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California Postsecondary Education Commission

The Gender Gap in California Higher Education

This report presents an overview of the gender gap in California colleges and universities. Males in every major ethnic group are underrepresented in relation to their representation in the state's population. The report also identifies areas for further study on the causes and implications of this gap.

Contents

Introduction.....	1
A Brief History.....	2
Enrollment and Degrees in California's Public Universities.....	2
Enrollment and Degrees by Discipline.....	5
Impact on Professional Degrees.....	6
Gender Gap Visible in High School Completion...8	
A Deeper Look.....	8

The Commission advises the Governor and Legislature on higher education policy and fiscal issues. Its primary focus is to ensure that the state's educational resources are used effectively to provide Californians with postsecondary education opportunities. More information about the Commission is available at www.cpec.ca.gov.

Introduction

Since the passage of Title IX in 1972 -- a landmark federal sex equity law -- enforcement efforts have primarily focused on creating equity for females, based on studies showing them lagging in access and opportunity. But in recent years, concern has been rising about gender gaps that affect males -- including an increasingly visible gender gap in higher education. Women significantly outnumber men in higher education enrollment and attainment of degrees.

In spite of the existence of Title IX and its impact on reducing inequities for females, gender has not been a large priority in educators' efforts to assure equitable access to education for all students. The underrepresentation of males has been even less a priority. But recent news reports on males in education have raised interest in the gender gaps that exist for boys in K-12 and postsecondary education.

Most often, the first measure of equitable access to education is representation among students compared to representation in the population. In 2004 in California, men were about 51.3% of the population 18-34 years of age, while women were about 48.7%. Looking at the major ethnic groups, males outnumbered females among Latinos and Whites, were virtually equal among Asian/Pacific Islanders, and trailed only among African Americans. Yet women outnumber men in all major ethnic groups in colleges and universities. The reasons for this disparity and its implications for education, the economy, and society in general are complex.

This paper provides only an overview of the data related to the male gender gap. To fully understand this gap and to develop policy responses that will ensure equity for *all* students requires much more

extensive study and data analysis. Some of the research questions that should be explored in such a study are suggested at the conclusion of this review.

A Brief History

Interestingly, history shows the enrollment of men and women in American colleges was roughly at parity between 1900 and 1930.¹ Male enrollments began to increase after World War II, due in large part to the G.I. Bill, and peaked in 1947 when there were 2.3 undergraduate men for every woman. But within a few years, female enrollment began rising, and the numbers were back at parity around 1980. Since then, female undergraduate enrollment has increased to around 1.3 females for every male.²

In looking at the picture in California, staff reviewed differences in enrollment and degree attainment, how they changed over time, and how they vary among ethnic groups. Most of the data used represents combined enrollment or degree attainment figures from the public four-year institutions -- the California State University (CSU) and the University of California (UC), although some statistics are included for the California Community Colleges (CCC) and private four-year universities.

As described in the following pages, California institutions reflect the national gender gap for males in enrollment and degree attainment, with significant variations among the major ethnic groups. African American females have outnumbered males in the UC and CSU combined since at least 1976, the first year for which figures are available. Females became the majority among Latinos in 1985, but not among Asian/Pacific Islanders until 1997. White females have outnumbered males in these two institutions since 1981 -- surprising to some who assumed white males had been the majority in college until very recently.

This gender disparity further varies among academic disciplines, which could have implications for workforce equity. There are still large gender gaps in some disciplines; for the most part, they relate closely to the gender-dominated patterns of employment that flow from these disciplines. For instance, in 2004, women undergraduates greatly outnumbered men in social science, psychology, health professions, communications, biological sciences, and -- to a lesser degree -- business administration. But men, to varying degrees, still dominate computer and information sciences, engineering, mathematics, and physical sciences. Nevertheless, in virtually every discipline that Commission staff reviewed, the proportion of women increased between 1976 and 2004, whether or not men were still the majority in the discipline.

