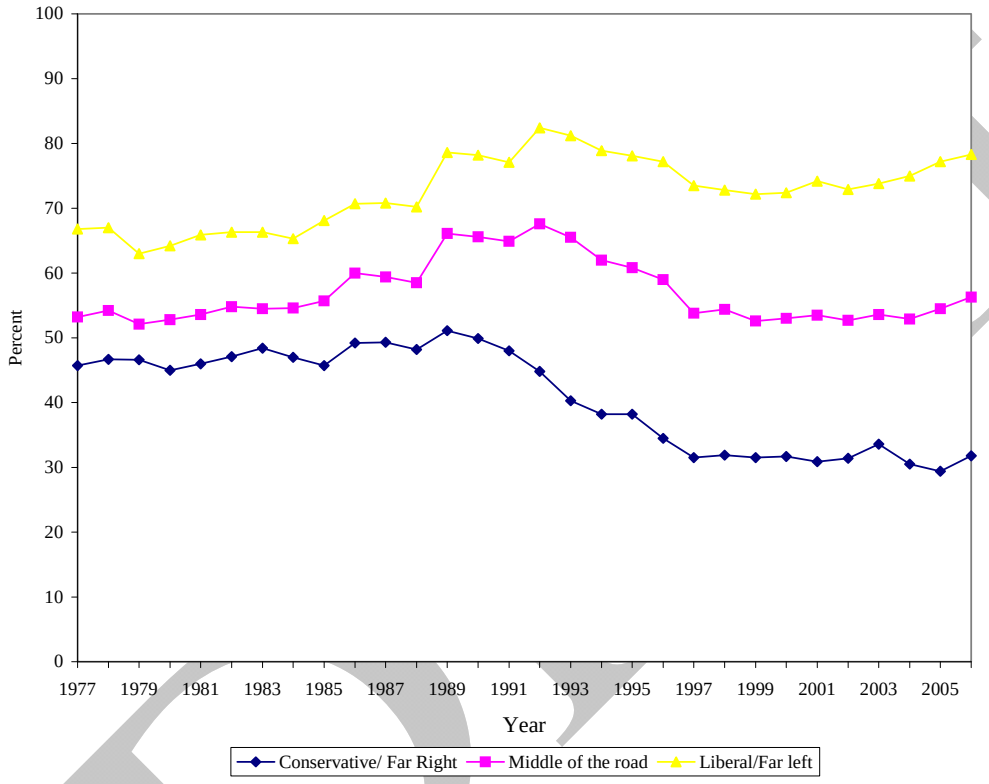


The social and political views examined in the CIRP Freshman Survey can be analyzed by self-reported political affiliation as liberal or conservative, and doing so can illustrate how the views of such students have changed relative to each other over time. In examining the following trends, we have combined data from conservative and far right students as well as the data from liberal and far left students.

One of the more dramatic changes in the views of incoming students has been towards the legalization of abortion, as relative support has fluctuated over the decades (Figure 12). The percentage of incoming students who agreed that "abortion should be legal" was first measured in 1969 at 78.8 percent, and then rose to what would be the all-time high at 85.7 percent in 1970. When next measured in 1977, support for legalization had dropped to 55.6 percent, a drop of 30.1 percentage points. The next period of growth in support was in the mid to late 1980s and early 1990s, reaching 67.2 percent in 1992 but then dropping to an all-time

low in 1999 of 53.2 percent. Since then, support for the legalization of abortion has risen slightly to the 2006 level of 56.8 percent. Thus, overall, there is a cyclical pattern of support. We currently seem to be in a moderate phase that is moving in a more liberal direction.

