School Enrollment in the United States: 2008

Population Characteristics

This report discusses school enrollment levels and trends in the population aged 3 and older based on data collected in 2008 by the U.S. Census Bureau in the American Community Survey (ACS) and the Current Population Survey (CPS). This is the second report in a series of reports using both ACS and CPS data to discuss school enrollment. The two surveys are used in this report because of their complimentary strengths in providing data on enrollment. The ACS is a valuable source of school enrollment data because of its large sample size and ability to provide statistics for small levels of geography. The CPS data offer a detailed selection of questions on school enrollment, allowing for unique analysis.

Highlights of the report are:

- Enrollment in Grades 1 through 12 fell from 50.0 million in 2000 to 49.3 million in 2008.

- In 2008, college enrollment was at an all-time high with 18.6 million students enrolled, up 22 percent from 15.3 million in 2000.

- Two-year college enrollment was also at an all-time high in 2008, with 5.3 million students enrolled, up 40 percent from 3.8 million in 2000.

- In 2008, 1 million Hispanic students were enrolled in 2-year colleges, up 85 percent from 540,000 in 2000.

- The number of students enrolled in nursery school in 2008 was not statistically different from the number of students enrolled in 1998; however, there were changes in the race and Hispanic origin of the students. Hispanic students made up 18 percent of nursery school students, up from 13 percent in 1998.

- In October 2008, the majority of kindergarten students, 72 percent, were enrolled in full-day kindergarten programs, up from 28 percent of students enrolled in full-day kindergarten programs in 1978.

THE ACS AND THE CPS: TWO SOURCES OF SCHOOL ENROLLMENT DATA

The ACS, part of the Census Bureau's reengineered 2010 Census program, looks at a wide range of social, economic, and housing characteristics for the population by a multitude of demographic variables. The ACS is used to provide annual data on more than 7,000 areas, including all congressional districts as well as counties, cities, metro areas, and American Indian and Alaska Native areas with a population of 65,000 or more. In 2008, the Census Bureau released 3-year estimates from the ACS for areas with populations larger than 20,000. It started the release of 5-year estimates for all geographic areas down to the tract level beginning in 2010. The ACS information comes from a sample of about 3 million addresses, or 1.7 percent of the nation's population each year. In contrast with the CPS, the ACS is administered to the entire resident population, including those living in institutions and other group quarters. In this respect, data from the ACS are highly comparable with data collected in Census 2000 and earlier

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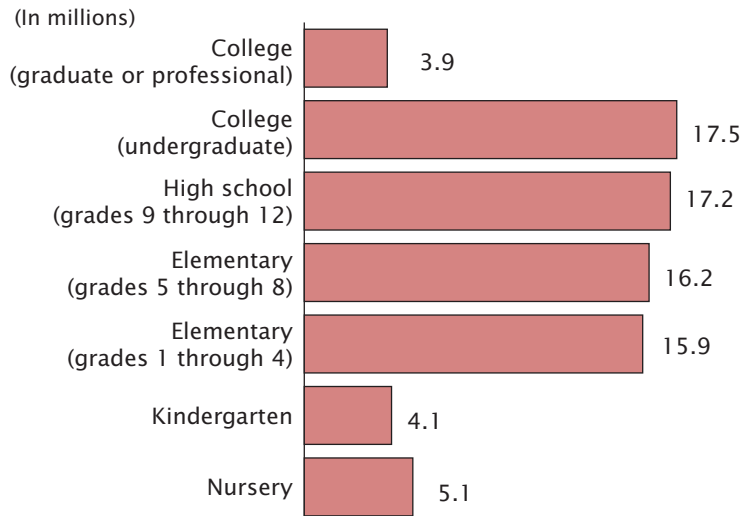
decennial censuses.[1] The ACS asks respondents throughout the entire calendar year whether they were enrolled in regular school at any time in the 3 months before the interview. The survey also asks whether each person attended public school or private school, and in what grade or level the person was enrolled. Tables from the ACS about school enrollment can be accessed through the American FactFinder on the Census Bureau's Web site at <http://factfinder.census.gov>.