Enrollment and Degrees in California's Public Universities

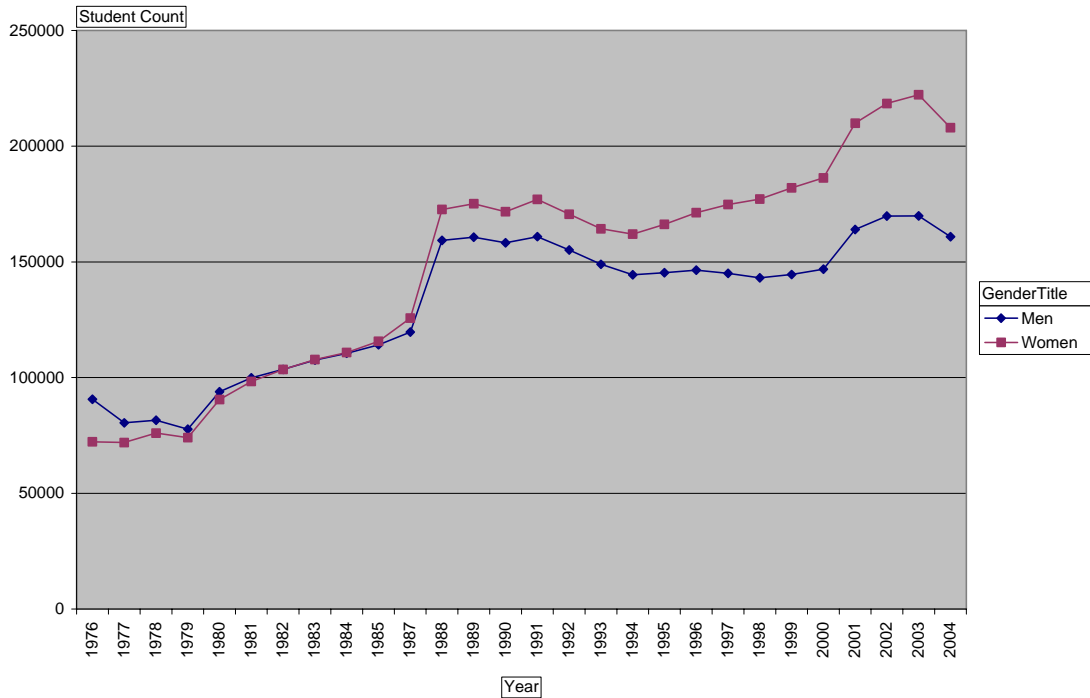
Display 1 shows that the enrollment of females exceeded that of their male undergraduate counterparts in California's public universities in 1983, and that the gap has been slowly widening ever since.

Display 2 shows the trend toward greater female representation is similar among all the major ethnic groups, but the increases in enrollment vary by ethnicity. The enrollment of men was greater than that of women in all ethnic groups in 1976, but more so among Whites and Latinos than among African Americans or Asian/Pacific Islanders. By 1981, women had overtaken men in enrollment among African American students. By 2004, female enrollment exceeded male enrollment in all ethnic groups.

