



Institutional Research Reports

University of Kentucky

Academic Accomplishments of Women

September 2001

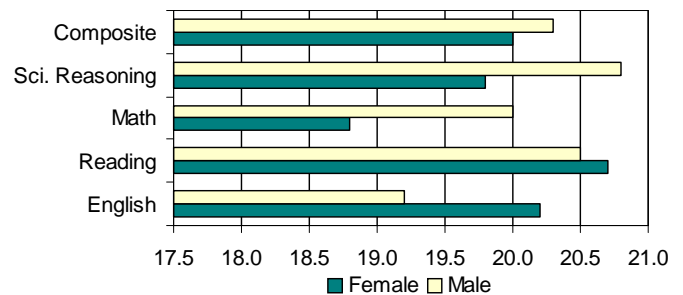
In March 2001, the University Senate Council Ad Hoc Committee on the Status of Women released its report examining the economic, political, and social status of women employed at the University. "A Blueprint for Gender Equity at America's Next Great University" highlights UK's progress in achieving gender equity and calls attention to areas where little improvement has been made during the past decade. This month's edition of *Institutional Research Reports* complements the report on gender equity in UK's work environment by focusing on the academic preparation and accomplishments of women pursuing advanced education at UK.

To set the proper context for our analysis, we present relevant state and national comparisons in educational attainment. A variety of statistics points to the development of a new gender gap. Young women in Kentucky and across the nation are, on average, better educated than their male counterparts. Compared to male high school students, females drop out of school at lower rates,¹ earn higher GPA's, and attend college in proportionately greater numbers. At college, women earn better grades, exhibit higher retention and graduation rates, and earn the majority of baccalaureate and master's degrees. The profile of gender differences emerging from this analysis has profound implications for higher education, the workforce, and our society.

Academic Preparation in High School

Scores on standardized assessment tests reveal basic gender differences in the academic abilities of college-bound students. The graph at the top of the page shows that male high school students in Kentucky score higher than females on the math and science reasoning subscales of the ACT Assessment. In addition, males hold a slight advantage over females on the overall composite score. Females, on the other hand, outscore males on the English and reading portions of the college entrance test. This pattern of gender differences has been observed for many years at both state and national levels.

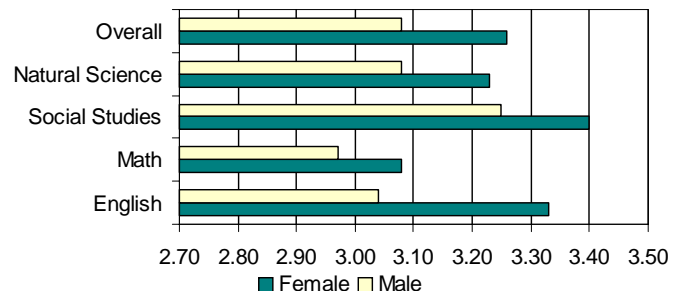
Mean ACT Scores by Gender
High School Class of 2000



Source: ACT High School Profile Report (2000)

Gender differences in high school grades show little relationship to the ACT Assessment scores earned by females and males. The next graph reveals that recent female graduates in Kentucky report higher GPA's² than males in English, math, social studies, natural sciences, and overall. One might expect females to perform better in English, based upon their higher ACT scores in this area. But female graduates also report superior grades in two academic areas, math and natural sciences, where males generally earn higher ACT scores. Self-reported high school GPA's obtained from successive national samples offer additional evidence that females earn better grades than males.

High School Academic Area GPA's
By Gender: Class of 2000



Source: ACT High School Profile Report (2000)

¹ In 1999, the Kentucky Department of Education reported dropout data by gender for the first time. The dropout rate for males in grades 9-12 was 5.76 while the rate for females was 4.03.

² Research conducted by ACT shows that students accurately report these grades 85% or more of the time.

It is interesting to note that women typically arrive at UK with better high school grades on their transcripts than their male peers. This pattern has been evident in every freshman class for at least the past ten years. Between 1991 and 2000, the average high school GPA for women ranged from 3.28 to 3.58, while the average GPA for men ranged from 3.16 to 3.44.

Successful Transition to College

The successful transition between high school and college is measured by the college-going rate. This statistic refers to the percentage of students who enter college during the fall semester following their high school graduation. The college-going rate is an important indicator of a state's educational attainment and its readiness to participate in the new economy.