The CPS samples approximately 72,000 housing units each month. Unlike the ACS, the reference population is the civilian noninstitutionalized population, so people living in institutions are not included. While the sample size is not sufficient to describe small geographic areas, the CPS is designed to meet reliability requirements for the 50 states and the District of Columbia. Estimates of school enrollment from the CPS are based on a special supplement, administered each October since 1956, allowing the construction of a time series of trends for school enrollment. The supplement on school enrollment asks detailed questions of children aged 3 to 14 and people aged 15 and older. Twenty questions are asked, gathering information on single year of enrollment, enrollment status and level for the previous year; whether the respondent goes to school full-time or part-time; whether they attend a 2-year or 4-year institution; whether they are obtaining any vocational training; and what year they received their most recent degree. Tables about students and

Figure 1.
Number of Students Aged 3 and Older Enrolled in School by Level: 2008
(In millions)

Level	Value
College (graduate or professional)	3.9
College (undergraduate)	17.5
High school (grades 9 through 12)	17.2
Elementary (grades 5 through 8)	16.2
Elementary (grades 1 through 4)	15.9
Kindergarten	4.1
Nursery	5.1

Source: U.S. Census Bureau, 2008 American Community Survey. For information on sampling and nonsampling error, see <www.census.gov/acs/www/Downloads/data_documentation/Accuracy/accuracy2008.pdf>.

school enrollment from the CPS can be found on the Census Bureau's Web site at <http://www.census.gov/population/www/socdemo/school.html>.

To learn more about the differences between the ACS and CPS, see the comparison grid (Appendix Table A) at the end of this report.

SCHOOL ENROLLMENT

Due to its sample size, the ACS is used in this section to describe overall school enrollment in the United States. In 2008 there were 79.9 million people aged 3 and older enrolled in school. There were 5.1 million children enrolled in nursery school, 53.4 million students enrolled in kindergarten through twelfth grade, and 21.4 million students enrolled in college in 2008 (Figure 1). More females than males were enrolled in school but their numbers exceeded males only at the undergraduate and graduate school levels. More males were enrolled than females in nursery school,

kindergarten, and first through twelfth grade (Table 1).

The majority of students were non-Hispanic White (59 percent), followed by Hispanic students (18 percent), Black students (15 percent), and Asian students (5 percent).[2] Foreign-born students made up 7 percent of all enrolled students and 22 percent of

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[1] Other differences between the ACS and Census 2000 affect comparisons of school enrollment. One of the most important is the reference time of data collection, which is the 3 months preceding collection (which occurs year-round) in the ACS but is fixed to the time preceding April 1 in the census. This difference especially affects comparisons of enrollment by age.

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[2] Federal surveys now give respondents the option of reporting more than one race. Therefore, two basic ways of defining a race group are possible. A group such as Asian may be defined as those who reported Asian and no other race (the race-alone or single-race concept) or as those who reported Asian regardless of whether they also reported another race (the race-alone-or-in-combination concept). This report shows data using the first approach (race alone). This report will refer to the White-alone population as White, the Black-alone population as Black, the Asian-alone population as Asian, and the White-alone-non-Hispanic population as non-Hispanic White. Use of the single-race population does not imply that it is the preferred method of presenting or analyzing data. The Census Bureau uses a variety of approaches. In this report, the term "non-Hispanic White" refers to people who are not Hispanic and who reported White and no other race. The Census Bureau uses non-Hispanic White as the comparison group for other race groups and Hispanics. Because Hispanics may be any race, data in this report for Hispanics overlap with data for racial groups.

Table 1.
School Enrollment by Level of Enrollment and Selected Characteristic: 2008
(Population aged 3 and older enrolled in school. Numbers in thousands)

