

## **Section 3**

# *Student Effort and Academic Progress*





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## Summary: Student Effort and Academic Progress

The learner outcomes described in Section 2 reflect many factors, such as the effort students put into their studies, the choices they make as they proceed through the education system, and the quality of the institutions they attend. Student effort plays an important role in determining how well students perform at each level and affects their access to and success at the next level should they persist. The indicators in this section use the student as the unit of analysis to examine various aspects of student effort, academic progress, and attainment as they proceed through the elementary, secondary, and postsecondary education systems.

### STUDENT ASPIRATIONS AND COURSETAKING

Students' educational expectations have increased substantially since 1980. Increasingly, high school students are being advised by their parents, counselors, and teachers to go to college (*Indicator 7, The Condition of Education 1994*), and growing numbers take that advice. The percentage of 12<sup>th</sup>-graders who definitely planned to complete a bachelor's degree increased from 35 to 56 percent between 1980 and 1997 (*Indicator 24*). Women's expectations have increased more than men's. In 1980, there was no difference in the percentages of men and women who definitely planned to complete a 4-year program, but in 1997, women were more likely than men to expect to do so.

Reflecting in part these increased aspirations (as well as changes in graduation requirements and course offerings), today's high school graduates are taking more courses and more difficult courses than they were in the early 1980s. The average number of credits earned by high school graduates increased from 22 credits in 1982 to 25 credits in 1998 (*Indicator 27*). Furthermore, this increase has been in academic rather than vocational or enrichment/other credits. Racial-ethnic differences in the

number of courses taken have diminished but not disappeared. In 1982, white graduates earned more academic credits, on average, than Hispanic graduates, but there was no difference in 1998. In contrast, there generally were black-white differences in the number of academic credits earned between 1982 and 1998.

In addition to taking more academic courses, high school graduates are taking more demanding courses in mathematics and science. The percentage of high school graduates who took the most rigorous mathematics curriculum (Advanced Placement calculus, calculus, and calculus/analytic geometry) doubled from 6 percent to 12 percent between 1982 and 1998 (*Indicator 40*). Also, the percentage who took both chemistry and physics increased from 7 percent to 19 percent during the same period. Yet another indicator that students are tackling more academic challenges is the number of high school students taking advanced placement (AP) examinations (for which they can earn college credit). Between 1984 and 1997, the number of students who took the AP examinations increased from 50 to 131 students per 1,000 12<sup>th</sup>-graders (*Indicator 14, The Condition of Education 1999*).

### Persistence and progress in elementary/secondary education

In addition to examining students' academic achievement at various grade levels (as is done in Section 2), it is important to monitor their progress through school up to and including completion. Early problems in school can accumulate and lead eventually to dropping out, which can have long-term consequences such as lower earnings (*Indicator 12, The Condition of Education 1999*). Also, high school dropouts put their own children at a disadvantage with respect to many indicators related to educational success (see, for example, *Indicator 33*).



## Summary: Student Effort and Academic Progress

There have been improvements at many grade levels in students' progress. Young children today are entering kindergarten more prepared for school than in the past. Between 1991 and 1996, increased numbers of 3-, 4-, and 5-year-olds enrolled in preschool or kindergarten programs (*Indicator 1, The Condition of Education 1998*) and participated in early literacy activities at home (*Indicator 2, The Condition of Education 1998*). In addition, high school completion rates have increased. In 1998, 88 percent of 25- to 29-year-olds had completed high school, up from 78 percent in 1971 (*Indicator 59, The Condition of Education 1999*). The event dropout rate (the proportion of students enrolled in one year who are not enrolled the following year) is relatively low, with four percent of all young people ages 15–24 years old dropping out of grades 10–12 in 1998 (*Indicator 28*). Finally, many who do drop out reconsider their decision later. Fifty-eight percent of 1990 high school sophomores who dropped out of school either completed or re-enrolled in school within two years of their scheduled graduation, raising the total who completed from 87 percent in August 1992 to 92 percent by 1994 (*Indicator 29*).

Despite these encouraging findings, persistence and progress vary by gender, race-ethnicity, and urbanicity. For example, in 1998, girls beginning kindergarten were perceived to be more likely than boys to persist at tasks, show eagerness to learn, and pay attention often or very often (*Indicator 26*). In addition, white and Asian children were more likely than black or Hispanic children to exhibit these characteristics, as were children whose mothers had higher versus lower levels of education. Also, Hispanics (especially those born outside the United States) tend to have higher dropout rates than non-Hispanics (*Indicators 51 and 52, The Condition of Education 1999*), as do students in urban areas compared with those in suburban areas (*Indicator 28*).

### TRANSITION TO COLLEGE

Increasing numbers of high school graduates are entering college immediately after high school. In 1972, about half (49 percent) of all high school completers ages 16–24 enrolled in a 2- or 4-year college immediately after high school; in 1998, about two-thirds (66 percent) did so (*Indicator 32*). Enrollment rates increased faster for women than men, especially at 4-year institutions. In addition, the gap between white and black enrollment rates has decreased since 1984.

Despite high enrollment rates overall, high school graduates from all family backgrounds do not have equal access to postsecondary education. In 1998, high school completers from high-income families were considerably more likely to go to college immediately after high school (77 percent) than were their peers from low-income families (46 percent). High school completers were also much more likely to enroll in college immediately after high school if their parents had at least a bachelor's degree than if they had less education (*Indicator 32*).

One factor associated with lower rates of enrollment at 4-year institutions among low-income families is that they are less qualified academically (based on a "college qualification" index constructed using high school grade-point average, senior class rank, performance on a standardized test, SAT or ACT scores, and high school curriculum rigor). In 1992, 53 percent of high school graduates from low-income families (less than \$25,000) were at least minimally academically qualified for admission, compared with 68 percent of those from middle-income families (\$25,000–74,999) and 86 percent of those from high-income families (\$75,000 or more) (*Indicator 30*).



## Summary: Student Effort and Academic Progress

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However, there is evidence that the disadvantage of low income can be overcome. When low-income high school graduates who are college qualified take the steps required for admission to a 4-year institution (that is, apply and take the necessary tests), they are just as likely as their middle-income peers to enroll (*Indicator 31*).

Other disadvantages can be overcome as well. With the proper support, some students who are at risk for not completing high school do enroll in college. Among 1992 high school graduates with at least one risk factor, 35 percent not only completed high school but also enrolled in a 4-year college within two years of their high school graduation (*Indicator 33*). High aspirations, taking advanced courses, and receiving support from parents, friends, and their schools all contributed to their success.

### PERSISTENCE AND PROGRESS IN POSTSECONDARY EDUCATION

Degree/certificate completion is associated with increased employment opportunities and income potential (*Indicator 23*). Thus, it is useful to identify factors that promote students' likelihood of staying enrolled and attaining their goal (while recognizing, of course, that postsecondary attendance is an experiment for some students, and failure to persist is not always a negative outcome).

Overall, three-quarters of students who began their postsecondary education at a 4-year institution in 1995–96 were still enrolled at a 4-year institution (although not necessarily at the same one) three years later (*Indicator 35*). Certain characteristics put college students at risk for not persisting, including coming from a low-income family, having parents who did not attend college, and attending a higher poverty high school. One factor that helps these at-risk students persist in 4-year institutions is high

school preparation for college-level work. At-risk students who completed the New Basics core curriculum in high school (four years of English and three years each of science, social science, and mathematics) were as likely to persist as their peers who were not at risk (*Indicator 35*).

Furthermore, there is evidence that lack of academic preparation in high school is detrimental to persistence. When students enter college lacking the reading and other skills needed to succeed in college-level work and are assigned to remedial courses in college, their likelihood of completing a bachelor's degree diminishes. Thirty-four percent of 1982 high school graduates who took any remedial reading coursework in college had completed a bachelor's or associate's degree by age 29–30, compared with 56 percent of those with no remedial courses (*Indicator 34*). The proportion of freshmen enrolled in a remedial course in reading, writing, or mathematics was 29 percent in fall 1995, about the same proportion as in 1989 (30 percent; *Indicator 29, The Condition of Education 1999*).