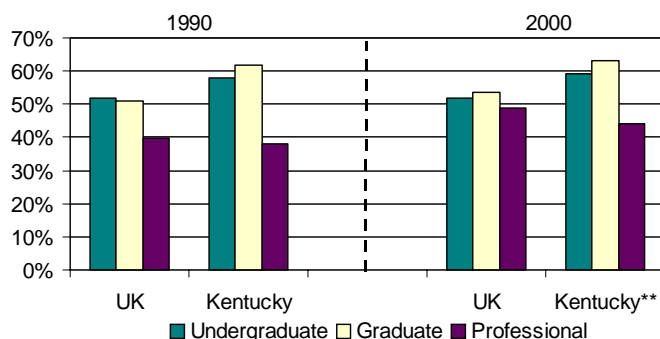
- Historically, Kentucky's college-going rates have been relatively low compared to other states. The State Department of Education reports that Kentucky's college-going rate for public high school students was 53 percent³ in 1999, 10 percentage points below the U.S. rate of 63 percent.⁴
- In an earlier analysis, the Council on Postsecondary Education (CPE) found that college-going rates of female high school graduates were significantly higher than those of males.⁵ From 1993 to 1995, college-going rates for females ranged from 49 percent to 51 percent. Comparable rates for males ranged from 39 percent to 40 percent. More recent data are not available at this time.
- From 1988 to 1998, national college-going rates of females exceeded those of males in every year but 1995. In 1998, college-going rates for women and men were 69 percent and 62 percent, respectively.⁶

Research conducted by the National Center for Education Statistics has found that male high school students are more likely than females to enter the workforce after high school graduation—particularly when the economy is strong.⁷ Males may be more likely than females to seek and obtain jobs, such as construction work and plumbing, which pay relatively well without postsecondary education.

Enrollment in College

In 1990, women comprised slightly more than half of the students enrolled in undergraduate (52%) and graduate (51%) programs (including house staff, post-doctoral, and specialist) at UK. Two in five (40%) students enrolled in professional programs at the University were women. A decade later, the percentage of women enrolled in baccalaureate programs remained the same; however, women made modest gains in their share of graduate-level enrollments (54%). More importantly, by 2000, just under half (49%) of the students enrolled in professional programs were women.

Percentage of Women Enrolled at UK and Statewide* by Level: 1990-2000



*Note: Statewide enrollments exclude students from independent postsecondary institutions

**Note: Kentucky undergraduate enrollments in 2000 exclude students from technical colleges, which are now part of Kentucky's public postsecondary education system

Source: Council on Postsecondary Education

Statewide, women accounted for the clear majority of students enrolled at both public universities and community colleges. In 1990 and 2000, three in five students enrolled in undergraduate and graduate programs were women. The percentage of women enrolled in professional programs grew from 38 percent in 1990 to 44 percent in 2000, a six percentage-point gain.

³ Kentucky Department of Education (2001). "Nonacademic Data 1993 to 1999: Region and State Totals."

⁴ Bureau of Labor Statistics, News Release: "College Enrollment and Work Activity of Year 1999 High School Graduates," May 17, 2000. <http://stats.bls.gov/new.rels.htm>

⁵ Sugarman, R. (1999). *The Status of Kentucky Women in Higher Education*. In M. Smith-Mello, M. T. Childress, J. Sollinger, and B. M. Sebastian (eds.), *The Future Well-Being of Women in Kentucky* (pp. 47-55). Frankfort: The Kentucky Long-Term Policy Research Center

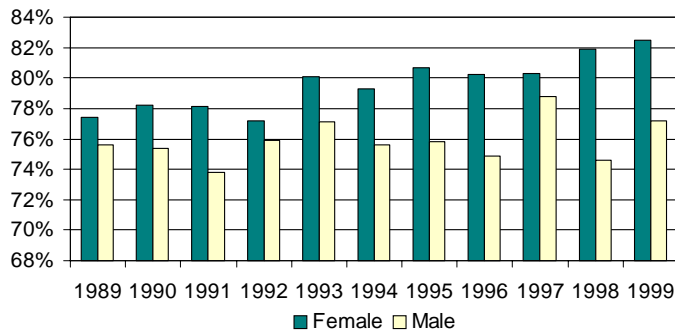
⁶ National Center for Education Statistics, *The Condition of Education 2000*. <http://nces.ed.gov/pub/coc2000/section3/indicator32.html>

⁷ National Center for Education Statistics (1998). "Gender Differences in Earnings among Young Adults Entering the Labor Market," NCES 98-086.