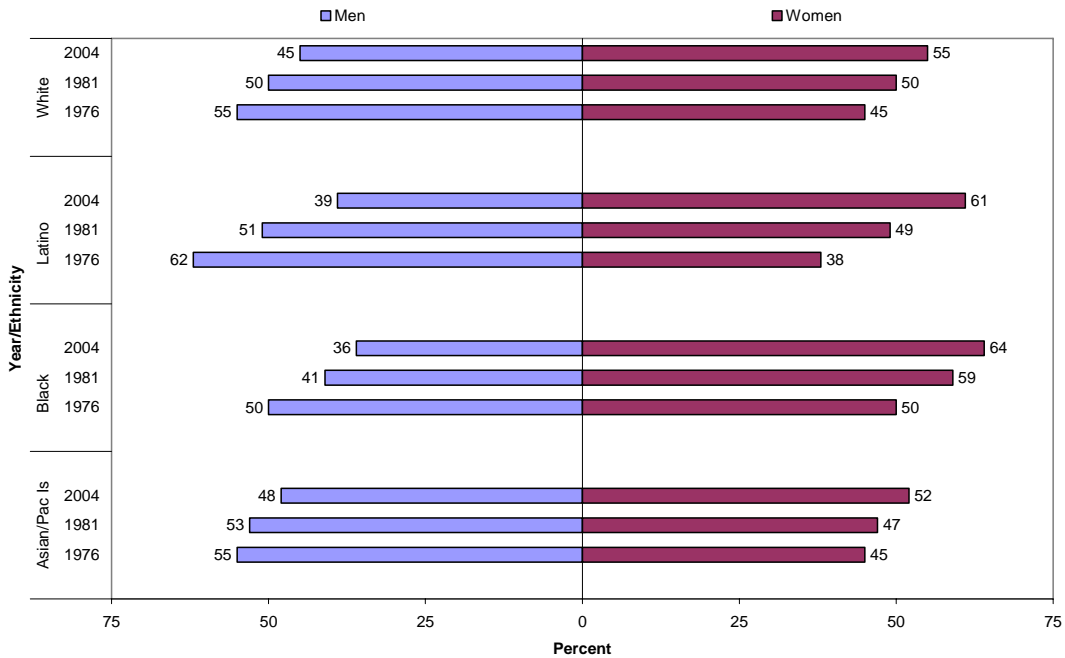
¹ Goldin, C., Katz, L.F., and Kuziemko, I. (2006). *The Homecoming of American College Women: The Reversal of the College Gender Gap*. National Bureau of Economic Research, Cambridge, MA. Working Paper 12139 at <http://www.nber.org/papers/w12139>. P. 2.

² Op. cit., p. 1.

DISPLAY 1: Undergraduate Enrollment at CSU and UC by Gender, 1976-2004

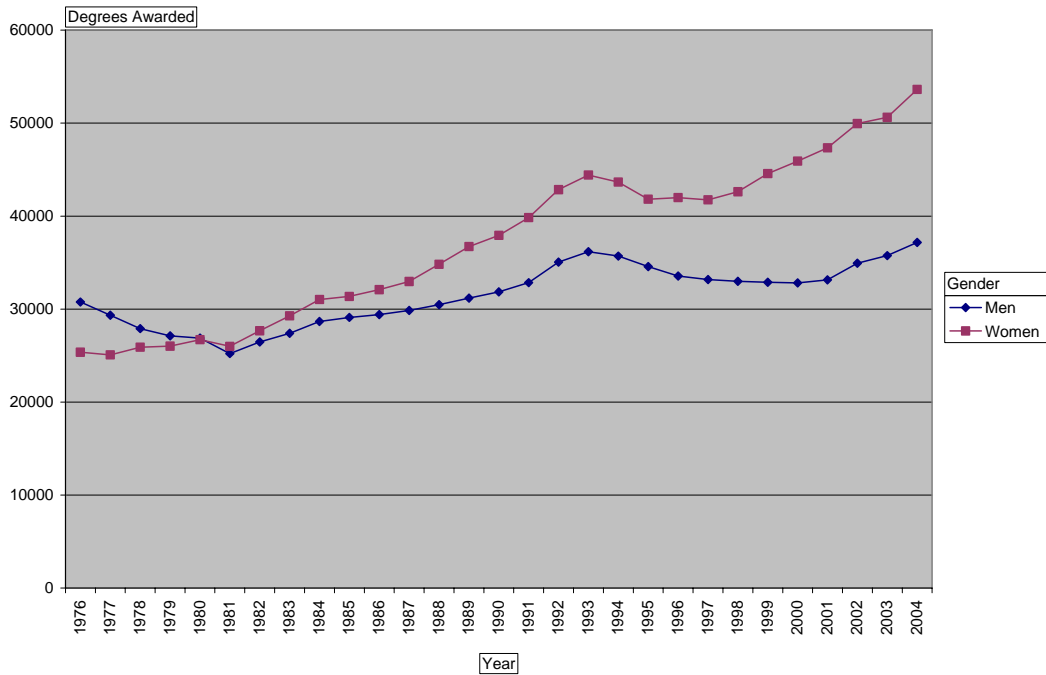


DISPLAY 2: Undergraduate Enrollment at CSU and UC by Gender And Ethnicity, 1976-2004