### COMPLETIONS

The overall educational attainment of the population has increased over time. In 1999, 88 percent of those ages 25–29 had earned a high school diploma or its equivalent; 66 percent of the high school completers in this age group had completed some college; and 32 percent had earned a bachelor's degree or higher. Several trends have been evident since the early 1970s: (1) female attainment rates have increased faster than those of males at all levels; (2) the black-white gap has narrowed for high school attainment, but has remained about the same for those completing some college and widened for those finishing college; and (3) Hispanic-white gaps still exist and have remained similar at all levels over time (*Indicator 38*).



# Student Attitudes and Aspirations

## Educational Plans

*Students' educational expectations have increased substantially since 1980.*

In a climate of rising standards and expectations beginning in the 1980s, increasing numbers of students have been completing college preparatory courses in high school and taking college entrance examinations such as the ACT and SAT (NCES 98–013, NCES 97–388, and NCES 96–304). Increasing proportions of students are also entering college and completing degrees (NCES 1999–022). Trends in high school seniors' expectations for postsecondary education provide another measure of this growing focus on postsecondary education.

The percentage of 12<sup>th</sup>-graders who said they “definitely will” complete a bachelor’s degree increased considerably from 1980 to 1997 (from 35 to 56 percent). Furthermore, the proportion who said they “definitely will” attend graduate or professional school nearly doubled during the same period, from 11 to 21 percent. The percentage of students who definitely

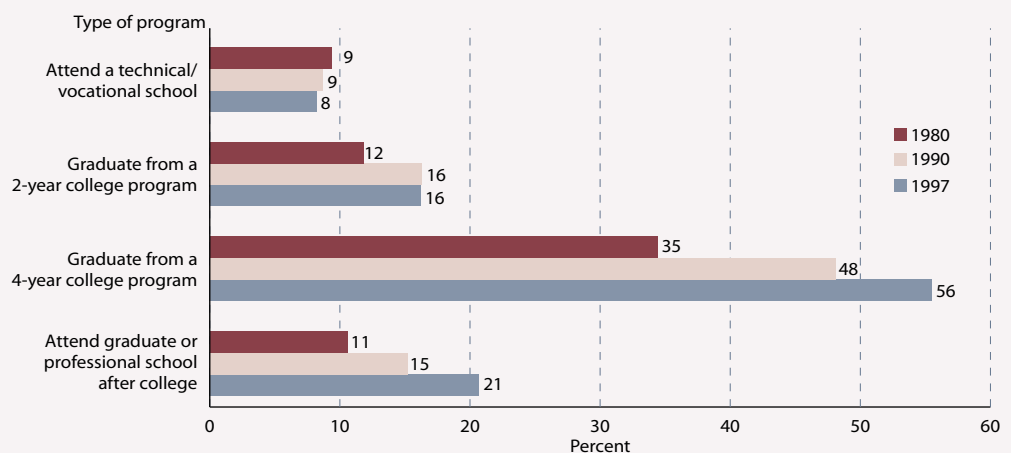
planned to complete a 2-year college program increased from 1980 to 1990, but that percentage did not change from 1990 to 1997. The percentage of 12<sup>th</sup>-grade students who definitely planned to attend a technical/vocational school declined slightly from 1980 to 1997.

Sex differences were evident as well. In all three years, women were more likely than men to report definite plans to complete 2-year degrees (see supplemental table 24-1). In 1980, there was no sex difference in the percentage with definite plans to complete a 4-year degree, but in 1997 females were more likely than males to have such plans. In 1980, males were slightly more likely than females to report definite plans to attend graduate/professional school, but in 1997 that sex difference was reversed (24 percent of females versus 17 percent of males) (see supplemental table 24-1).

NOTE: The response rates for this survey do not meet NCES standards. Students were asked how likely it was that they would participate in different types of postsecondary education. The response options were “definitely will,” “probably will,” “probably won’t,” and “definitely won’t.”

SOURCE: U.S. Department of Education, NCES. *Trends in Educational Equity for Girls and Women* (NCES 2000–030), 2000 (1980 and 1990 data); University of Michigan, Institute for Social Research, *Monitoring the Future Study* (1997 data).

**STUDENTS' EDUCATIONAL PLANS: Percentage of high school seniors who reported definite plans for postsecondary education, by type of program: 1980, 1990, and 1997**



FOR MORE INFORMATION:  
Supplemental Table 24-1

NCES 96–304, NCES 97–388,  
NCES 98–013, NCES 1999–022

# Student Attitudes and Aspirations

## Attitudes About Mathematics

*Attitudes about mathematics differ across grades. Older students tend to be more negative than younger students. The attitudes of females, while similar to those of males at early grade levels, are more negative than those of males at higher grade levels.*

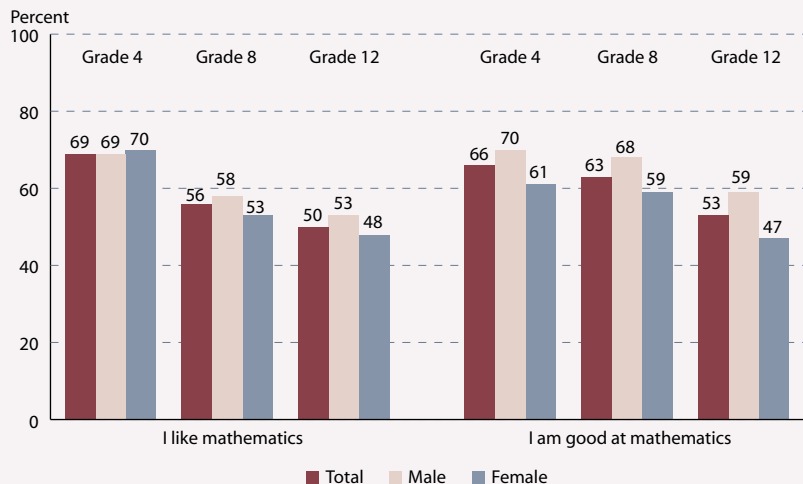
Students’ attitudes about the subjects they study are often tied to performance. Such attitudes can affect enthusiasm for learning a subject and the effort devoted to studying it (Eccles 1994). When attitudes about mathematics were observed in 1990, 1992, and 1996, several interesting patterns emerged.

Older students tended to be more negative than their younger counterparts. Twelfth-graders, for example, were less likely than 4<sup>th</sup>- and 8<sup>th</sup>-graders to agree with the statements “I like mathematics” and “I am good at mathematics” in 1996. The size of the difference in the percentages of students who said they “like mathematics” was greater between grades 4 and 8 than it was between grades 8 and 12 in all three years. In contrast, the magnitude of the difference in the percentages of those who said they are “good at mathematics” was greater between grades 8 and 12 than between grades 4 and 8 in the last two years.

In addition, differences between males and females were also evident. Females generally exhibited less positive attitudes about mathematics than did males. In all three years, 4<sup>th</sup>-grade females were as likely as 4<sup>th</sup>-grade males to agree with the statement “I like mathematics.” In grades 8 and 12, females were less likely to do so. At all three grade levels, females were less likely to agree with the statement “I am good at mathematics” (see supplemental table 25-1).

Although these patterns remained relatively consistent between 1990 and 1996, some change in attitudes occurred over the 6-year period. As an illustration, the percentage of 12<sup>th</sup>-grade students who agreed with the statements “I like mathematics” and “I am good at mathematics” decreased between 1990 and 1996. Over the same period, attitudes about these statements among 4<sup>th</sup>- and 8<sup>th</sup>-grade students remained relatively stable.

**STUDENT ATTITUDES: Percentage of students who agreed with statements about mathematics: 1996**



SOURCE: U.S. Department of Education, NCES, National Assessment of Educational Progress (NAEP), 1990, 1992, and 1996.

