



differences exist in academic records. While females complete more challenging curricula and earn higher GPAs, they do not perform as well on NAEP as males with the same academic records.

Over time, female graduates have caught up with, and now surpass, male graduates in completing rigorous curricula and earning mathematics and science credits.

## BOTH MALES AND FEMALES COMPLETE MORE CHALLENGING CURRICULA

As seen in figure 16, in 2005, the percentage of male graduates who had completed a rigorous curriculum was 10 percent compared to 5 percent in 1990. For female graduates, the comparable rates were 11 percent in 2005 compared to 4 percent in 1990. The percentage of graduates who had completed a midlevel or standard curriculum was also higher in 2005 than in 1990 for both males and females. Between 2000 and 2005, the percentages completing a standard or midlevel curriculum also increased; however, there were no significant differences in the percentages who had completed a rigorous curriculum for either males or females.

The female-male curriculum level gaps at the midlevel and above curricula were significantly larger in 2005 than in 1990. The percentage of females completing a rigorous curriculum was 1 percentage point higher than males in 2005 compared to its being 1 percentage point lower than males in 1990. In 2005, the percentage of females completing a midlevel curriculum was 8 percentage points higher than males compared to a 2 percentage point difference in 1990. None of the curriculum level gaps changed significantly between 2000 and 2005.

FIGURE 16  
Curriculum level completed,  
by gender: 1990, 2000, and 2005

Rigorous   
Midlevel   
Standard   
Less than standard

\*Significantly different ( $p < .05$ ) from males.

NOTE: Details may not sum to total because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Transcript Study (HSTS), various years, 1990–2005.

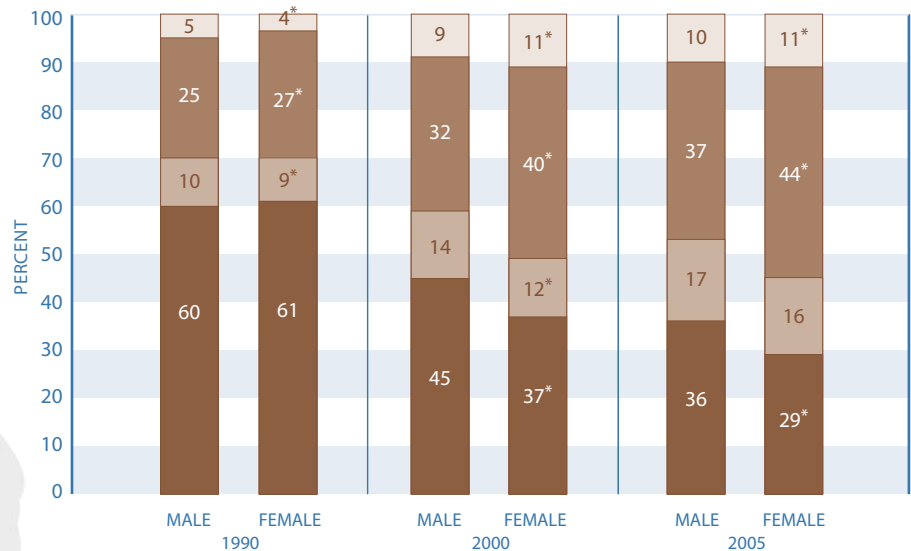
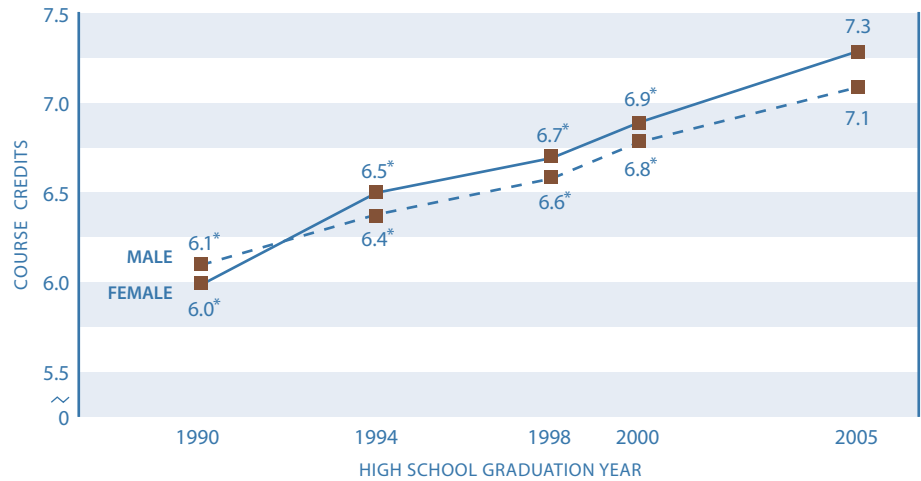


Figure 17 shows that female graduates have also surpassed their male counterparts in credits earned in mathematics and science. In 2005, females earned 0.2 credits more than males in mathematics and science combined or an additional 24 hours of classroom instruction in these fields. In 1990, female graduates earned 0.1 fewer mathematics and science credits than male graduates did.