Figure 12. Abortion should be legal



The pattern of change is even more interesting when we break out support by political ideology. In 1977, there was a 21.1 percentage point spread between liberal/far left students and conservative/far right students on this issue, with 45.7 percent of conservatives/far right agreeing that abortion should be legal compared with 66.8 percent of liberals/far left. Middle-of-the-road students agreed with the statement at 53.2 percent, and while slightly more aligned with conservatives, ultimately situated themselves, as their label indicates, in the middle of the road. There were slight changes up and down a few points for the next few years until the

early 1990s, when the liberal/far left students and conservative/far right students broke away in opposite directions: Liberals more likely to support legalized abortion, and conservatives less likely to do so. Since that time, the spread has become even greater, such that in 2006, liberal/far left students supported the legalization of abortion at a much higher 78.3 percent compared to 56.3 percent for middle-of-the-road students, and a much lower 31.8 percent for conservative/far right students. The 21.1 percentage point difference between these two groups in 1977 had grown to 46.5 percentage points in 2006, reflecting a huge difference in opinion.

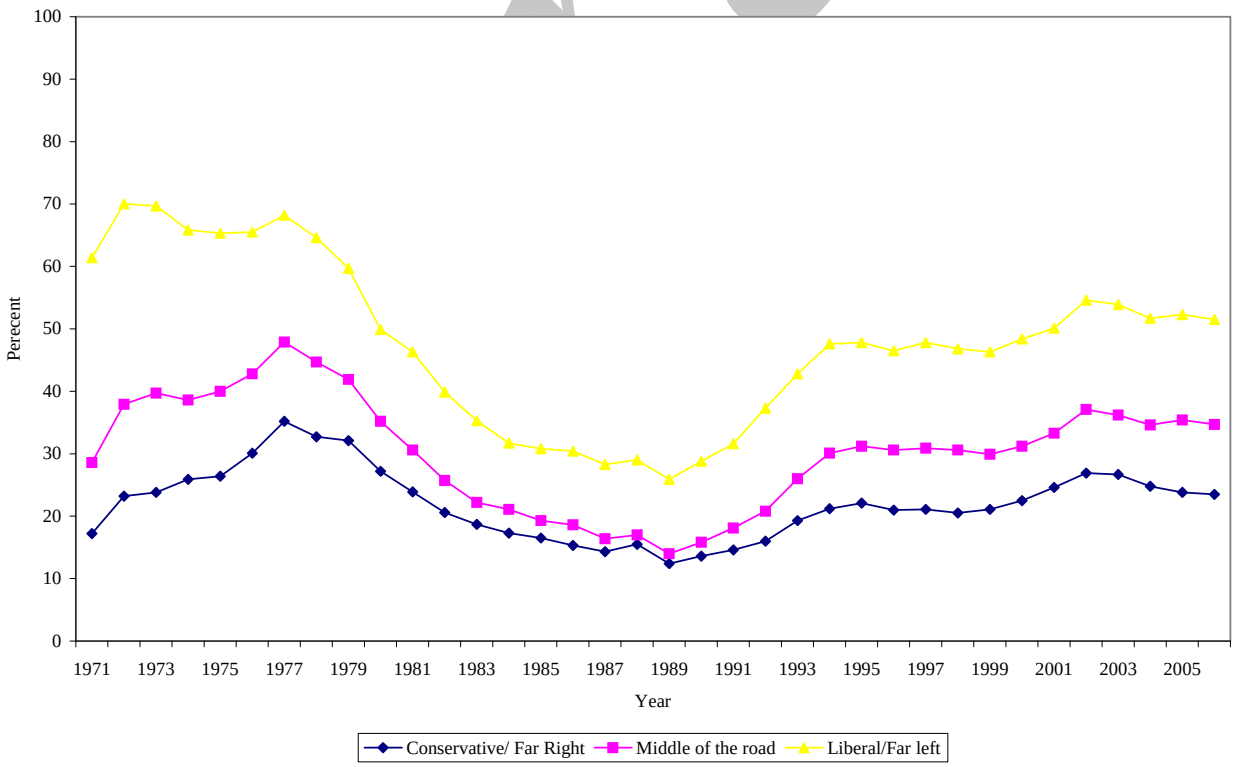
Another large change in socio-political views among incoming first-year students is reflected in the decline of support for laws against "homosexual relationships." The prevalence of the belief that such laws are important fell since first asked in 1976, from 43.6 percent to 25.6 percent in 2006, a drop of 18.0 percentage points. Over a shorter period of time, we saw an increase in those who believe that same-sex couples have a right to legal marital status, from 50.9 percent in 1997 to 61.2 percent in 2006, a move of 10.3 percentage points