FOR MORE INFORMATION:  
Supplemental Table 25-1  
Eccles 1994





# Student Effort

## First-Time Kindergartners' Approaches to Learning

*Teachers report that two-thirds or more of kindergartners often or very often persist at tasks, pay attention, and seem eager to learn.*

The ways in which kindergartners approach and perform specific tasks in different situations contribute to variations in their skills and knowledge and their chances for success in learning (Kagan, Moore, and Bredekamp 1995). How the children perform reflects the myriad ways in which they become involved in learning and frame their thinking and behavior in learning situations. Consequently, differences in their knowledge and abilities can be observed by examining how they approach learning.

In 1998, kindergarten teachers reported that 71 percent of first-time kindergartners persisted at tasks, 75 percent seemed eager to learn, and 66 percent paid attention often or very often (see supplemental table 26-1).

Teachers' reports of kindergartners' approaches to learning differed by children's sex and fam-

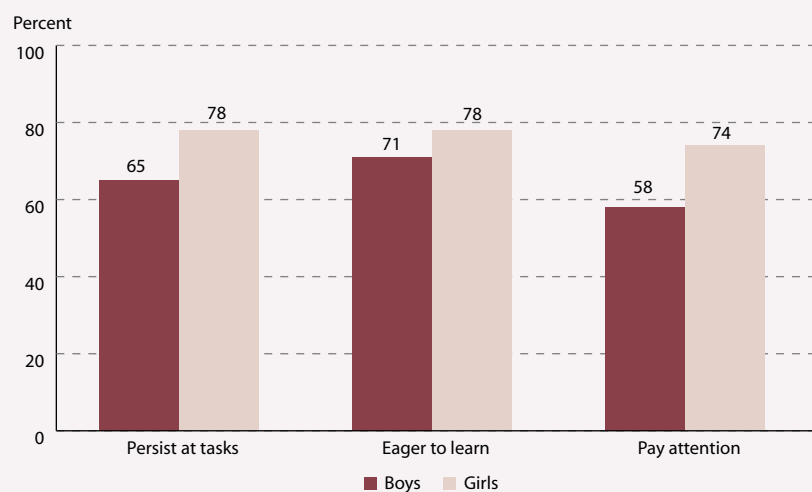
ily characteristics. For example, teachers perceived girls to be more likely than boys to persist at tasks, to be eager to learn, and to pay attention often or very often.

According to teachers' reports, children of mothers with lower levels of education were perceived as generally less likely than children whose mothers had higher levels of education to persist at tasks, to be as eager to learn, and to pay attention often or very often (see supplemental table 26-1).

Teachers reported that white and Asian children were more likely to be perceived as persisting at tasks, eager to learn, and to pay attention than black or Hispanic children. For example, 78 percent of white children were eager to learn often or very often, compared with 66 percent of black children (see supplemental table 26-1).

SOURCE: U.S. Department of Education, NCES. Early Childhood Longitudinal Study, "Kindergarten Class of 1998–99," Fall 1998.

**APPROACHES TO LEARNING: Percentage of first-time kindergartners whose teachers reported that they persist at tasks, are eager to learn, and pay attention "often or very often," by sex: Fall 1998**



FOR MORE INFORMATION:  
Supplemental Note 3  
Supplemental Table 26-1  
Kagan, Moore, and Bredekamp  
1995  
NCES 2000-070



# Student Effort

## Credits Earned in High School

*High school graduates in 1998 accumulated about three more academic credits than graduates did in 1982.*

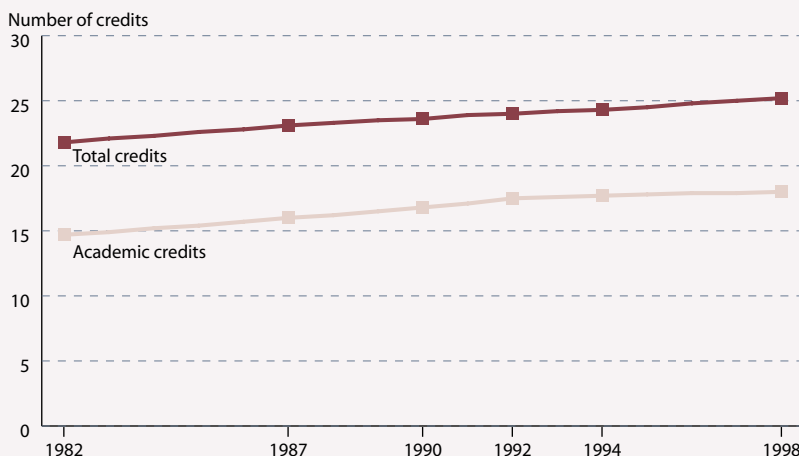
High school students are earning more credits than they did previously. In 1982, high school graduates earned about 22 credits during their high school careers. (One credit equals one year of a daily one-hour course.) By 1998, graduates earned about 25 credits, on average, during their high school careers (see supplemental table 27-1).

Students earn credits in academic subjects, such as mathematics, science, English, and social studies; vocational subjects, such as business, health occupations, and agriculture; and enrichment/other subjects, such as health/physical education, drivers' education, and military science. The increase over time in total credits earned resulted from an increase in the num-

ber of academic courses taken. High school graduates in 1982 earned, on average, 15 credits in academic subjects, compared with 18 credits in 1998. Thus, students are taking no fewer vocational and enrichment/other courses than in the past, but are taking more academic courses.

Increased academic coursetaking was particularly apparent among Hispanic students. In 1982, Hispanic graduates earned one and one-half academic credits fewer than did white graduates (see supplemental table 27-1). By 1998, this difference had disappeared. In contrast, generally there were differences between black and white graduates in the number of academic credits earned between 1982 and 1998.

**CREDITS EARNED: Average number of total and academic credits earned in high school: Selected years 1982–98**



SOURCE: U.S. Department of Education, NCES. High School and Beyond Longitudinal Study of 1980 Sophomores, "Second Follow-up" (HS&B: 1980/1984); National Education Longitudinal Study of 1988 Eighth Graders, "High School Transcript Study" (NELS:1992); and 1987, 1990, 1994, and 1998 National Assessment of Educational Progress (NAEP) High School Transcript Studies.

FOR MORE INFORMATION:  
 Supplemental Note 3  
 Supplemental Table 27-1  
 NCES 1999-06





# Elementary/Secondary Progress

## Event Dropout Rates, by Urbanicity

*Students in urban areas are more likely than students in suburban areas to drop out of high school.*

Youth who do not complete high school tend to have substantially lower employment rates and earnings than their more educated peers (NCES 1999–022). Although the overall incidence of dropping out has declined since the early 1970s, dropout rates are higher for some subgroups of students than for others (NCES 1999–082).

There are several ways to calculate dropout rates. One, called the event dropout rate, is the proportion of students who were enrolled in one year who were not enrolled in the following year and did not earn a high school credential in the intervening year. According to this measure, four percent of all young people

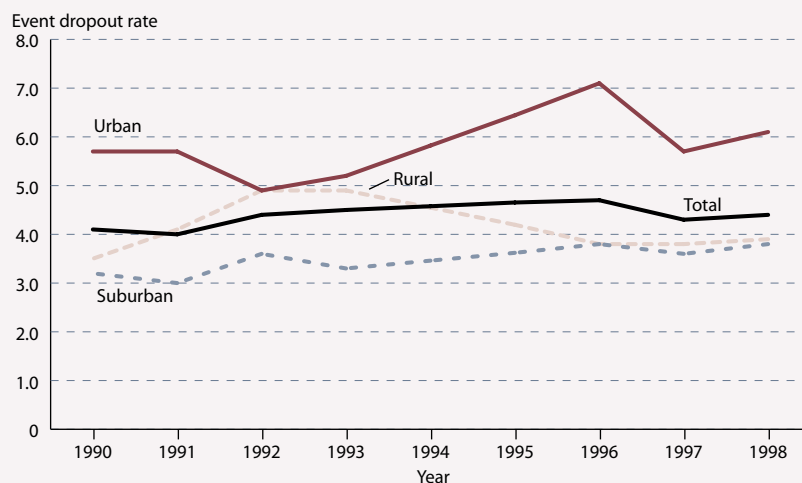
15–24 years old who were enrolled in school dropped out of grades 10–12 in 1998. However, in urban areas, the dropout rate was about six percent, compared with about four percent in suburban areas. Students in urban areas also appeared to drop out at a higher rate than rural students, but the difference between the rates for these two groups is not statistically significant.