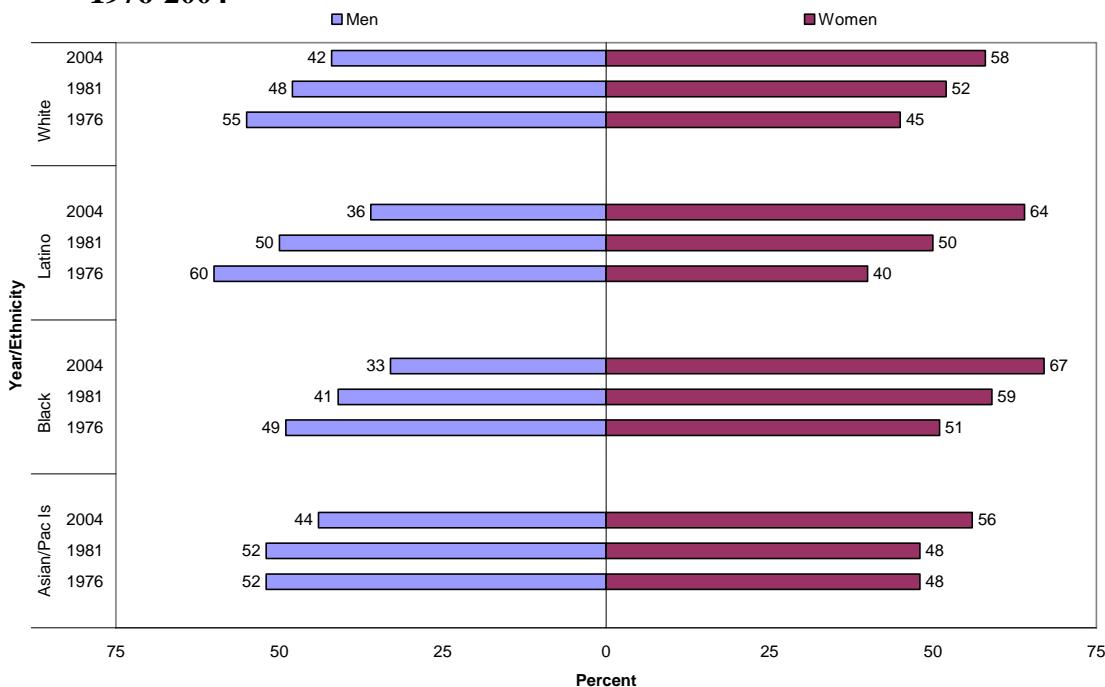
In terms of graduation, UC and CSU combined began awarding more bachelors degrees to women than to men in 1981, a trend which has broadened in 2004, as shown in Display 3 on the next page.

DISPLAY 3: Total Bachelors Degrees Awarded by CSU and UC by Gender, 1976-2004



The shift from male to female majorities in bachelor's degrees was similar to that seen in enrollment -- but the variations by ethnicity were slightly different. Display 4 shows the shift over three points in time. African American women were already receiving slightly more degrees than African American men in 1976, but men earned more degrees than women in the other major ethnic groups. By 1981, more White women than men were receiving degrees, and the trend was toward increased percentages of women receiving degrees in the other ethnic groups. By 2004, women significantly outpaced men in degree attainment across all major ethnic groups.

DISPLAY 4: Total Bachelors Degrees Awarded by CSU and UC by Gender and Ethnicity, 1976-2004



Persistence, measured by the number of students who started college and earned degrees within a specific time period, was also greater for women than men across all ethnic groups in California's public four-year universities. For the CSU, the entering class in the year 2000 was 57% female, but of that cohort, those who earned degrees by 2005 were 66% female. There are variations in this five-year completion rate by ethnic group, with Latino and African American students showing wider gender gaps than Asian/Pacific Islander and White students. Similar patterns were visible at the UC, although the variations by gender among ethnic groups were somewhat smaller. Of the total number of entering freshmen in 2000, 55.6% were female, 44.4% were male. Five years later, the proportion of students who had received degrees was 60% female and 40% male. African American students showed the largest gender gap in persistence; freshmen in that group were 61% female, and graduates were 69% female.