This is another area in which we see a widening gap between conservative/far right and liberal/far left students. In 1976, 32.0 percent of liberal/far left students believed that it was important to have laws that prohibit homosexual relationships, compared to 54.7 percent of conservative/far right students. While the support for such a position has dropped in both cases, the drop is far more pronounced with the liberal/far left students, such that only 11.0 percent support having laws to prohibit homosexual relationships compared to 48.5 percent of conservative/far right students. The spread has moved from 22.7 percentage points to 37.5

percentage points, and while only a small minority of liberal/far left students supports such laws, almost half of the conservative/far right students do so.

A different pattern can be seen in two other sociopolitical views: the legalization of marijuana (Figure 13) and the use of affirmative action in college admissions. In 1971, only 17.2 percent of conservatives supported the legalization of marijuana, compared to 28.6 percent of middle-of-the-road students and a much higher 61.4 percent of liberals. For the most part, these percentages rose until 1978, when they started a massive plunge to the point (in 1989) where only 25.9 percent of liberal/far left students, 14.0 percent of middle-of-the-road, and 12.4 percent of conservative/far right students supported legalization of marijuana. After 1989, these figures were again on the move, but in the opposite direction. Support for

Figure 13. Marijuana should be legalized



legalizing marijuana jumped, but this time at a fast rate for liberal/far left students and middle-of-the-roaders such that the gap between liberal/far left (at 51.5 percent) and conservative/far right (at 23.5 percent) had diminished from 44.2 percentage points in 1971 to 13.5 percentage points in 1989 and widened again to 28.0 percentage points in 2006. Another way of looking at these trends is that students of all political orientations have changed their opinions about marijuana over time, but the conservatives tend to change less while the liberals tend to change more.

The trend with regard to affirmative action shows yet another pattern. Since 1995, we asked students if they agreed with the statement that "affirmative action in college admissions should be abolished." What we see over the subsequent nine years is that liberal/far left students and middle-of-the-roaders track very closely, and remain fairly stable over time at about 45 percent. During the same time period, the conservative/far right students have moved toward the liberal and middle-of-the-road views, dropping from 63.7 percent agreement with the statement to 52.7 percent agreement, a drop of 11.0 percentage points compared to the drop of 1.3 percentage points for liberal/far left students.

Thus, we see in these data that some student views have shifted dramatically over time. Conservative/far right and liberal/far left students are more polarized on abortion and gay rights, and less polarized on issues to do with the use of affirmative action in college admissions and the legalization of marijuana. With both percentages of students identifying as liberal and as conservative increasing on American college campuses, and the significant increase in 2006 of the percentages of students who report discussing politics, we should expect to see increasing debate on these more polarizing issues.

Not only are liberal and conservative students even more likely to disagree on some of these sociopolitical views, but they also disagree on whether or not colleges have the right to ban extreme speakers on campus. Over half (55.1 percent) of conservative (and far right) students believe that colleges have the right to ban extreme speakers compared to only 28.5 percent of liberal (and far left) students. Thus, not only may some polarizing issues divide students, but the method by which they engage each other in dialogue concerning these issues may also be a point of disagreement. Facilitating dialogue and promoting civil discourse will be a challenge for student affairs professionals and faculty alike.

Trends in Students' Values: A Better Quality of Life and Altruism

Are current students more materialistic now than in the past? Are they more apathetic? Popular media might lead one to believe that materialism reigns alongside civic disengagement, but CIRP Freshman Survey data indicates the issue is more complex. By far, students' top personal objective that they consider to be "essential" or "very important" is "raising a family." Over the years, this has been consistently high compared with other objectives, showing some growth over the years so that now over three-quarters of both men and women view this as a top objective, compared with earlier cohorts where differences between men and women were greater. Figure 14 shows that this goal or value has risen and closely follows students' objective of "being very well off financially." When viewed together, these data speak to students' interest in quality of life as well as an interest in social mobility.