Academic Progress during the Undergraduate Years

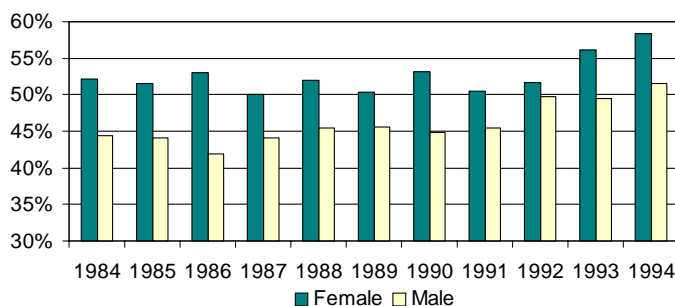
Retention and graduation rates are traditionally used to chart the progress students make toward a bachelor's degree. Over the last ten years, considerable progress has been made at the University on both performance indicators. The next graph shows that female freshmen return to UK for a second year in greater proportions than men. On average, women's retention rates are three to five points higher than men's.

First-Year Retention Rates



The next graph focuses on the percentage of full-time, degree-seeking freshmen who graduate within six years. Clear differences are observable in the graduation rates of women and men. During the past decade, women's graduation rates have ranged from 50.3 percent to 58.6 percent. Graduation rates for UK men have ranged from 42.6 percent to 51.8 percent.

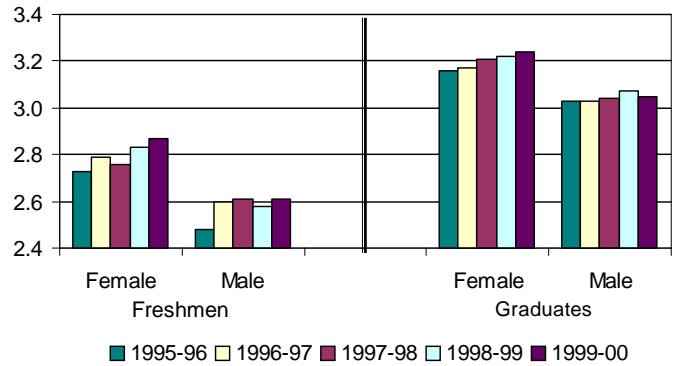
Six-Year Graduation Rates



Grades and Degrees Earned at UK

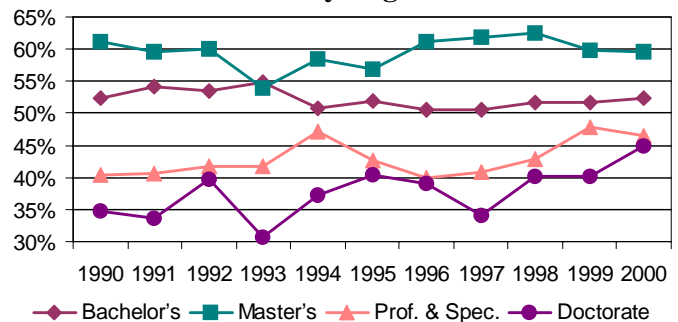
In the next graph, GPA's earned by women and men were charted for five years. Snapshots of GPA's were taken for students completing their freshman year and for students who had graduated. Women consistently earned higher GPA's than men at each point in their college careers. On average, the difference in freshman GPA's of women and men was about 0.25, while grades of graduating seniors showed somewhat less of a disparity.