Trends Similar in Other Institutions

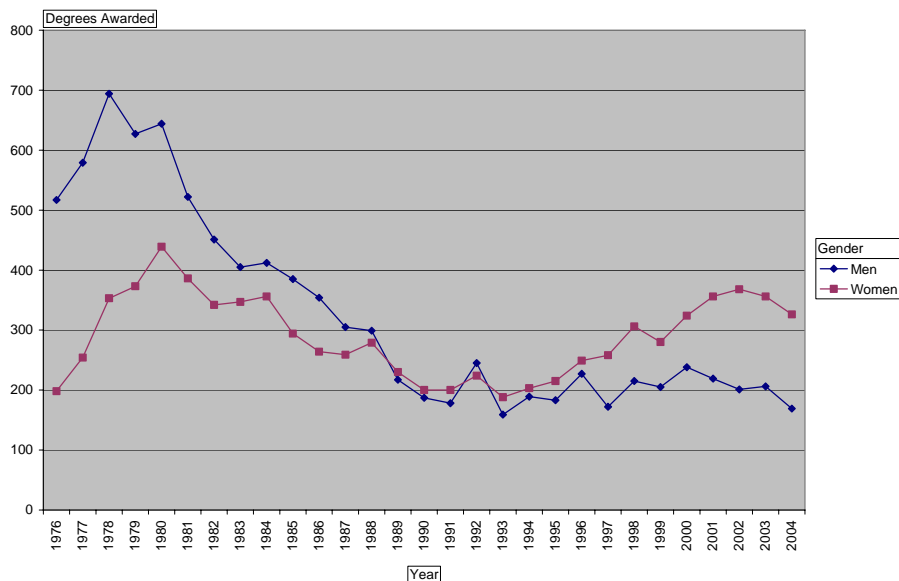
The California Community Colleges have also seen the same widening gap of women over men that is visible in California's public four-year universities, and it started in 1977, with females comprising 53% of the enrollment. By 2003, the gap had increased to 57% female.

A similar trend with an even more dramatic shift in the numbers can be seen in the WASC-accredited non-public four-year colleges and universities. In 1976, men constituted nearly 61% of the students enrolled in these institutions in California. By 2004, that gap had almost reversed itself, with women comprising 57% of students enrolled. This is similar to national trends in which various estimates of college enrollment range from 55% to 60% female, depending on which source of data is cited.

Enrollment and Degrees by Discipline

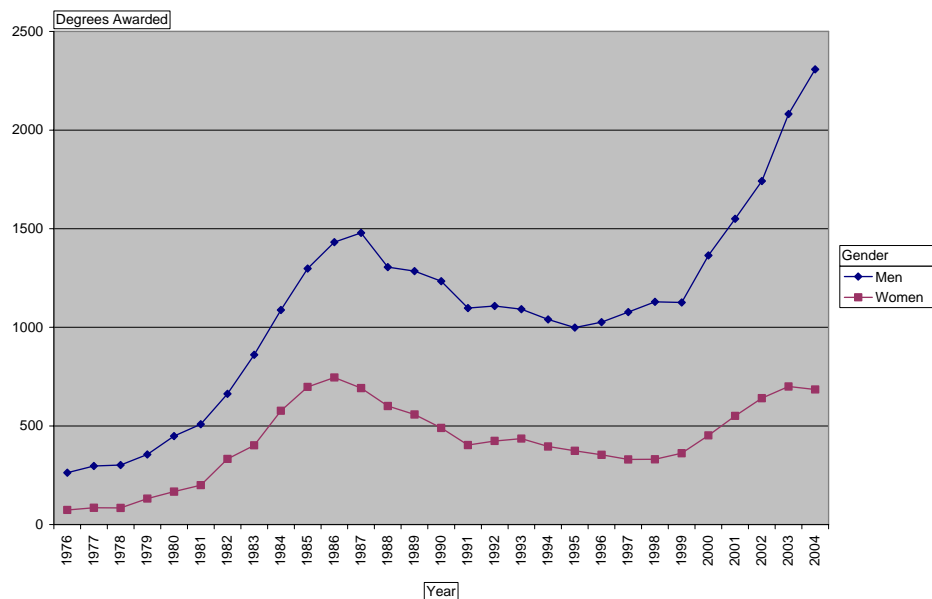
Female enrollment has increased in relation to males and has overtaken male enrollment across many of the most widely selected academic disciplines. The numbers vary by ethnicity and discipline, but overall, female enrollment has generally been growing in almost all disciplines, even those once seen as traditionally male-dominated. An example is the field of Agricultural Sciences, which was clearly male-dominated in 1976, the base year for this review. Female undergraduate degree attainment rapidly increased relative to males in the 1980's, even as overall enrollment in the discipline was falling. Women became the majority of Agricultural Sciences degree recipients in 1989. With the exception of 1992, which may be a statistical anomaly, women have earned more degrees than men in this discipline ever since (see Display 5).