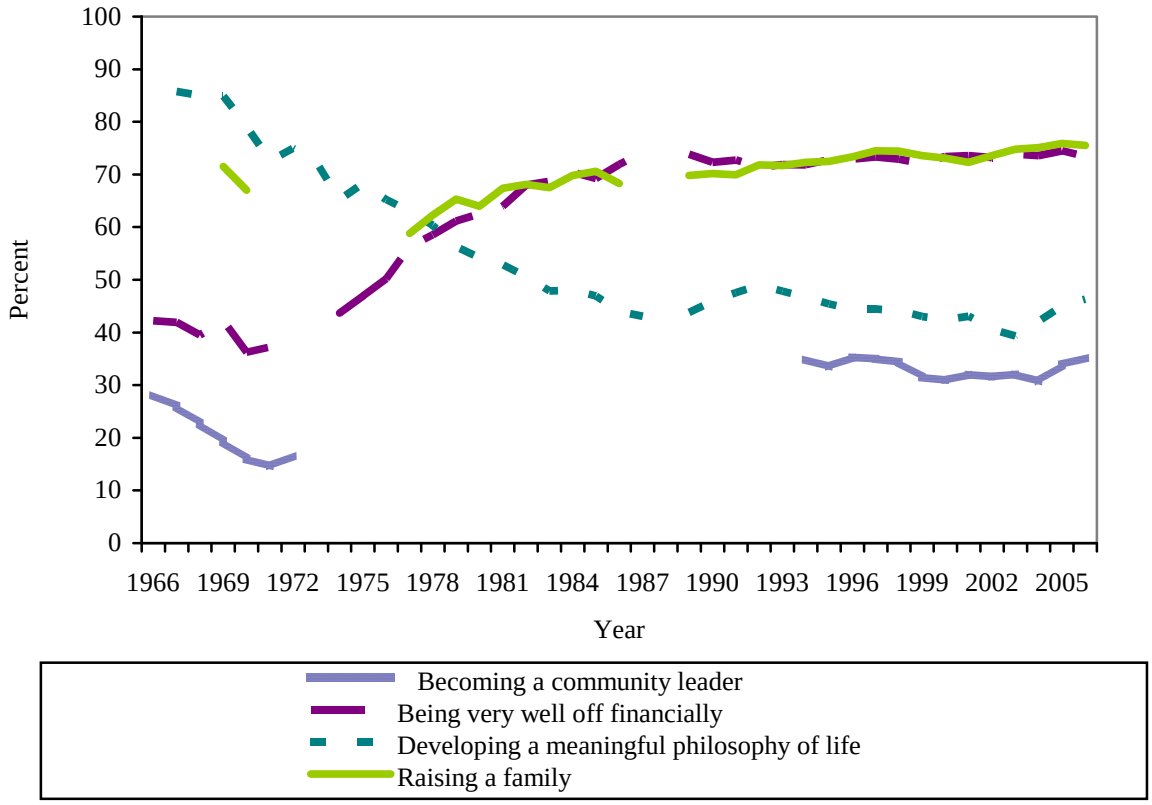
Materialism might be involved in the desire to be financially well off, but it is not the only explanation for its rise, nor is it only characteristic of the millennial generation. Figure 15

shows that much of the growth in the percentage of students who rate highly the importance of being well off financially occurred from 1966 to 1987 (from 42.2 percent to 74.1 percent) and has remained fairly stable since then (73.4 percent in 2006). Several forces may be at work to drive and sustain interest in being well off financially. First, both economists and sociologists are concluding that individuals born in the 1960s and 1970s were among the first generations where upward mobility (doing better than their parents) was less likely, downward mobility is almost as prevalent as upward mobility, and immobility rose to one-third. (See the futureofchildren.org for a summary of this work). Additionally, the desire for social mobility is high when income inequality is on the rise, with downward mobility likely to come at a higher cost. Given the rise in parental income and changes noted in parents' occupations in previous reports (Astin, Oseguera, Sax & Korn, 2002), it is much harder for students to do better than their parents, one is first-generation, African American, and/or low-income — all of whom tend to rate the goal of being well off financially higher than their peers in their desire for social mobility (Saenz et al., forthcoming, Allen et al., 2005). Second, high corporate salaries, young entrepreneurs riding the wave of technology, and stories of common people becoming millionaires (in state lotteries instituted as a result of efforts to create additional revenues for education) convey the notion that being financially well off is not only desirable but also within their reach. These influences work to increase students' interest in social mobility and sustain it.