Characteristic	Total students	Level of school enrollment						
		Nursery	Kinder-garten	Elemen-tary grades 1 to 4	Elemen-tary grades 5 to 8	High school	Under-graduate college	Graduate school
Total	**79,855**	**5,099**	**4,059**	**15,923**	**16,238**	**17,208**	**17,452**	**3,874**
Sex								
Male.	39,403	2,646	2,081	8,181	8,328	8,849	7,704	1,612
Female.	40,452	2,453	1,978	7,742	7,910	8,359	9,748	2,262
Age								
3 to 4 years	4,119	3,886	233	–	–	–	–	–
5 years.	3,401	1,171	2,117	113	–	–	–	–
6 to 9 years	15,585	42	1,710	13,687	147	–	–	–
10 to 13 years	15,925	–	–	2,124	13,653	147	–	–
14 to 17 years	16,391	–	–	–	2,373	13,878	139	–
18 to 22 years	12,960	–	–	–	19	2,702	10,044	194
23 to 24 years	2,126	–	–	–	5	53	1,567	501
25 to 29 years	3,221	–	–	–	8	111	2,027	1,074
30 to 34 years	1,755	–	–	–	7	68	1,083	598
35 to 64 years	4,161	–	–	–	20	214	2,490	1,437
65 years and older.	211	–	–	–	6	34	101	70
Race and Hispanic Origin								
White alone	55,922	3,575	2,785	11,021	11,351	11,933	12,469	2,788
White alone, non-Hispanic.	47,072	2,988	2,211	8,889	9,330	9,985	11,083	2,586
Black alone	11,766	723	571	2,274	2,374	2,762	2,587	475
Asian alone	3,797	224	171	651	619	666	1,049	416
Hispanic (any race)	14,440	949	930	3,465	3,295	3,227	2,263	311
Nativity								
Native-born	74,476	5,006	3,956	15,339	15,383	16,048	15,565	3,179
Foreign-born	5,378	93	103	584	855	1,160	1,887	695
Type of School								
Public.	65,990	2,732	3,496	14,136	14,424	15,473	13,428	2,300
Private.	13,864	2,366	563	1,787	1,814	1,735	4,025	1,574
Region								
Northeast.	14,141	941	657	2,632	2,780	3,071	3,212	848
South	28,904	1,918	1,555	6,017	6,028	6,129	5,994	1,263
Midwest	17,621	1,134	881	3,460	3,537	3,818	3,930	861
West	19,188	1,105	965	3,815	3,893	4,191	4,317	902

– Represents or rounds to zero.

Source: U.S. Census Bureau, 2008 American Community Survey. For information on sampling and nonsampling error, see <www.census.gov/acs/www/Downloads/data_documentation/Accuracy/accuracy2008.pdf>.

graduate students. Most students (83 percent) attended public schools. Among students attending private schools, the largest proportion were enrolled at the undergraduate college level (29 percent), followed by the nursery school level (17 percent).

The next section will examine nursery school enrollment and the following sections will examine kindergarten through twelfth grade, high school drop-outs, modal grade, and college enrollment.
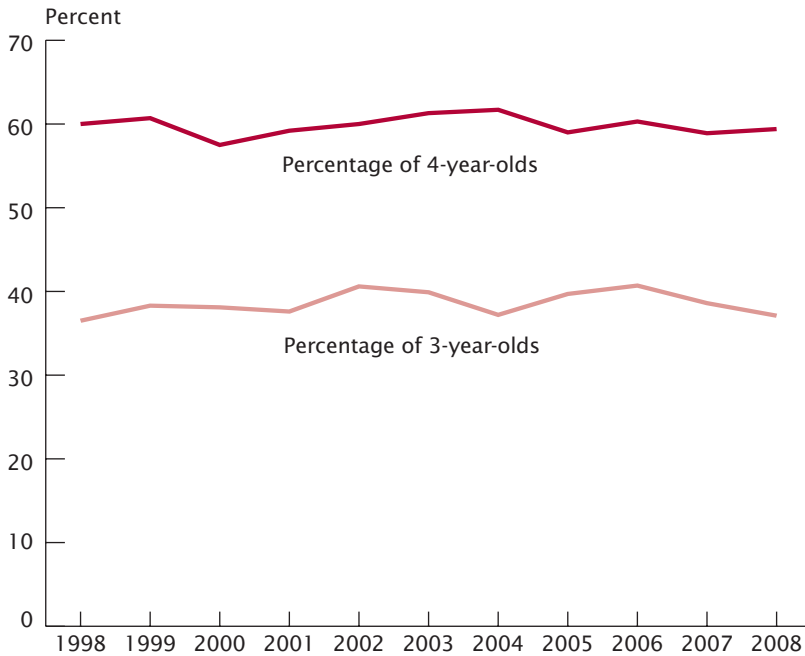
NURSERY SCHOOL

Since the CPS has been collected for decades, data from this survey can be used to examine changes over time in nursery school enrollment. The nursery school enrollment rates of both 3- and 4-year-olds increased from 1994 to 2008—from 54 percent to 59 percent for 4-year-olds and from 33 percent to 37 percent for 3-year-olds (Figure 2).[3]

Most of the increase in nursery school enrollment came before

[3] In 2008, over half of students enrolled in nursery school were 4 years old (59 percent) and most of the rest were 3 years old (37 percent). Children aged 5 and older made up 12 percent of nursery school students.