DISPLAY 5: Bachelors Degrees at CSU and UC in Agricultural Sciences by Gender, 1976 to 2004



One field in which men continue to dominate enrollment and the achievement of bachelors degrees is Computer Science, where the gap of men over women has actually widened in recent years (see Display 6). This has happened in spite of efforts to recruit females into math and science courses and encourage them to move into high tech fields. The field as a whole saw a decline in degrees awarded in the late 1980s and early 1990s, and the decline in the number of women roughly paralleled that of men. But by 2000, the number of degrees awarded began to increase again -- and has continued to do so more rapidly for men than for women.

DISPLAY 6: Bachelors Degrees in Computer Science Awarded by CSU and UC by Gender, 1976-2004



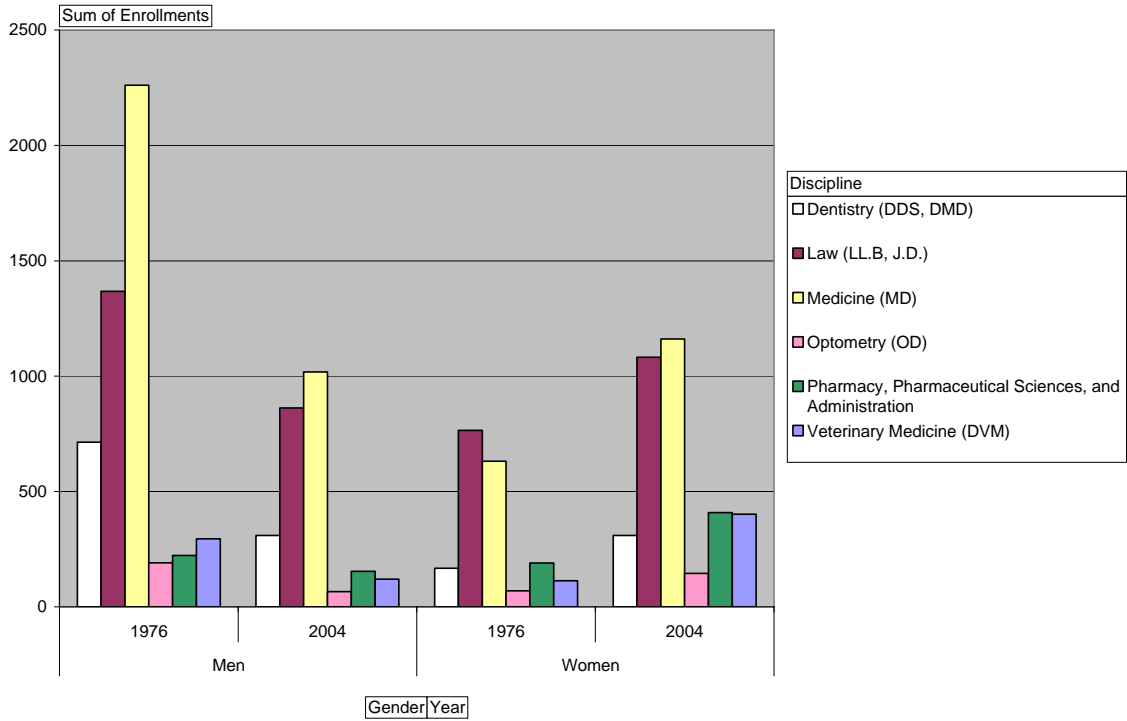
Impact on Professional Degrees

The gender gap that is seen in undergraduate and community college programs is pronounced in professional degree programs at the University of California. The shift in the gap between 1976, the first year for which we have data, and 2004, the most recent year for which we have data, is roughly parallel in both enrollments and degrees, although it varies in some respects among the professional disciplines. Overall, females now outnumber males in enrollments in all disciplines except dentistry, where they are exactly equal. In degrees, women earn more professional degrees than men in all but medicine, where they are nearly equal. The increase in the percentage of degrees awarded to females is slightly more dramatic than changes in enrollments, but both sides of the education equation have seen large shifts over the 28-year period.