While there has been stability in the goal of being well off financially, another trend we have observed over the decades that had shown the largest declines among incoming college students now shows signs of reversal. The percentage who report that "developing a meaningful philosophy of life" is a "very important" or "essential" personal goal declined

steadily from 1967 at 85.8 percent to the all-time low of 39.3 percent in 2003. Since that time, however, there has been a slight reversal of this trend and the percentage has moved upward to 46.3 percent in 2006. This indicates that students as of late are seeking ways to bring meaning into their lives at the same time they encounter strong pressures for economic success.

Figure 14. Objectives Considered Essential or Very Important



Students show a resurgent interest in altruistic values. The importance of "helping others in difficulty" is at 66.7 percent, the highest it has been in 20 years (compared with 1986), and in 2006, it was the third highest common value held by incoming students. Becoming a community leader is more important now than ever, with 35.2 percent of students rating it "very important" or "essential." One trend that has increased over time has been

participation in community service or volunteer work. When this item was introduced in 1990, 16.9 percent of incoming students reported that there was a very good chance they would participate in such activities in college, a percentage that steadily increased to 26.8 percent in 2006. Also steady has been the relative participation of men versus women, with women outperforming men in expectations for service in college by about 2-to-1 throughout this period.

We have previously reported on the increase of civic engagement both on campus and on the national and international scale (Pryor et al., 2006). One piece of good news is that more students are engaged in volunteer work in high school, 72.5 % in 1984 moving up to 82.1% in 2006. Moving in the opposite direction, however, has been the percentage of incoming college students who frequently voted in student elections when in high school, a drop from 72.9 percent in 1966 to a low 21.5 percent in 2006. In recent years we asked about students' intention to be involved in student government in college, and the resulting percentage has been very low, at 7.5 percent in 2006 (with almost no change since 2000 when it was first monitored). It appears that students are distinguishing between political engagement and service to communities, an aspect we intend to continue to monitor in understanding students' civic engagement.

Community service and civic engagement have been of particular interest to HERI over the last 15 years. (Readers interested in more detail should view the HERI website at: www.gseis.ucla.edu/heri.) Many institutions are meeting students' expectations by increasing the opportunities for curricular and co-curricular service learning opportunities, pairing up with local volunteering efforts, and in response to recent events in the Gulf coast, even facilitating

opportunities to serve abroad. CIRP data on students' interest in and expectations of community service opportunities indicate that, not only will the demand for such opportunities increase, but they can also affect students' assessment of their own abilities and skills (Astin, Vogelgesang, Ikeda, & Yee, 2000).

Conclusion and Implications for Higher Education

In many ways, the trends we have observed over the 40 years say as much about American society as it does about the students whom we educate and to whom we entrust the future. Different generations of students have been influenced by economic and social forces as well as immediate socialization contexts that are under direct parental influence. One thing is clear across the broad patterns we observed: Though some progress is evident, educational equity continues to be an elusive goal and key challenges remain in addressing diversity, improving teaching and learning, and helping students to acquire the values, skills and knowledge to advance American society. With projected enrollments expected to continue to increase in the future, it is imperative to continue monitoring a variety of trends we identified here among entering freshmen.

At the same time that campuses have become more diverse in many ways, they have also grown more homogeneous in terms of rising levels of parental income and declining proportions of first-generation students relative to changes in education and income in the national population. Though two-thirds of students claim to have racial/ethnic contact in high school, many of them live in neighborhoods and attend schools that reveal less meaningful contact is probable prior to college entry. Moreover, controversial issues that split students along lines of political ideology suggest that contact across differences can lead to conflict. Educating students about diversity, promoting opportunities for practicing modes of civil

discourse, and handling conflict more constructively will be an important skill for student affairs professionals and faculty in classrooms.