Figure 2.
Nursery School Enrollment of 3- and 4-Year-Olds: 1998 to 2008

Percent

Source: U.S. Census Bureau, Current Population Surveys, October 1998–2008.
For information on sampling and nonsampling error, see
<www.census.gov/apsd/techdoc/cps/cpsoct08.pdf>.

1998. The number of students enrolled in nursery school in 2008 was not statistically different from the number of students enrolled in 1998. Enrollment of 4-year-olds in 1998 (60 percent) is not statistically different from the percentage enrolled in 2008 (59 percent). Enrollment of 3-year-olds has also remained statistically unchanged since a decade ago.[4]

The majority of students enrolled in nursery school in 2008 were non-Hispanic White (59 percent), followed by Hispanic students (18 percent), Black students (15 percent), and Asian students (4 percent). Ten years ago, non-Hispanic White students made up 64 percent of nursery school enrollment, followed by Black students (16 percent), Hispanic students (13 percent), and Asian students (4 percent).[5]

Over half of all students enrolled in nursery school (57 percent) went to a public nursery school. More students attended a part-day nursery school program than a full-day nursery school program.[6]

For some families, the cost of attending nursery school may prevent them from enrolling their children. In 2008, 56 percent of 3- and 4-year-olds from families with incomes of $40,000 or more attended nursery school, compared with 44 percent of those from families with incomes of less than $20,000.[7]

Nursery school enrollment is also related to the education and labor force participation of a child's mother. Children of mothers who are college graduates were more likely to attend nursery school than children whose mothers did not finish high school (62 percent compared to 33 percent).[8] Children of mothers in the labor force were more likely to attend nursery school than those whose mothers were not in the labor force (54 percent compared with 41 percent).

KINDERGARTEN

As with nursery school, CPS data are used in this section to describe kindergarten enrollment because they can be used to examine changes over time. In 2008, there were 4 million students enrolled in kindergarten, up from 2.9 million students 3 decades ago in 1978. Kindergarten enrollment has not only increased in the past 30 years, but the type of kindergarten enrollment has changed. In 1978, the majority of students (72 percent) were enrolled in part-day kindergarten programs. In October 2008, the majority of students (72 percent) were enrolled in full-day kindergarten programs (Figure 3).

Black students have historically been more likely to attend full-day kindergarten classes than other students. In 1981, 56 percent of Black kindergartners were

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[4] There was no statistical difference between enrollment of 3-year-olds in 1998 (37 percent) and enrollment in 2008 (37 percent). The 90 percent confidence interval includes zero. The Census Bureau does not have sufficient statistical evidence to conclude that the actual change is different from zero.

[5] There was no statistical difference between the enrollment of Black students in nursery school in 1998 (16 percent) and in 2008 (15 percent). In addition, there was no statistical difference between enrollment of Asian students in nursery school in 1998 (4 percent) and in 2008 (4 percent).

[6] In 2008 part-day nursery school attendance (52 percent) was higher than full-day nursery school attendance (48 percent).

[7] Children from families with incomes between $20,000 and $29,000 were not statistically different in their enrollment from children whose families earned less than $20,000 or between $30,000 and $39,000.

[8] Children of mothers who are college graduates are more likely to attend nursery school (62 percent) than those whose mothers have some college (56 percent), whose mothers are high school graduates (39 percent), and whose mothers are not high school graduates (33 percent).