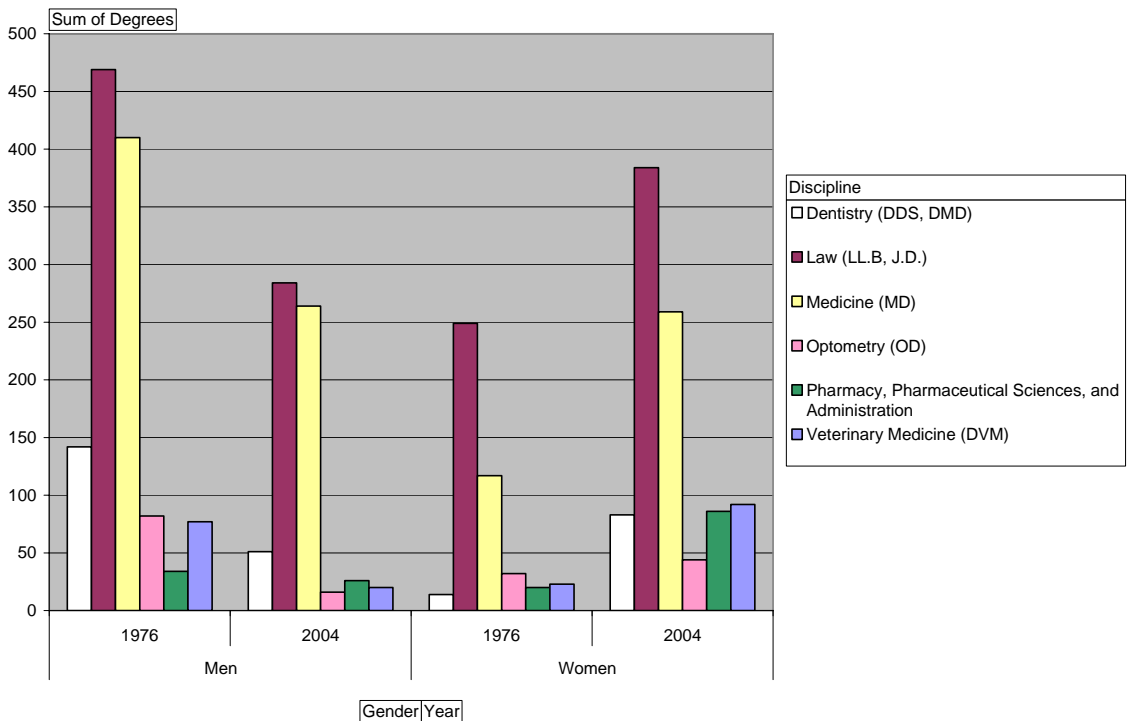
The decline in the percentages of males in professional degree programs between 1976 and 2004 is as follows, and is illustrated in Displays 7 and 8:

- Dentistry -- from 81% to 50% of enrollment (the only professional discipline where men are not yet outnumbered by women in enrollment) and from 91% to 38% of degrees awarded.
- Law -- from 64% to 44% of enrollment and from 65% to 43% of degrees awarded.
- Medicine -- from 78% to 47% of enrollment and from 78% to 51% of degrees awarded.
- Optometry -- from 73% to 31% of enrollment and from 72% to 27% of degrees awarded.
- Pharmacy -- from 54% to 27% of enrollment and from 63% to 23% of degrees awarded.
- Veterinary Medicine -- from 72% to 23% of enrollment and from 77% to 18% of degrees awarded.