Of key national interest is the extent to which students come prepared with the habits of mind, skills, and content knowledge to successfully navigate college-level expectations for academic work. While more students are taking the recommended courses specified in the call for reform in most subject areas, there has been less change among these trends in the last ten years. More improvement is needed in key areas of biology, physical sciences, and computer science to meet minimum benchmarks set 20 years ago as well as more recent national imperatives for science education.

While more students are getting help in mathematics in high school, and students entering college are less likely to report needing tutoring or remedial education than students in the 1970s, it is important to note that progress has stagnated. In the last decade, we have witnessed the educational reform initiatives of "No Child Left Behind," the institutionalization of high school exit exams, and the continuing move by state legislatures to curtail remedial education at four-year colleges. Nonetheless, a steady proportion of students continue to report that they will need remedial work in critical content areas once in college. Rather than dismissing the challenge of remedial/developmental education or relegating it to another educational sector, four-year colleges and universities should reconsider the important stake and responsibility they have in facilitating greater access for all students. New initiatives are needed that link colleges and universities with schools in order to convey expectations for college-level work. In one initiative in California, for example, the state system is providing college placement examinations to juniors in high school so that they are able to use the senior year to prepare for college. Making better use of the senior year in high school to reinforce the

behaviors and skills needed to be successful in college is key, and some colleges already offer coursework for seniors. On campus, many colleges are introducing living-learning programs that offer supplemental education for gateway courses to address students' needs.

One area where we have observed some progress over the last ten years is in the use of technology. Greater use of the computer and internet for academic work is evident among all freshmen entering college. In the information age, more students seek sources of information on the internet for a variety of topics, and while it might make work in college classrooms easier, it also presents new challenges. Students today will need a solid general education that helps them to evaluate sources of information, understand the scientific method, and weigh perspectives they encounter from a wide range of sources now online. Libraries with online resources have to make sure that their students have access to appropriate journals and classic works including online books and workshops to ensure that students include the best set of references in papers and arguments. Constructing teaching aids and course websites, and generating discussions online, require that faculty have access to skills and resources, and time, to construct new e-learning environments. Technology will not result in the improvement of teaching and learning without identifying and addressing these new challenges.

As of late, the millennial generation has taken much criticism for being too narcissistic and materialistic relative to prior generations of young people. However, 40 years of data indicate that most of the upward growth in trends occurred during the mid 1980s, as evidenced in increases to academic self-concept and student desires to be well off financially. Both patterns have been relatively stable — though admittedly high — since that time period. We posit the theory that students' values are largely influenced by economic and social forces, not the least of which has been a concern regarding social mobility in a society where doing well

economically constitutes a better quality of life. At the same time, we identify increasing altruistic tendencies in community service and the desire to help others in difficulty. Colleges have a great opportunity to expand students' thinking, help them reflect on their values, and encourage the development of responsible citizenship. Educating citizens has historically been a mission of higher education, and this central goal experienced renewal in the many service learning initiatives, units devoted to community partnership, and associations of institutions such as NASULGC and AAC&U that have adopted a stance on education for the public good (Kellogg, 2000; AAC&U, 2007).

Meanwhile, market forces continue to shape college access and affordability patterns, leading to increased stratification, more competition for the best students, and the commodification of students and their families. Students are applying to many more colleges (with 56.5 percent applying to four or more colleges, a figure that has nearly tripled since 1967) and higher education has facilitated this through aggressive recruitment and admissions processes that have made it easier for students to apply (e.g., web-enabled application, multiple-application procedures). Getting into the college of one's choice is important, but a student's top choice may not be as affordable as other choice options — manifested in the fact that fewer freshmen report they are enrolling in their first-choice institution and more students are stating they selected a particular college because they were offered financial aid.