U.S. Census Bureau

Figure 3.
Enrollment in Full- and Part-Day Kindergarten: 1978 to 2008

■ Proportion full-day
■ Proportion part-day
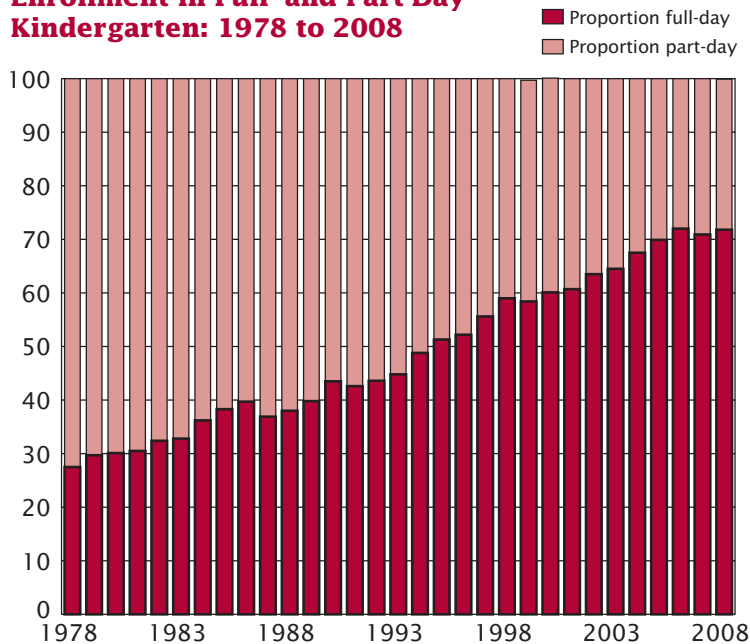
Source: U.S. Census Bureau, Current Population Survey, October 1978–2008.
For information on sampling and nonsampling error, see
<www.census.gov/apsd/techdoc/cps/cpsoct08.pdf>.

enrolled in full-day programs, compared to 26 percent of non-Hispanic White kindergartners. In 2008, 81 percent of Black students were enrolled in full-day kindergarten programs, compared to 70 percent of non-Hispanic White students and 69 percent of Hispanic students.

The increase in attendance of full-day kindergarten programs may reflect the changing needs of children and their families. However, changes in kindergarten enrollment patterns are not perfectly associated with changes in employment patterns of their parents. In 1986, 57 percent of married couples with children under 18 had both spouses in the labor force. The ercentage rose to 68 percent in 2000 and was slightly lower at 66 percent in 2008. The percentage of children enrolled in full-day kindergarten continued to increase

from 60 to 72 percent from 2000 to 2008.

In 2008, 41 percent of students enrolled in full-day kindergarten programs had a mother employed full-time, compared with the 15 percent whose mothers were employed part-time, and 32 percent of full-day kindergarten students whose mothers were not in the labor force.[9] One in four students enrolled in full-day programs came from families with incomes of $75,000 or more.

PRIMARY AND SECONDARY ENROLLMENT

The ACS is used in this section because it provides a look at geographic variations in school enrollment. Overall enrollment in Grades 1 through 12 fell slightly

[9] The remaining 13 percent of children in full-day kindergarten programs were made up of children not living with a mother (7 percent) and children whose mother's were unemployed (6 percent) and these were not statistically different from one another.

from 50 million in 2000 to 49.3 million in 2008.[10] However, the decrease in enrollment was not experienced evenly across states. Data from 2000 and 2008 showed that while 13 states saw an increase in enrollment for Grades 1 through 12, 37 states experienced a decrease. Of the 13 states with an apparent increase in enrollment, only 7 had a statistically significant increase. Of the 37 states with an apparent decrease in enrollment, only 16 had a statistically significant decrease (Figure 4).[11] Change in enrollment across states was almost perfectly correlated with change in the aged 5 to 17 population (a correlation of .998).

Enrollment changes track closely with changes in the aged 5 to 17 population. They also correlate with overall population change in a state (all ages). In Montana and Alaska school enrollment declined by 10 percent while overall population grew by 3 and 4 percent, respectively. In contrast, Nevada had the highest population growth rate in the overall population (24 percent), but even faster growth in enrollment of 5- to

[10] In 2000, 98.2 percent of 5- to 17-year-olds were enrolled in school and in 2008, 96.8 percent of 5- to 17-year-olds were enrolled in school. There was no statistical difference between the number of 5- to 17-year-olds in 2000 (53.1 million) and the number of 5- to 17-year-olds in 2008 (53.0 million).

[11] The states whose decrease in first through twelfth grade enrollment from 2000 to 2008 was statistically significant were California, Iowa, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, Vermont, and Wisconsin. The states whose decrease was not statistically significant were Alabama, Alaska, Arkansas, Connecticut, the District of Columbia, Hawaii, Illinois, Indiana, Kansas, Kentucky, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New Mexico, Oklahoma, Oregon, South Dakota, Washington, West Virginia, and Wyoming. States with a statistically significant increase in enrollment from 2000 to 2008 were Arizona, Florida, Georgia, Nevada, North Carolina, Texas, and Utah. The states whose increase was not statistically significant were Colorado, Delaware, Idaho, South Carolina, Tennessee, and Virginia.