While the overall event dropout rate remained stable during the 1990s, the pattern varied according to community type. In particular, event dropout rates followed no consistent trend in urban areas, but increased slightly in suburban areas.

NOTE: Estimates for 1994 and 1995 were interpolated. Estimates may differ from those previously published.

SOURCE: U.S. Department of Commerce, Bureau of the Census. October Current Population Survey, various years, special tabulations.

**EVENT DROPOUT RATES: Event dropout rates for 15- to 24-year-olds in grades 10–12, by urbanicity: 1990–98**



FOR MORE INFORMATION:  
Supplemental Note 3  
Supplemental Table 28-1  
NCES 1999–022, NCES 1999–082

# Elementary/Secondary Progress

## Later Completions by Dropouts

Many former students reconsider their decision to drop out and return to school to earn a high school diploma or an alternative credential such as a GED.

Completing high school helps prepare young people for the work force and further education. Among high school students who were sophomores in 1990, 88 percent completed high school by August 1992, and another seven percent were still enrolled at that time. The remaining six percent had dropped out.

Dropping out of high school does not always mark the end of a young person's secondary education. Many dropouts later receive a high school diploma or earn an alternative credential by passing the General Educational Development (GED) tests. More than half (58 percent) of dropouts from the 1990 sophomore cohort had either completed or re-enrolled in school within 2 years of their scheduled graduation.

Adding students who graduated on time, students who took longer than scheduled to

finish, and dropouts who later completed brings the total completion rate for 1990 sophomores to 92 percent by spring 1994.

Students in the 1990 sophomore cohort were more likely than their counterparts a decade earlier to graduate on time (88 percent versus 80 percent), and if they dropped out, they were less likely to still be dropouts 2 years later (43 percent versus 66 percent).

Dropouts in the 1990 sophomore cohort with poor skills in mathematics (as indicated by test performance in the lowest quartile for their cohort) were less likely than their peers with better mathematics skills to have earned an alternative credential such as the GED within two years of their scheduled graduation (9 percent versus 16 percent) and were more likely to have remained dropouts (47 percent versus 34 percent).

**HIGH SCHOOL COMPLETION: Percentage distribution of 1980 and 1990 sophomores and dropouts according to completion status and percentage completing within 2 years of scheduled graduation, by mathematics achievement**

	Status in August following scheduled high school graduation			Status of August dropouts in spring 2 years following scheduled graduation			Total completed spring 2 years following scheduled graduation	
	Completed <sup>1</sup>	Still enrolled <sup>2</sup>	Drop-out	Graduated	Alter-native credential	Enrolled in high school <sup>2</sup>		Still drop-out
<b>1990 sophomore cohort</b>								
<b>Total</b>	<b>87.5</b>	<b>6.9</b>	<b>5.6</b>	<b>15.1</b>	<b>11.0</b>	<b>31.4</b>	<b>42.5</b>	<b>92.2</b>
Mathematics achievement in 10 <sup>th</sup> grade <sup>3</sup>								
Lowest quartile	74.6	13.0	12.4	12.9	8.5	31.9	46.7	82.2
Above lowest quartile	93.2	4.2	2.6	19.9	16.1	30.4	33.6	96.6
<b>1980 sophomore cohort</b>								
<b>Total</b>	<b>80.1</b>	<b>10.0</b>	<b>9.9</b>	<b>8.4</b>	<b>11.8</b>	<b>13.5</b>	<b>66.4</b>	<b>89.6</b>
Mathematics achievement in 10 <sup>th</sup> grade <sup>3</sup>								
Lowest quartile	67.0	14.5	18.5	8.4	8.6	15.0	68.0	80.1
Above lowest quartile	89.1	6.9	4.1	8.4	20.8	9.2	61.6	95.8

<sup>1</sup> Includes those who graduated from high school and those who received an alternative credential.

<sup>2</sup> Enrolled in a regular high school or alternative program.

<sup>3</sup> Based on tests administered as part of the survey.

NOTE: Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Education, NCES, High School and Beyond Longitudinal Study of 1980 Sophomores, "Second Follow-up" (HS&B: 1980/1984), and National Education Longitudinal Study of 1988 Eighth Graders, "Third Follow-up" (NELS:1988/1994).



# Transitions to College

## Who Is Prepared for College

*High school graduates from low-income families are less likely to be qualified academically to enter 4-year institutions than their peers from higher income families.*

High school graduates from low-income families enter 4-year institutions at lower rates than their higher income peers (NCES 98–105). While financial barriers to college attendance exist for many low-income students, one reason for their lower enrollment rate is that they are less qualified academically. Eighty-six percent of 1992 high school graduates from families with high incomes (\$75,000 or more) were at least minimally academically qualified for admission to a 4-year institution, compared with 68 percent of those from middle-income (\$25,000–74,999) and 53 percent from low-income (less than \$25,000) families. (See *Supplemental Note 9* for more information about the College Qualification Index.)

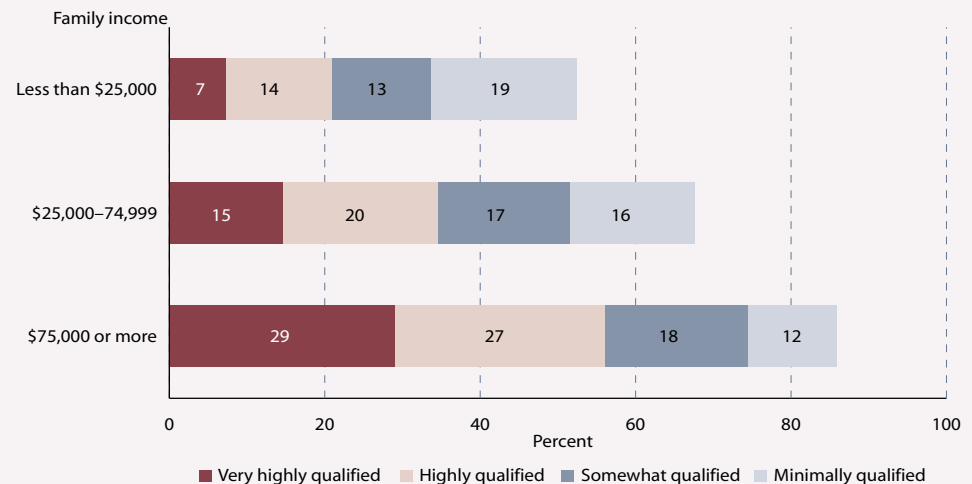
Moreover, high-income graduates were almost twice as likely as middle-income graduates and four times as likely as low-income graduates to be very highly qualified for 4-year college admission. The proportion of college-qualified students was also directly related to their parents’ educational attainment (NCES 98–105).

Asian/Pacific Islander and white graduates have higher average family income and parental education levels than their black and Hispanic counterparts (NCES 98–105). Reflecting this pattern, they were more likely than black and Hispanic graduates to be at least minimally qualified for 4-year college admission (see supplemental table 30-1). The proportion of very highly qualified graduates was largest among Asians/Pacific Islanders.

NOTE: The 4-year College Qualification Index is based on high school GPA, senior class rank, NELS 1992 aptitude test, SAT or ACT scores, and curricular rigor.

SOURCE: U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders, “Third Follow-up” (NELS:1988/1994).