Moreover, the rising family income of entering college students — outpacing inflation and the national income levels — suggests that low- and middle-income students may be making other choices (e.g., two-year colleges, for-profit higher education, distance learning). From a market perspective, given the increasing demand for higher education, colleges charge what parents will pay and they can charge significantly more than then do now if demand

continues to exceed the supply. Higher income families can absorb college price and cost fluctuation while other families think harder before doing so, a factor that is clearly affecting the make-up of entering college students. Declining state appropriations for public higher education — which often constitute a major revenue stream — has resulted in public institutions seeking more resources and increasing tuition and fees. Nonetheless, the costs are still low enough that middle- and high-income families are turning to these as a good "bargain." Enabling more low-income students to have good choices, minimizing the competition between institutions, and admitting students using a broad definition of talent are steps that some colleges are taking. More changes are needed, however, to bring the market perspective in line with the broader goals of higher education in advancing social progress.

We are indeed fortunate, through the foresight of Alexander Astin (founding director) and the hard work of those who have facilitated and extended the CIRP over a 40-year time period, to have this extensive database on the American Freshman. As we embark on this fifth decade of data collection, we are also pleased to broaden access to this database to a wider field of scholars. The changing scene of education has aspects that can only be uncovered by research using this rich collection of information.

REFERENCES

Allen, W.R., Jayakumar, U.M., Griffin, K.A., Korn, W.S., & Hurtado, S. (2005). Black Undergraduates from Bakke to Grutter: Freshmen Status, Trends, and Prospects, 1971-2004. Los Angeles: Higher Education Research Institute, UCLA.

Association of American Colleges and Universities (AAC&U). (2007). College Learning for the New Global Century: A Report From the National Leadership Council for Liberal Education & America's Promise. Washington, DC.

Astin, A. W. (1977). Four Critical Years. San Francisco: Josey-Bass, Inc.

Astin, A. W. (1993). What Matters in College: Four Critical Years Revisited. San Francisco: Josey-Bass, Inc.

Astin, A.W., Ikeda, E.K., Vogelgesang, L.J., Yee, J.A. (2000). How Service Learning Affects Students. Los Angeles: Higher Education Research Institute, UCLA.

Astin, A.W., Green, K.C., & Korn, W.S. (1987). The American Freshman: Twenty Year Trends. Los Angeles: Higher Education Research Institute, UCLA.

Astin, A.W. & Oseguera, L. (2002). Degree Attainment Rates at American Colleges and Universities. Los Angeles: Higher Education Research Institute, UCLA.

Astin, A.W., & Oseguera, L. (2004). The declining "equity" of American higher education. The Review of Higher Education, 27, 3: 321-341.

Astin, A.W., Oseguera, L., Sax L.J., & Korn, W.S. (2002). The American Freshman: Thirty-Five Year Trends. Los Angeles: Higher Education Research Institute, UCLA.

Astin, A.W., Parrott, S.A., Korn, W.S., & Sax L.J. (1997). The American Freshman: Thirty Year Trends. Los Angeles: Higher Education Research Institute, UCLA

Bastedo, M., & Gumport, P. (2003) Access to what? Mission differentiation and academic stratification in U.S. public higher education, Higher Education, 46, 3: 341-359.

Bettinger, E.P. & Long, B.T. (2005). Addressing the Needs of Under-Prepared Students in Higher Education: Does College Remediation Work? National Bureau of Economic Research, Working Paper W11325. Cambridge, MA: Harvard University.

Boyd, D. (2002). State Spending for Higher Education in the Coming Decade. Report prepared for the National Center for Higher Education Management Systems.

Chang, M.J., Denson, N., Saenz, V., & Misa, K. (2005). The educational benefits of sustaining cross-racial interaction among undergraduates. The Journal of Higher Education, 77, 3: 430-455.

College Board (2006). Trends in College Pricing and Financial Aid 2006. Report retrieved from: http://www.collegeboard.com/press/releases/150634.html.

Gurin, P., Dey, E.L., Hurtado, S., & Gurin, G. (2002). Diversity and higher education: Theory and impact on educational outcomes. Harvard Educational Review, 72, 3: 330-336.