DISPLAY 7: UC Enrollment by Gender in Selected Professional Disciplines, 1976-2004



DISPLAY 8: UC Degrees Awarded by Gender in Selected Professional Disciplines, 1976-2004



Gender Gap Visible in High School Completion

The disparity in enrollment in colleges and universities echoes a gender gap between males and females in high school dropouts and graduates. Two recent national reports on high school dropout rates use very different methodologies and disagree strongly about how many students actually complete high school, but both show females completing high school in greater numbers than males. The report of the Manhattan Institute estimates that 72% of female students graduate compared to 65% of males. The differences were smaller for White and Asian/Pacific Islander students and larger for African Americans and Latinos. The Economic Policy Institute report shows fewer dropouts overall and higher percentages of students completing high school than the Manhattan Institute report does, but their figures also indicate a gender gap both overall and in most racial and ethnic groups, with more females than males completing high school.

Males drop out in larger numbers than females in California as well, and fewer males complete high school. In the state's graduation figures, females also outnumber males -- in 2004, females were 51.9% of high school graduates and males were 48.1%. Yet in 2001, there were more males than females among the freshman class -- 51.7% to 48.3%, supporting the figures that show more males drop out before completing high school. The trend continues into college admissions; recent figures for the University of California show that the group of students admitted for the upcoming fall 2006 term is 56.6% female.

A Deeper Look

Any effort to better understand the data provided in this paper must take a multi-faceted approach that considers how gender affects educational opportunities and how any equity problems that are gender-based should be best addressed. The reality is that gender inequity has only occasionally been a focus for educational policy, and is not a frequent or consistently addressed topic in educational research or teacher training and professional development. Gender disparities seen in education may be less a result of overt discrimination than they are of inattention and a lack of understanding of social influences on gender roles and behaviors that play out in schools at all levels. Understanding the gender gap and addressing it effectively requires further research in various areas, including:

- *Indicators of postsecondary educational outcomes other than degree attainment that may differ by gender, such as retention, time to degree, grade point averages, performance on graduate admissions exams, admission to graduate schools, and subsequent transition into careers.*
- *Analysis of enrollment and degree attainment disparities between males and females of various ethnic groups as related to their share of the population, in order to better understand the overall magnitude of the gaps and relate them to other social indicators that also have different effects based on gender and race/ethnicity.*
- *The connection of gender gaps seen in various disciplines to gender gaps in specific careers.* For instance, males still outnumber females in many of the traditional male disciplines (and occupations); females have historically outnumbered males in traditionally female disciplines (and occupations). Although these patterns have been influenced somewhat by the overall shift toward more females in higher education, many occupations have changed little. As with issues of race and ethnicity, the future of the workforce is affected by gender patterns in education, but the extent of change may be different from that seen in education.
- *The growing field of research into sex differences in the brain and the connection it may have to student learning and academic achievement.* This could provide information of use to policy makers and practitioners. Particularly, the integration of research findings into theories of teach-

ing and learning could provide useful material for both pre-service teacher training and post-credential professional development.

- *The extent to which gender is addressed in any equity training that is part of either pre-service teacher preparation or professional development.* It is clear that the gender gap in colleges and universities is fed by the gender gap in students who graduate from high school and enroll in postsecondary education. Addressing that gap means paying more attention to helping males succeed in high school and move on to higher education, but teachers and administrators need assistance in being able to do that. Little attention is paid currently to gender in either pre-service training or most professional development programs, although resources and training models are available.
- *The need for consistent collection and analysis of data on gender differences in educational inputs and outcomes, including disaggregating achievement test results, K-12 class enrollments, and other measurements.* While the data exists, there is little indication that it is utilized by teachers and administrators as they work on school improvement strategies. In addition, the collection and analysis of data would enable state and federal agencies to identify areas where discrimination may exist and need to be corrected.

The growing concern over the increasing gender gap for males in California higher education may lead to policy initiatives, but such initiatives should not be undertaken without more research, especially as to the underlying causes of the gap. Nor should they be undertaken without considering how to address the problem without reducing equity and access for females, as sometimes happens when educational equity is treated as a “zero sum game.” Ultimately, California needs *all* of its students to have an equal chance for access and success in postsecondary education.