**QUALIFIED FOR COLLEGE: Percentage of 1992 high school graduates qualified for admission at a 4-year institution, by level of qualification and family income**



FOR MORE INFORMATION:  
 Supplemental Note 9  
 Supplemental Table 30-1  
 NCES 98–105

# Transitions to College

## Who Enrolls in Postsecondary Education

*Enrollment rates of high school graduates vary with family income, but among those who are college-qualified and take the steps necessary for admission, low-income students are just as likely as middle-income students to enroll in a 4-year institution.*

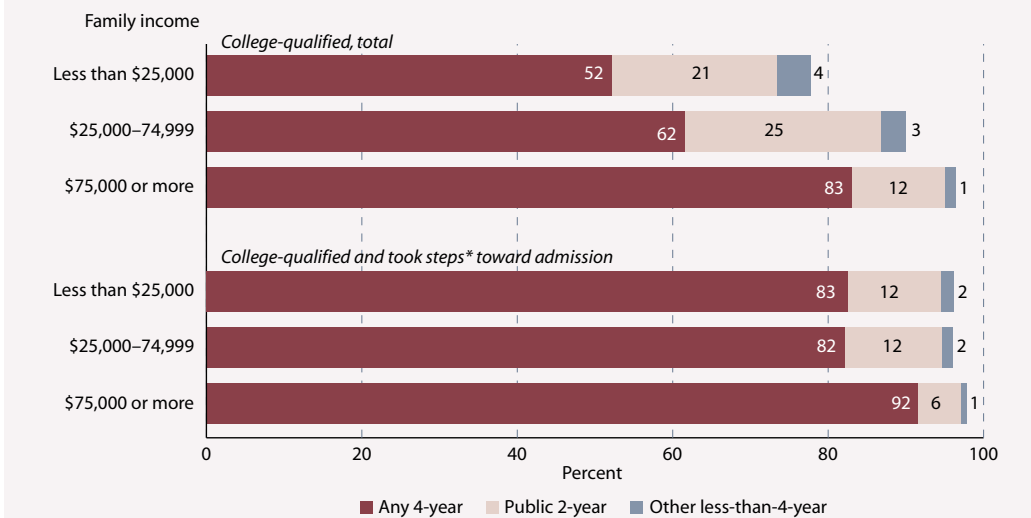
The higher the family income of high school graduates, the more likely they are to enroll in postsecondary education. Among 1992 graduates as a whole, the proportion who enrolled in 4-year institutions by 1994 increased at each family income level, from 33 percent of low-income students to 47 percent of middle-income students to 77 percent of high-income students (NCES 98–105).

However, financial resources are not the only obstacle to enrollment for students from low-income families. High school graduates from low-income families are less likely to enroll in college because they tend to be less qualified (*Indicator 30*). Nevertheless, even among college-qualified graduates, enrollment rates in 4-year or any postsecondary institutions within two years of graduating from high school increased with family income.

In addition to being college qualified, students wanting to enter a 4-year institution take additional steps, defined here as taking a college admissions test and applying for admission. Some of the income-related differences in enrollment rates disappeared among those who were both college qualified and took these two steps. High school graduates from families with low and middle incomes were equally likely to enroll in a 4-year institution or in any postsecondary institution within two years of high school graduation (83 and 82 percent, respectively).

A large majority (83 percent) of low-income high school graduates who were both college qualified and took the two steps toward admission were able to attend a 4-year institution. Financial or other reasons did not deter them from enrolling.

**POSTSECONDARY ENROLLMENT: Percentage of college-qualified 1992 high school graduates who enrolled in postsecondary education by 1994, by type of institution and family income**



\* Took a college admissions test (SAT or ACT) and applied for admission to a 4-year institution.

NOTE: The 4-year college qualification index is based on high school GPA, senior class rank, NELS 1992 aptitude test, SAT or ACT scores, and curricular rigor. See *Supplemental Note 9* for further information about the College Qualification Index. Type of institution attended refers to first institution attended.

SOURCE: U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders, "Third Follow-up" (NELS: 1988/1994).

FOR MORE INFORMATION:  
Supplemental Note 9  
NCES 98–105





# Transitions to College

## Immediate Transition to College

*Immediate college enrollment rates have been increasing since 1972. From 1984 to 1998, increases in female enrollment at 4-year institutions contributed to overall growth in enrollment rates. The gap between white and black enrollment rates has decreased since 1984.*

The percentage of high school completers who enroll in college in the fall immediately after high school reflects the accessibility of higher education and the value high school completers place on college compared with other pursuits. Overall, immediate college enrollment rates of high school completers increased from 49 to 66 percent between 1972 and 1998 (see supplemental table 32-1).

From 1972 to 1998, immediate enrollment rates of female high school completers increased faster than those of males. Much of the growth in immediate college enrollment rates between 1984 and 1998 was due to increases in the immediate enrollment rates of females at 4-year institutions. The rates at which females enrolled in 4-year institutions increased faster than those of males and faster than those of females at 2-year institutions (see supplemental table 32-3).

Immediate enrollment rates for white high school completers have increased over the past

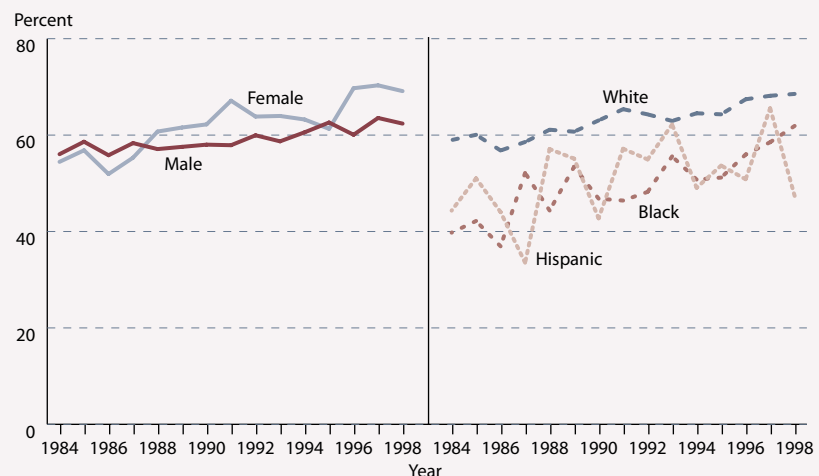
27 years, from 50 to 69 percent. Among black high school completers, immediate enrollment rates fluctuated between 1972 and 1983, and then increased between 1984 and 1998, rising from 40 to 62 percent (see supplemental table 32-1). Since 1984, immediate enrollment rates for blacks have increased faster than those for whites, closing the gap between the two groups. For Hispanic high school completers, there was no consistent growth in rates between 1972 and 1998.

Some differences in immediate enrollment rates among groups of completers have not changed. The gap in rates of those from high- and low-income families persisted for each year between 1990 and 1998. Likewise, completers whose parents had attained a bachelor's degree or higher were more likely than those with parents who had less education to enter college immediately after high school graduation for each year between 1990 and 1998 (see supplemental table 32-2).

NOTE: Includes high school completers in a given year from 16–24 years of age. In 1994, the survey methodology for the Current Population Survey (CPS) was changed and weights were adjusted.

SOURCE: U.S. Department of Commerce, Bureau of the Census. October Current Population Surveys.

**IMMEDIATE ENROLLMENT: Percentage of high school completers who were enrolled in college the October after completing high school, by sex and race-ethnicity: October 1984–98**



FOR MORE INFORMATION:

Supplemental Notes 1, 3

Supplemental Tables 32-1, 32-2, 32-3

"Overview of the Condition of Education" essay from *The Condition of Education 1999* (NCES 1999-022)



# Transitions to College

## Enrollment of Students With Risk Factors

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*About one-third of young people at risk for low educational attainment are able to persist in high school and enroll in a 4-year college despite being disadvantaged.*

Some students who enter high school with risk factors associated with dropping out nonetheless graduate from high school and enroll in postsecondary education. About 58 percent of all 1992 high school graduates had at least one factor in their family background or school experiences prior to entering high school that placed them at some risk of lower educational attainment. However, 35 percent of these graduates with risk factors not only finished high school, but also enrolled in a 4-year college or university within two years of their high school graduation (and 68 percent enrolled in some type of postsecondary institution).

Why were some students with risk factors able to make it to college while others were not? Many factors may have contributed to their success, including academic preparation, family background, and support from schools, parents, and friends.