Hovey, H.A. (1999). State Spending for Higher Education in the Next Decade: The Battle to Sustain Current Support. Report prepared by State Policy Research, Inc. for the National Center for Public Policy and Higher Education.

Ignash, J.M. (1997). Who should provide postsecondary remedial/developmental education? In J. Ignash (Ed.), New Directions for Community College, No. 100 (pp. 5–20). San Francisco: Jossey-Bass.

Kellogg (2000). Renewing the Covenant Learning, Discovery, and Engagement in a New Age and Different World. http://www.nasulgc.org/publications/Kellogg/Kellogg2000_covenant.pdf

Keup, J.R. & Stolzenberg, E.B. (2004). Your First College Year Survey: Exploring the Academic and Personal Experiences of First-Year Students. Columbia, SC: University of South Carolina, National Resource Center for the First Year Experience and Students in Transition.

Mazzeo, C. (2002). Stakes for students: Agenda-setting and remedial education. The Review of Higher Education, 26, 1:19-39.

McDonough, P.M., Antonio, A.L., Walpole, A.M., & Perez, L.X. (1998). College rankings: Democratized college knowledge for whom? Research in Higher Education, 39, 5: 513-537.

Mumper, M. (1996). Removing College Price Barriers: What Government Has Done and Why It Hasn't Worked. Albany: State University of New York Press.

National Center for Education Statistics (NCES). (2003). Remedial Education at Degree-Granting Postsecondary Institutions in Fall 2000, NCES 2004-010, by Basmat Parsad and Laurie Lewis. Project Officer: Bernard Greene. Washington, DC: U.S. Government Printing Office.

National Center for Education Statistics (NCES). (2006). The Condition of Education, 2006. U.S. Department of Education. Washington, DC: U.S. Government Printing Office. Retrieved from: http://nces.ed.gov/programs/coe/index.asp.

National Center for Public Policy and Higher Education (NCPPHE). (2002). Losing Ground: A National Status Report on the Affordability of American Higher Education. San Jose, CA. Retrieved from: http://www.highereducation.org/reports/losing_ground/ar.shtml.

National Commission on Excellence in Education (NCEE). (1982). A Nation at Risk. Washington, DC.

National Science Board (2002), *Science and Engineering Indicators. Arlington, VA: National Science Foundation, 2002 (NSB-02-1).*

National Telecommunications and Information Administration (NTIA). (2004). A Nation Online: How Americans Are Expanding Their Use of the Internet. Washington, DC.

Neckerman, K. (Ed.) (2004). Social Inequality. New York: Russell Sage Foundation.

Pascarella, E.T. & Terenzini, P.T. (2005). How College Affects Students: A Third Decade of Research. San Francisco: Jossey-Bass.

Pryor, J.H., Hurtado, S., Saenz, V.B., Korn, J.S., Santos, J.L., & Korn, W.S. (2006). The American Freshman: National Norms for Fall 2006. Los Angeles: Higher Education Research Institute, UCLA.

Saenz, V., Hurtado, S., Barrera, D., Wolf, D., & Yeung, F. (2007). First in My Family: A Profile of First-Generation College Students at Four-Year Institutions Since 1971. Los Angeles: Higher Education Research Institute, UCLA.

Santos, J.L. (2007). Resource allocation within public research universities. The Review of Higher Education, 30, 2: 125-144.

Sax, L.J. (2001). Undergraduate science majors: Gender differences in who goes to graduate school. The Review of Higher Education, 24, 2: 153-172

Sax, L.J. (Forthcoming). The Gender Gap in College: Differential Patterns of Change and Development for Women and Men. San Francisco: Jossey-Bass.

U.S. Census (2007). U.S. Census Table H-5. Race and Hispanic Origin of Householder – Households by Median and Mean Income: 1967 to 2005. Table retrieved from: http://www.census.gov/hhes/www/income/histinc/h05.html.

U.S. Department of Education (DOE). (2006). A Test of Leadership: Charting the Future of U.S. Higher Education. Washington, DC.

*