**FIGURE 17**  
Credits earned in mathematics and science, by gender: 1990–2005

\*Significantly different ( $p < .05$ ) from 2005.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Transcript Study (HSTS), various years, 1990–2005.



### Females earn more credits in other academic courses than males

As seen in figure 18, male-female differences vary across the three fields constituting other academic courses. In fine arts, female graduates earned almost 50 percent more credits than male

graduates did (2.4 credits compared to 1.7 credits). Female graduates also earned more credits in foreign languages than male graduates did (2.3 credits compared to 1.9 credits); however, the

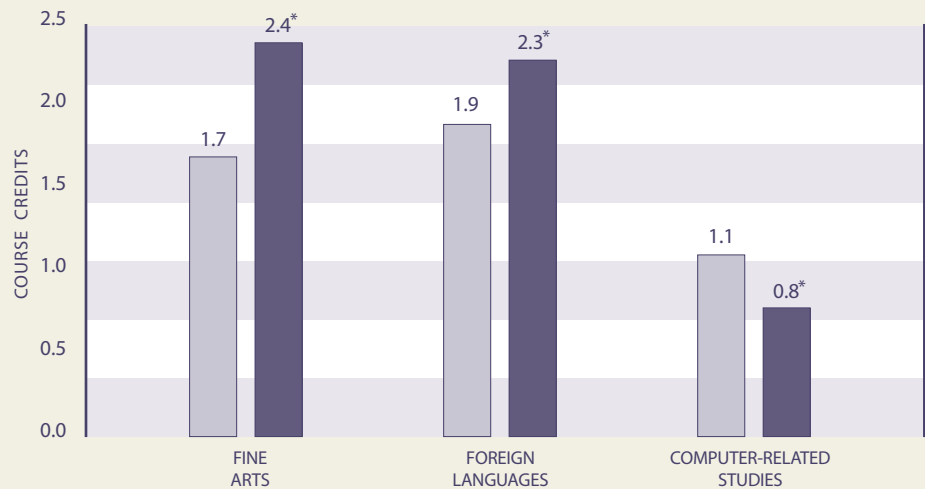
difference is smaller than that for fine arts (0.7 credits compared to the 0.4 credits). In computer-related studies, female graduates earned fewer credits than male graduates (0.8 to 1.1 credits).

**FIGURE 18**  
Credits completed in other academic courses, by gender: 2005

Male □  
Female ■

\* Significantly different ( $p < .05$ ) from males.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Transcript Study (HSTS), 2005.



## Females outperform males on GPA overall and in mathematics and science

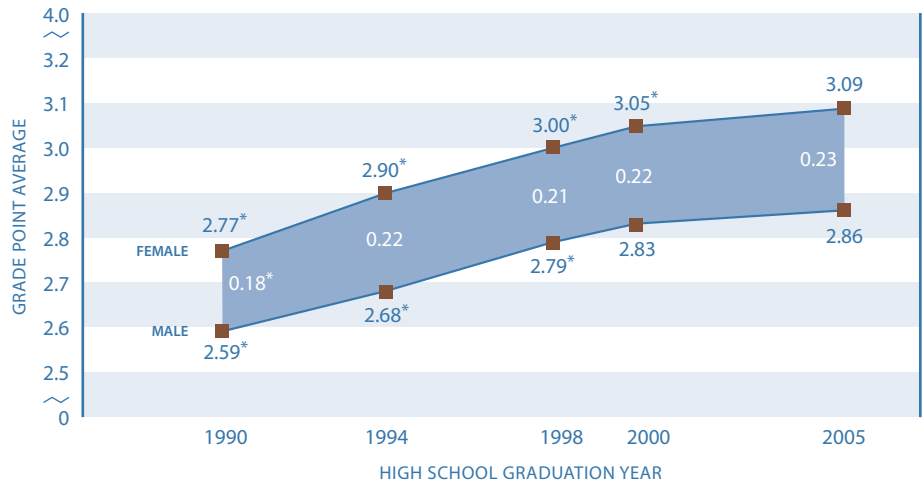
As shown in figure 19, female graduates' overall GPA was significantly higher than male graduates' GPA in all HSTS years. Although the gap in 2005 did not differ significantly from that in 2000, it was significantly larger in 2005 than in 1990.