Students with risk factors who aspired in 10<sup>th</sup> grade to earn at least a bachelor's degree, were at least minimally academically prepared for enrollment in a 4-year college, and got help

with college applications from their school were more likely to enroll in a 4-year college than those who did not. In addition, those who completed at least one advanced mathematics course and those who participated in two or more extracurricular activities in 10<sup>th</sup> grade were more likely than others to enroll in a 4-year college. Also, students whose parents discussed school and college matters at least moderately frequently during 12<sup>th</sup> grade and those with parents who had completed a bachelor's degree were more likely to enroll in a 4-year college than those whose parents were not in these categories. Finally, when most of the friends of a student with risk factors planned to enroll in a 4-year college, the student was more likely than other students with risk factors to do so as well.

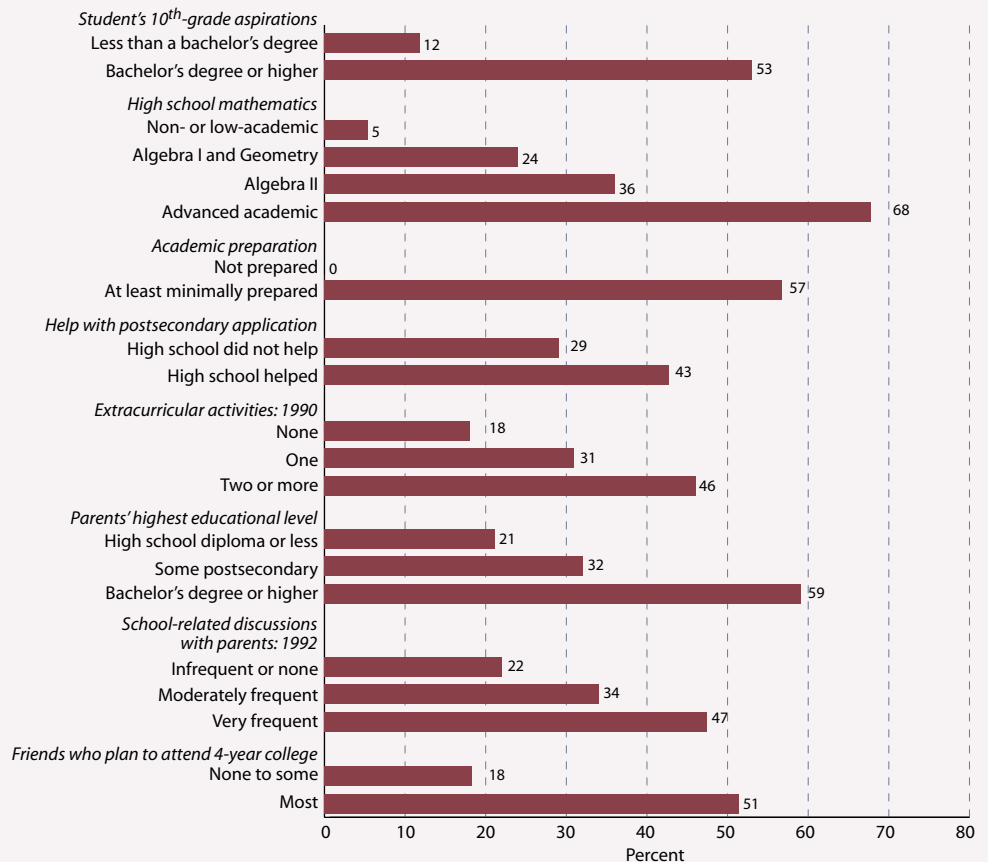
A multivariate analysis confirmed that the positive association between enrolling in a 4-year college and each of these characteristics persists even after controlling for the interrelationships of the characteristics.



**TRANSITION TO COLLEGE: Percentage of 1992 high school graduates, with risk factors for low educational attainment, and percentage distribution according to type of institution first enrolled**

Risk factors	Percent of all students	Type of institution first enrolled*			
		4-year	Public 2-year	Other less-than-4-year	Never enrolled
<b>Number of risk factors</b>					
No risk factors	42.2	63.5	21.9	2.4	12.2
Any risk factors	57.8	35.0	27.3	5.7	32.0
One risk factor	32.2	45.1	26.0	5.2	23.8
Two risk factors	16.3	27.0	28.4	5.9	38.7
Three or more risk factors	9.3	14.0	29.7	7.1	49.2
<b>Risk factors</b>					
Changed schools 2 or more times from 1 <sup>st</sup> to 8 <sup>th</sup> grade (except to next level)	26.8	39.8	28.0	6.1	26.1
Lowest SES quartile	18.2	21.7	25.2	6.3	46.8
Average grades C's or lower from 6 <sup>th</sup> to 8 <sup>th</sup> grade	16.7	16.3	29.8	7.7	46.2
Single-parent household in 8 <sup>th</sup> grade	15.3	38.6	28.1	4.7	28.7
One or more older siblings left high school	11.2	25.7	28.7	5.5	40.1
Held back one or more grades from 1 <sup>st</sup> to 8 <sup>th</sup> grade	11.2	20.6	30.0	5.3	44.2

**TRANSITION TO COLLEGE: Percentage of 1992 high school graduates with risk factors who enrolled in a 4-year college by 1994, by selected student characteristics**



NOTE: Percentages may not add to 100.0 due to rounding.

SOURCE: U.S. Department of Education, NCES. National Education Longitudinal Study of 1988 Eighth Graders (NELS:1988/1994), Data Analysis System.



FOR MORE INFORMATION:  
Supplemental Notes 3, 11  
NCES 98-094



# Postsecondary Persistence and Progress

## Remediation and Degree Completion

*Students who take any remedial reading courses are less likely to earn a 2- or 4-year degree than those who take other combinations of remedial courses.*

The role of remedial coursework in postsecondary education has been the subject of continuing debate among policymakers and educators. The core questions being addressed are what kinds of institutions should offer remedial coursework and how remedial coursework affects degree completion. The postsecondary education transcripts of a cohort of students who graduated from high school in 1982 and were followed until they were 29 to 30 years old provide an opportunity to examine the relationship between degree completion and remedial coursework patterns.

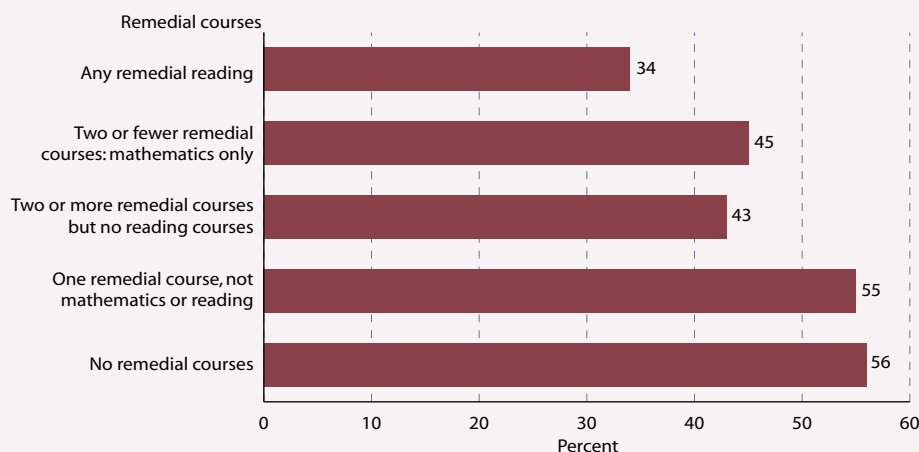
Assignment to remedial reading in college is associated with additional remediation and a lower likelihood of degree completion. Among the students who took any remedial reading, 42 percent were in three or more other remedial courses, and 67 percent took remedial mathematics (see supplemental table 34-2). In contrast, among the students who took any remedial mathematics courses, 16 percent were

in three or more remedial courses, and 24 percent took remedial reading.

Students who took only one remedial course (other than remedial mathematics or reading) completed degrees at the same rate as students who took no remedial courses (55 and 56 percent, respectively). Students whose only remedial requirement was mathematics and who took a maximum of two remedial courses completed associate's or bachelor's degrees at a higher rate (45 percent) than students with any reading problems (34 percent).