**GPA's of Freshmen and Graduates
by Gender**



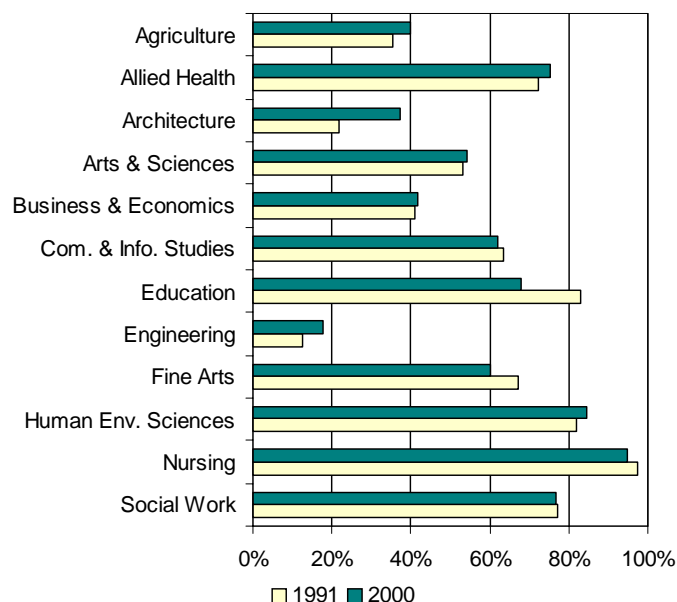
It is not entirely clear why women—in high school and at UK—earn higher grades than men. One is tempted to speculate that women are more motivated to succeed in school and devote more time to homework and studying for exams. Some support for this explanation comes from the annual survey of college freshmen conducted by the Higher Education Research Institute at UCLA. The 1999-2000 survey sampled over 260,000 students at 462 two- and four-year colleges. Women reported spending significantly more time studying and participating in student clubs and activities while in high school. Men indicated that they spent more time exercising and playing sports, partying, watching TV, and playing video games.

**Percentage of Degrees Awarded
to Women by Degree Level**



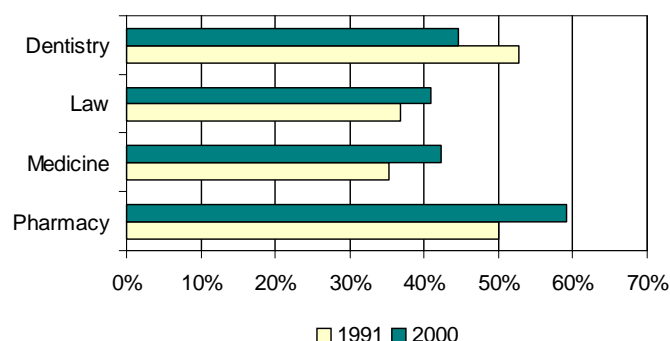
- The percentage of degrees awarded to women is greatest at the master's level. In 2000, women earned 60 percent of the master's degrees conferred at UK. The Colleges of Education and Social Work awarded the greatest numbers of these degrees.
- Women have made great progress in earning a wider share of the doctoral degrees awarded annually. Women earned 35 percent of all doctoral degrees conferred at UK in 1990 and 45 percent of doctoral degrees awarded in 2000.

Percentage of Bachelor's Degrees Awarded to Women by College



- In 2000, women earned the highest percentages of bachelor's degrees from the Colleges of Nursing (95%) and Human Environmental Sciences (85%).
- The College of Engineering awarded only 18% of its bachelor's degrees to women in 2000—the lowest percentage of degrees awarded to women at UK.
- From 1991 to 2000, the greatest progress in bachelor's degrees awarded to women was made in the Colleges of Architecture (from 22% to 37%) and Engineering (from 12% to 18%).
- The largest decline in bachelor's degrees awarded to women occurred in the College of Education (from 83% to 68%).

Percentage of Professional Degrees Awarded to Women



Women have made progress in their pursuit of professional degrees over the past decade. In 2000, four in ten degrees awarded in law and medicine went to women. And women earned nearly three of every five Pharm.D's awarded at the University. Dentistry is the only profession where women have lost ground in recent years. Just over half (53%) of professional degrees in dentistry were awarded to women in 1991. In 2000, women earned slightly less than half of dentistry degrees (45%).

Where do we go from here?

Women in Kentucky and across the nation are more likely than men to participate in available educational opportunities and perform academically at higher levels. Compared to their male peers, female students have a consistent record of:

- Earning better grades in high school;
- Attending college at higher rates following their graduation from high school;
- Enrolling in greater numbers at both undergraduate and graduate levels;
- Achieving higher retention and graduation rates;
- Earning better grades at UK as freshmen and as graduating seniors; and
- Obtaining the majority of bachelor's and master's degrees awarded annually.