In addition to having higher overall GPAs, female graduates had higher combined GPAs in mathematics and science than male graduates in all years, as shown in figure 20. The 2005 gap between female and male graduates in both fields was larger in 2005 than in 1990. Both male and female graduates had higher overall GPAs and higher mathematics and science GPAs in 2005 than in 1990.

**FIGURE 19**  
Overall GPA, by gender: 1990–2005

\*Significantly different ( $p < .05$ ) from 2005.

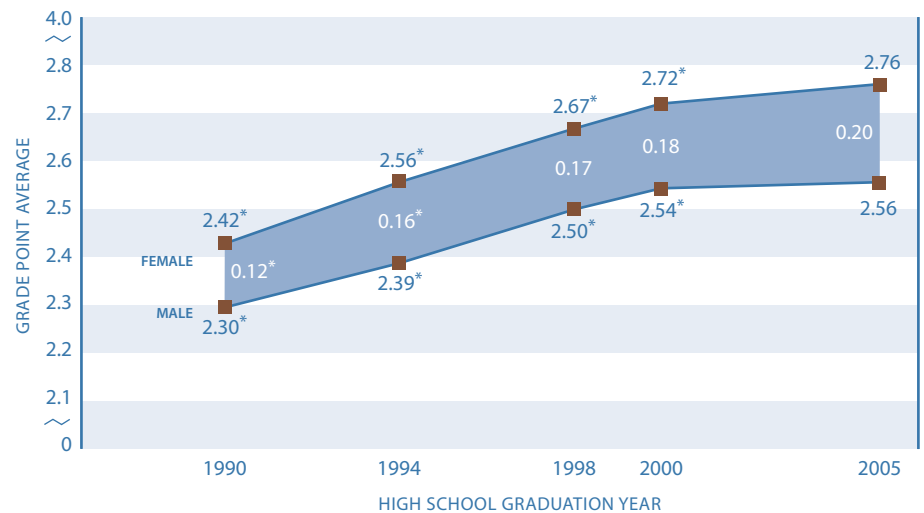
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Transcript Study (HSTS), various years, 1990–2005.



**FIGURE 20**  
Mathematics and science combined GPA, by gender: 1990–2005

\*Significantly different ( $p < .05$ ) from 2005.

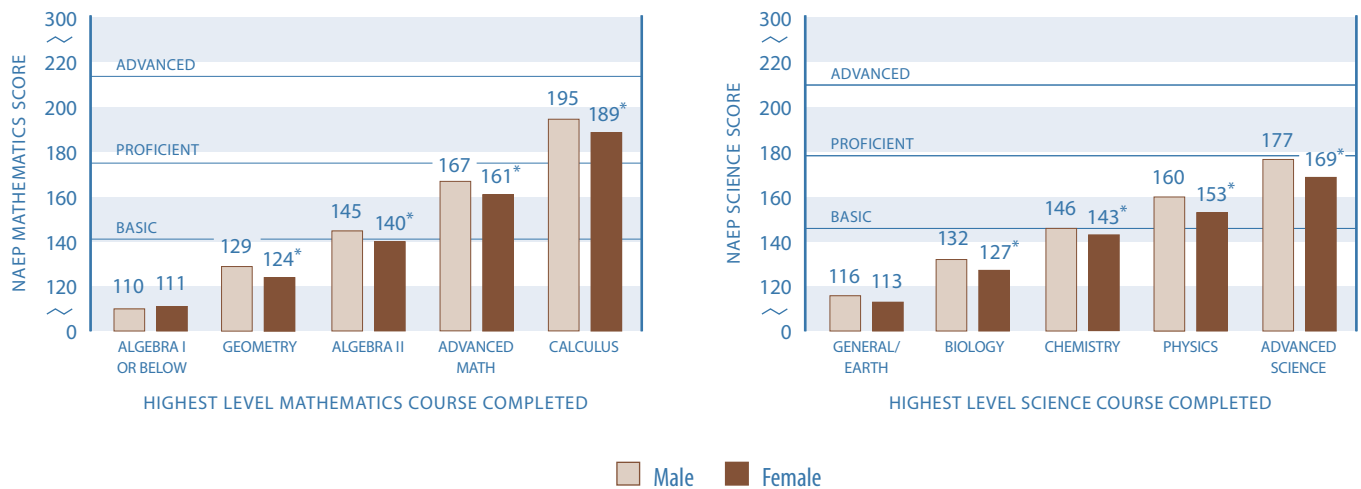
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Transcript Study (HSTS), various years, 1990–2005.