A higher percentage of community college students than 4-year college students are assigned to remedial courses. Sixty-three percent of students who attended only a 2-year college and 64 percent of those who attended both a 2-year college and a 4-year college took at least one remedial course, compared with 40 percent of those who attended only a 4-year college (see supplemental table 34-3).

**REMIEDIATION AND COMPLETION: Percentage of postsecondary education students with varying patterns of remedial courses who complete 2- or 4-year degrees: 1980–93**



NOTE: The patterns of remedial coursework are mutually exclusive, starting with “any reading” and proceeding downward. Thus, no student included in a pattern is included in any pattern below. Students who attended only sub-baccalaureate vocational/technical schools are not included.

SOURCE: U.S. Department of Education, NCES, High School and Beyond Longitudinal Study of 1980 Sophomores, “Postsecondary Education Transcript Study” (HS&B:So PETS).

FOR MORE INFORMATION:

Supplemental Note 10  
Supplemental Tables 34-1, 34-2, 34-3





# Postsecondary Persistence and Progress

## Persistence Toward a Bachelor's Degree

*Students with risk factors are as likely as those without them to remain enrolled in a 4-year institution after 3 years if they completed at least the New Basics curriculum in high school.*

Among students who began their postsecondary education at a 4-year institution in 1995–96, three-fourths were enrolled at the same or another 4-year institution three years later (NCES 2000–154). Certain characteristics put students at risk for not persisting. However, their likelihood of persisting improved if they completed at least the New Basics curriculum (recommended in *A Nation at Risk* by the National Commission on Excellence in Education) in high school.

For this analysis, risk factors for not persisting included coming from a low-income family, having neither parent going beyond high school, or attending a high school in which 25 percent or more of the students were eligible for free or reduced-price lunches. (For more details, see *Supplemental Note 11*.) Three years

after entering a 4-year institution, students with one or more risk factors were less likely than those without any risk factors to be enrolled at any 4-year institution (67 percent versus 79 percent).

When high school curriculum is taken into account, however, the relationship changes. Having risk factors was related to persistence only among students who did not complete the New Basics curriculum. The likelihood of persisting in a 4-year institution for students who had completed the New Basics curriculum or who completed a more intense curriculum including four years of both mathematics and science and two years of a foreign language did not differ meaningfully for students with and without risk factors.

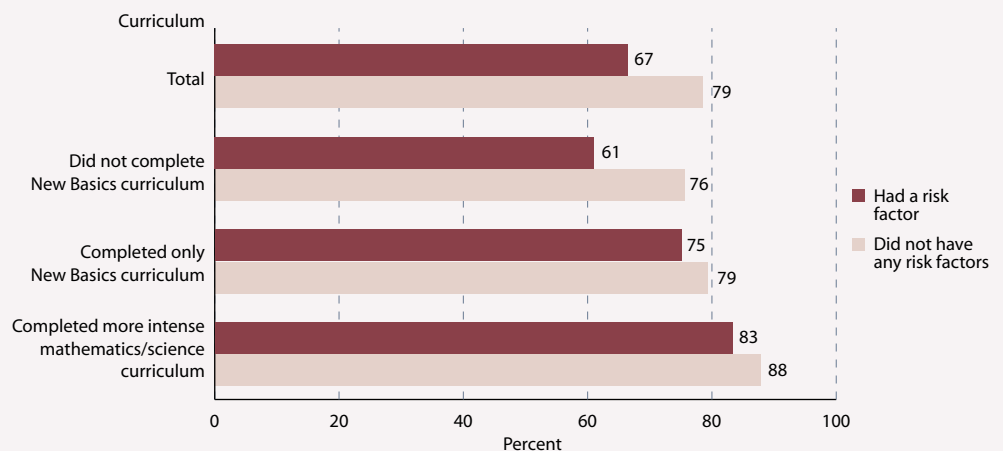
NOTE: The New Basics curriculum includes 4 years of English and 3 years each of mathematics, science, and social sciences. High school curriculum is based on the courses completed or planned, as reported by students applying to take the SAT I (Scholastic Assessment Test) or ACT (American College Testing) assessment. Of all beginning students at 4-year institutions, 90 percent took the SAT I or ACT assessment.

SOURCE: U.S. Department of Education, NCES. 1996 Beginning Postsecondary Students Longitudinal Study, "First Follow-up" (BPS:1996/1998).



FOR MORE INFORMATION:  
Supplemental Note 11  
NCES 2000–154

**PERSISTENCE IN COLLEGE: Percentage of students beginning postsecondary education at 4-year institutions in 1995–96 who were enrolled at any 4-year institution 3 years later, by presence of risk factors and curriculum completed**



# Postsecondary Persistence and Progress

## Sex Differences in Graduate/Professional Enrollment

Male and female bachelor's degree recipients in 1992–93 were equally likely to have enrolled in a graduate or first-professional program by 1997, but they chose different fields of study.

By 1997, the same percentages of the men and women who had earned bachelor's degrees in 1992–93 had applied for admission to an advanced degree program (41 percent), been accepted (35 percent), and enrolled (30 percent) (NCES 1999–155).

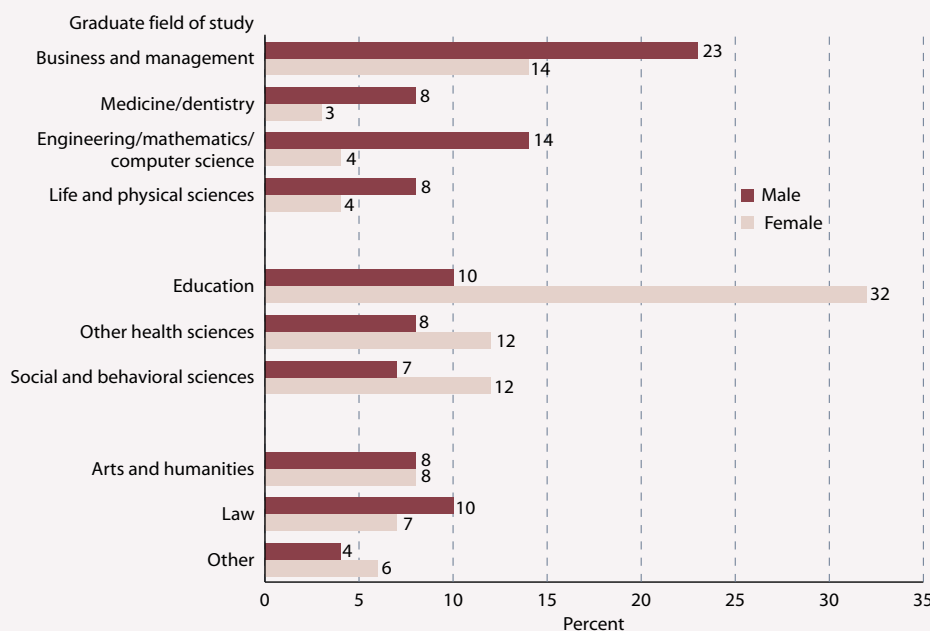
Sex differences were pronounced in the fields of study chosen, however, with men being more likely than women to enroll in business and management; medicine or dentistry; engineering, mathematics, or computer science; and life and physical sciences.

Women were more likely than men to enroll in education, in health sciences other than medi-

cine or dentistry, and in social and behavioral sciences. Enrollment rates in law, arts and humanities, and "other" fields did not differ significantly by sex.

Enrollment in specific degree programs differed by sex. Men were more likely than women to enroll in MBA programs (14 versus 6 percent), doctoral programs (13 versus 7 percent), and first-professional programs (18 versus 10 percent) (NCES 1999–155). In contrast, women were more likely than men to enroll in nonMBA master's degree programs (76 versus 54 percent).

**GRADUATE FIELDS:** Percentage distribution of 1992–93 bachelor's degree recipients who enrolled in a graduate or first-professional program by 1997 according to graduate field of study, by sex



NOTE: If students enrolled in more than 1 program, the field corresponding to the highest level program is shown. The glossary includes a list of degrees defined as first-professional. Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, NCES, Baccalaureate and Beyond Longitudinal Study, "Second Follow-up" (B&B:1993/1997), Data Analysis System.