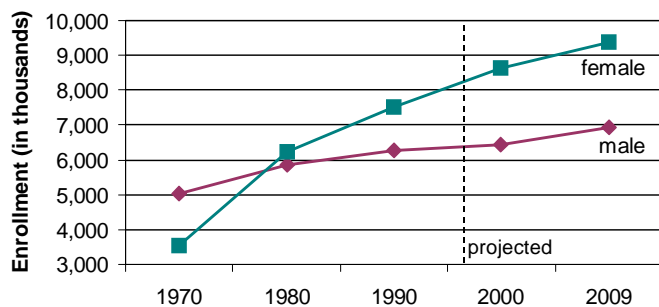
Kentucky women have reason to feel proud of their academic accomplishments. Nevertheless, educators and policy makers need to view the performance of Kentucky students of both genders in relation to national norms. Our female and male high school graduates score slightly below the rest of the nation on the ACT Assessment. They enroll in college at rates far below U.S. norms. And the graduation rates of Kentucky women and men lag well behind the national average.

UK women have made substantial progress in earning a larger share of professional and doctoral degrees awarded over the past ten years. Still, the greatest share of undergraduate and graduate degrees earned by women are in fields, such as education and nursing, that have tradi-

tionally employed women. The disparity in earnings between men and women may be related, in part, to forms of gender bias in the workplace. But it is also clear that women can enhance their political influence and prestige in the community by seeking professional and doctoral degrees in disciplines dominated by men.

The statistics in this newsletter point to a gender gap in academic achievement that is likely to widen in future years. The accompanying graph shows the Department of Education's postsecondary enrollment data for the past 30 years and its projections for the near future. Clearly, women's enrollments have increased significantly faster than men's since the 1970's. In addition, the graph shows that the total number of women enrolled in postsecondary education surpassed the number of men around 1980. By 2009, 2.5 million more women than men (9.4 million vs. 6.9 million) are expected to enroll in this nation's two- and four-year institutions.

Past and Projected Postsecondary Enrollments in the U.S.



Source: U.S. Department of Education, NCES (1999)

Tom Mortenson, senior scholar with the Council for Opportunity in Education, believes the widening gap in the number of baccalaureate degrees earned by women and men is symptomatic of a more pervasive social problem.⁸ He insists that not enough attention is being given to the academic underachievement and social disengagement of male students. Young men appear to be “caught in a time-warp”—unaware that people need more education to fill newly created jobs and social roles.

Jacqueline King, Director of ACE's Center for Policy Analysis, disputes claims of a “generalized educational crisis among men.”⁹ She argues that analyses by Mortenson and the U.S. Department of Education are flawed because they rely on aggregate achievement data of women and men. After comparing demographic sub-

groups on key indicators, King presents evidence that only selected groups of males are at a disadvantage. King acknowledges that black, Hispanic, and low-income men are at risk of being left behind on most indicators of educational attainment. But she rejects the notion that white, middle-class males are failing to keep pace with their female peers.

Differences in educational levels of men and women have significant implications for the emerging information- and service-based economy. Will a greater proportion of women now be promoted into top management positions? Will a new social order emerge that narrows or possibly reverses the gender wage gap? Brendan Koerner suggests, “If college degrees remain an entrée to wealth and status in the 21st century, males may have to get used to the same second-class status that American women so long endured, as highly educated females become the majority among the nation's intellectual, economic, and even power elite.”¹⁰ Yet, the evolving status of women in the workplace may be shaped to some degree by other important attitudes and values. Women's gains in education may not automatically translate into higher paychecks if they remain relatively uninterested in high-paying technical fields, such as engineering and computer science. In the long run, the ability of women to achieve an equal footing with men—in corporate boardrooms and the highest levels of government—may hinge upon the value society places on educational credentials as prerequisites for leadership positions.

⁸ Mortenson, T. (1998, October). “Where are the guys?” *Postsecondary Education Opportunity*, 76.

⁹ King, J. (2000). *Gender equity in higher education: are male students at a disadvantage?* Washington, D.C.: American Council on Education.

¹⁰ Koerner, B. (1999, February 8). “Where the Boys Aren't,” *U.S. News and World Report*, 47-55.



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