## Males earn higher NAEP mathematics and science scores than comparable female graduates

In 2005, NAEP mathematics and science scores for males were both 4 points higher than for females. As seen in figure 21, a disparity in scores was evident at most levels of coursetaking. Males outperformed females by an average of 5 to 6 points if the highest level mathematics course completed was geometry, algebra II, advanced mathematics, or calculus. There was no significant gender difference in scores if the highest mathematics class taken was algebra I or below. In science, the size of the male-female gap in scores ranged from 3 points if the highest science course taken was chemistry to 9 points if the highest science class taken was advanced science. There was no significant difference between male and female graduates whose highest science course taken was earth science or a general science course.

FIGURE 21 NAEP mathematics and science scores, by highest course completed and gender: 2005



\*Significantly different ( $p < .05$ ) from males.

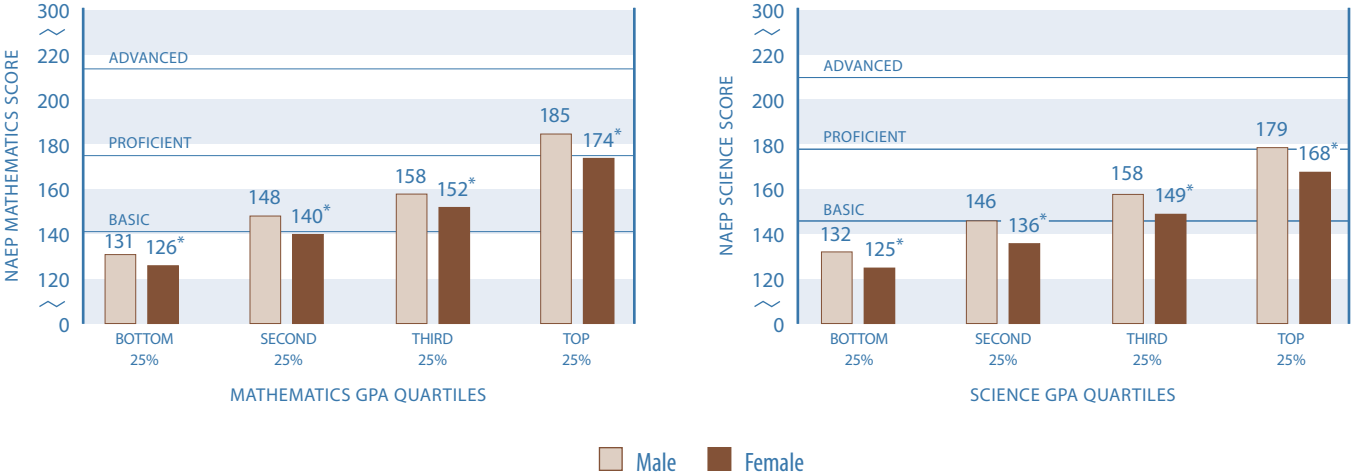
NOTE: Advanced mathematics includes courses, other than calculus, that are generally taken after algebra II (e.g., AP statistics and precalculus). Advanced science courses are courses that contain advanced content (like AP biology, IB chemistry, AP physics, etc.) or are considered second-year courses (chemistry II, advanced biology, etc.).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Transcript Study (HSTS), 2005.

The pattern of male graduates outperforming female graduates on the NAEP mathematics and science assessments was also apparent when comparing students in the same mathematics or science GPA quartiles. For example, as seen in figure 22, male graduates achieved higher average NAEP mathematics scores than female graduates in all four mathematics GPA quartiles. The size of the gap ranged from 5 to 11 points. As with

mathematics, the gender differences in science scores occurred regardless of science GPA, with males having consistently higher average science scores than females within the same GPA quartile.

FIGURE 22 NAEP mathematics and science scores, by GPA and gender: 2005



\*Significantly different (p<.05) from males.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Transcript Study (HSTS), 2005.