Figure 4.
Percentage Change in Enrollment, Grades 1 through 12: 2000 to 2008

Percentage change

■	20.0 or over
■	10.0 to 19.9
■	0.1 to 9.9
■	−10.0 to 0.0
■	Under −10.0
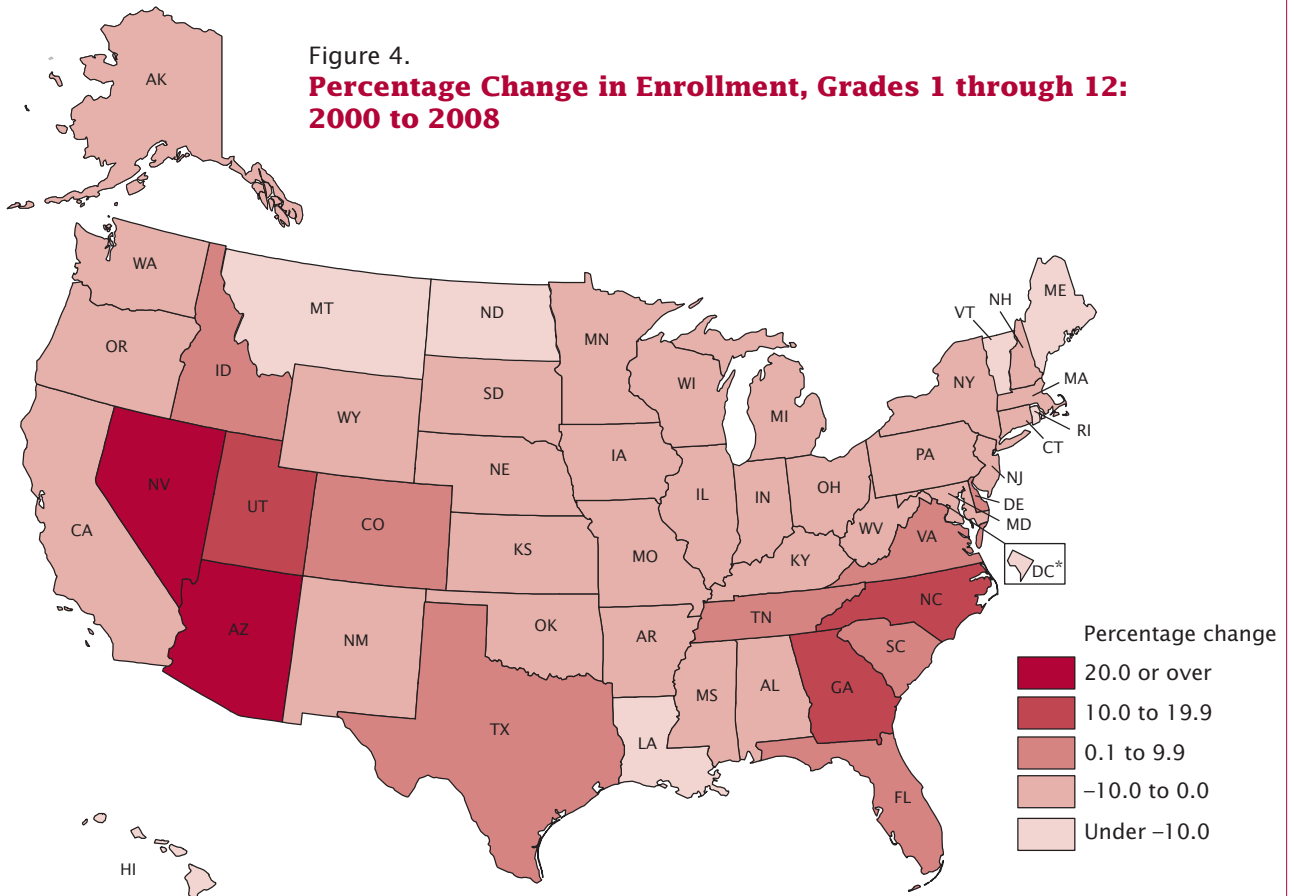
Source: U.S. Census Bureau, Census 2000 and 2008 American Community Survey. For information on sampling and nonsampling error, see <www.census.gov/acs/www/Downloads/data_documentation/Accuracy/accuracy2008.pdf>.

17-year-olds (28 percent). For the majority of states, however, overall changes in population and enrollment went together. States with high population growth and high enrollment growth included Arizona, Utah, and Georgia. [12] States with decreases in both population and enrollment included North Dakota, Vermont, Louisiana, and Maine.