FOR MORE INFORMATION:  
NCES 1999–155





# Completions

## Degrees Earned by Women

*Women earn more than half of all bachelor's degrees. They still trail men in certain fields but have made considerable progress over the past quarter century.*

Many efforts have been made to improve educational opportunities for women, and the results are evident in degree attainment. In 1970–71, women earned 43 percent of all bachelor's degrees. They made gradual gains throughout the 1970s, and in each year since the early 1980s, they have earned more than half of all the bachelor's degrees awarded. In 1996–97, they earned 56 percent of the bachelor's degrees awarded.

In certain fields (health professions and related sciences, education, English, and visual and performing arts), women earned a majority of bachelor's degrees in both 1970–71 and 1996–97. In others (psychology, communications, and biological/life sciences), they earned a majority of the degrees in 1996–97, but not in 1970–71. In business management and administrative services, social sciences and history, and mathematics, women have made modest or considerable gains and now earn

almost half of all bachelor's degrees in these fields.

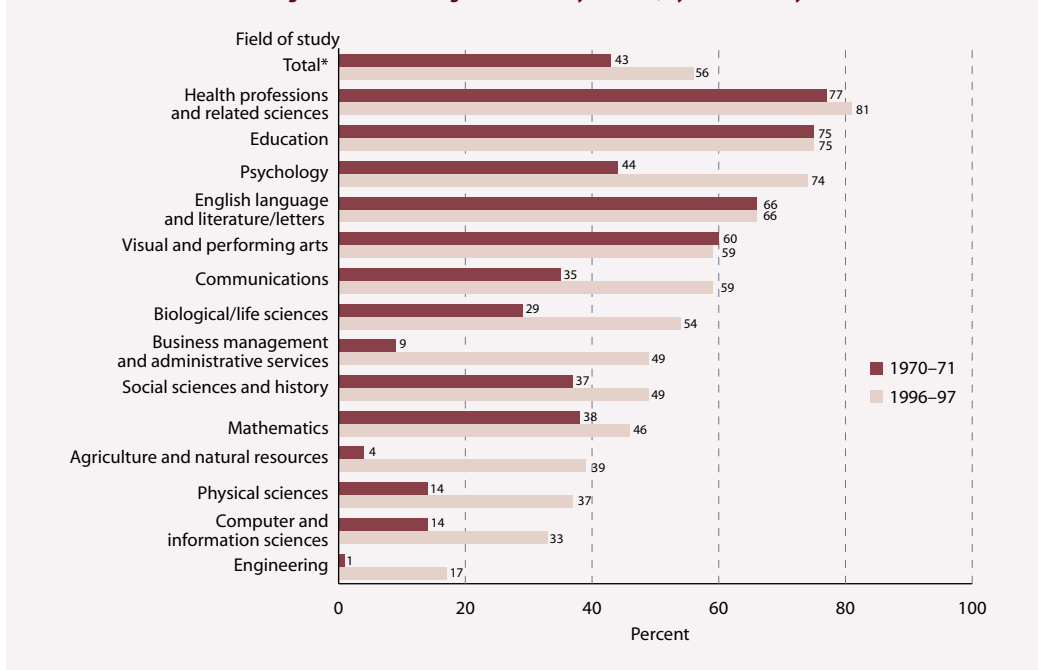
In 1996–97, women still earned considerably less than half the bachelor's degrees in the traditionally male-dominated fields of agriculture/natural resources (39 percent), physical sciences (37 percent), computer and information sciences (33 percent), and engineering (17 percent). Nevertheless, they have made substantial gains in all of these fields since 1970–71.

Women have made progress at the graduate level as well (see supplemental table 37-1), although one-third or less of the master's recipients in 1996–97 in physical sciences, computer and information sciences, and engineering were women. At the doctoral level, women received less than one-third of the degrees awarded in 6 out of the 15 degrees fields shown, and less than one-half of the degrees awarded in 10 out of 15 fields shown.

\* Includes other fields of study not shown separately.

SOURCE: U.S. Department of Education, NCES. 1970–71 Higher Education General Information Survey (HEGIS), "Degrees and Other Formal Awards Conferred" survey and 1996–97 Integrated Postsecondary Education Data System (IPEDS), "Completions" survey.

**BACHELOR'S DEGREES: Percentage of bachelor's degrees earned by women, by field of study: 1970–71 and 1996–97**



FOR MORE INFORMATION:  
 Supplemental Note 12  
 Supplemental Table 37-1

# Completions

## Educational Attainment

*Completion rates of 25- to 29-year-olds increased across all educational levels, for all racial-ethnic groups, and for males and females from 1971 to 1999.*

The percentage of 25- to 29-year-olds who completed at least high school rose from 78 percent in 1971 to 88 percent in 1999 (see supplemental table 38-1). Over the same period, the percentage of high school completers in this age group who also completed at least some college increased from 44 to 66 percent (see supplemental table 38-2), and the percentage who obtained a bachelor's degree or higher rose from 22 to 32 percent (see supplemental table 38-3).

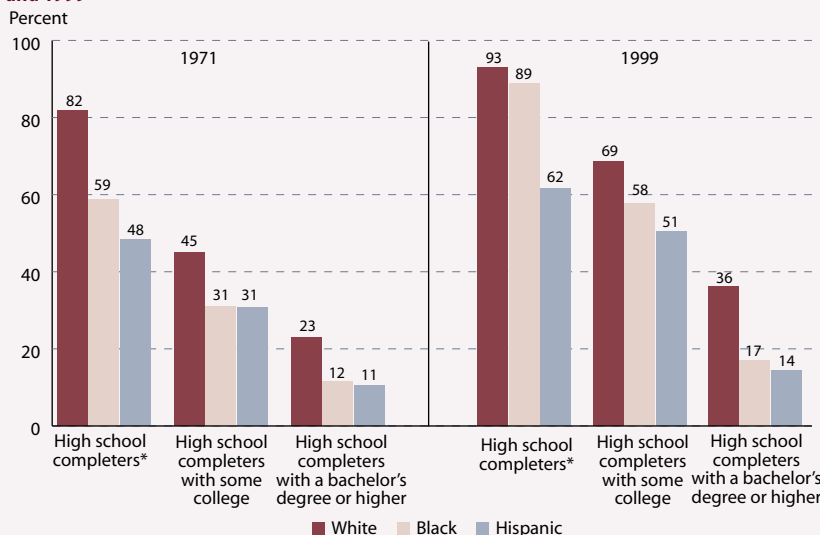
From 1971 to 1999, the gap in the rates at which blacks and whites completed at least high school began to close. In earlier years, the completion rate of blacks was 72 percent of that of whites, while in 1999, it was 95 percent that of whites. In contrast, the gap in attainment between white and black high school completers with at least some college remained similar, and the gap between blacks and whites

who completed college widened (see supplemental tables 38-1, 38-2, and 38-3).

Among Hispanics, there were increases in completion rates across all levels of education between 1971 and 1999. Nonetheless, the differences in attainment rates between whites and Hispanics remained about the same at every educational level.

Among those ages 25–29 in 1971, females had lower completion rates than males at every educational level above high school. Between 1971 and 1999, however, the educational attainment rates of females increased faster than those of males. By 1999, as a result, females had higher rates than males for completing high school and some college. In addition, there were no differences in the percentages of males and females with a bachelor's degree or higher in that year.

**EDUCATIONAL ATTAINMENT: Percentage of 25- to 29-year-olds attaining selected levels of education, by race-ethnicity: March 1971 and 1999**



\* Included in high school completers with some college or a bachelor's degree or higher.

NOTE: The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the methodology for the CPS was changed and weights were adjusted.

SOURCE: U.S. Department of Commerce, Bureau of the Census. March Current Population Surveys, 1971 and 1999.

FOR MORE INFORMATION:

Supplemental Notes 1, 3

Supplemental Tables 38-1, 38-2, 38-3