MODAL GRADE

The ACS is used in this section because of its geographic scope and size. For the first time in 2008, the ACS provides information on single grades of enrollment. This report classifies enrolled people

according to their relative progress in school: that is, whether the grade or year in which they were enrolled was below, at, or above the typical (modal) grade for people of their age at the time of the survey. The modal grade is the year of school in which the largest proportion of students of a given age is enrolled. For example, modal grade for 15-year-olds is tenth grade. Because of the sampling strategy of the ACS, it was necessary to create a modal grade variable with slightly different properties from that traditionally reported using CPS data. The ACS asks respondents if they were enrolled at any time in the past 3 months and this is asked for a different month of the year for different respondents. The modal

grade variable was calculated using enrollment levels by age and the month the survey was asked. [13]

Enrollment below modal grade in school could be due to late entry into school or to repeating grades after entering school. Most grade retention occurs at kindergarten, first and ninth grades. [14] Some families choose to wait until their children are 6 years old to start

[12] Nevada also had high population and enrollment growth.

[13] More specifically, modal grade was created by assigning a grade level based on month of interview and birth year and month. Calculations were based on two groups: those interviewed between January and September, and those interviewed between October and December.

[14] Data from the 2004 October CPS showed that grade retention was most common at kindergarten (12 percent), first grade (20 percent), and ninth grade (13 percent). There was no statistical difference between kindergarten and ninth grade.

U.S. Census Bureau

Table 2.
Modal Grade Status by Selected Characteristic for Students Aged 6 to 17: 2008
(Population aged 6 to 17 years. Numbers in thousands and percents)

Characteristic	Total	Modal grade status[1]		
		Below modal grade	At modal grade	Above modal grade
Total	**47,793**	**18.9**	**64.7**	**16.4**
Sex				
Male.	24,443	21.7	52.8	15.5
Female.	23,349	16.0	66.6	17.5
Race and Hispanic Origin				
White alone	33,431	18.8	66.3	15.0
White alone, non-Hispanic.	27,532	18.7	67.5	13.8
Black alone	6,957	21.9	58.7	19.4
Asian alone	1,891	12.0	65.2	22.7
Hispanic (any race)	9,612	18.7	60.6	20.7
Nativity				
Native-born	45,503	18.7	65.1	16.2
Foreign-born	2,289	23.2	55.8	21.0
Disability				
Not disabled.	45,255	18.1	65.2	16.7
Disabled.	2,537	33.7	54.3	12.0
Language Spoken at Home				
English only.	38,095	19.2	65.7	15.0
Language other than English.	9,697	17.7	60.4	21.9

[1] The modal grade is the year of school in which the largest proportion of students of a given age is enrolled. For more information, read the section under Modal Grade.

Source: U.S. Census Bureau, 2008 American Community Survey. For information on sampling and nonsampling error, see <www.census.gov/acs/www/Downloads/data_documentation/Accuracy/accuracy2008.pdf>.

kindergarten to ensure that their children are mature enough, either physically or academically, for school. Sometimes this phenomenon is referred to as "academic redshirting."[15]

In 2008, the majority of students aged 6 to 17 (65 percent) were enrolled at their modal grade, with 19 percent of students enrolled below modal grade, and 16 percent enrolled above modal grade (Table 2). Male students were more likely to be enrolled below modal

grade than female students (22 percent compared with 16 percent) and accordingly, there were more females enrolled at modal grade than males (67 compared with 53 percent).

Black students had the highest percentage of 6- to 17-year-olds enrolled below modal grade and Asian students had the lowest percentage of enrollment below modal grade (22 percent and 12 percent, respectively). Foreign-born students were more likely than native-born students to be enrolled below modal grade (23 percent compared with 19 percent) and enrolled above modal grade (21 percent compared with 16 percent). Disabled students were more likely than students without a disability to be enrolled below modal grade (34 percent compared with 18 percent).

Looking at a map of enrollment below modal grade for 6- to 9-year-olds shows the contrast between the central states and states along the East and West Coasts (Figure 5). Coastal states had lower percentages of enrollment below modal grade than the states in the middle of the country. The maps of enrollment below modal grade for 10- to 13-year-olds and 14- to 17-year-olds by state show how the proportion of children below modal grade increases with age (Figures 6 and 7). Enrollment below modal grade was highest in the South, upper plains, and Midwestern states. The net result is that over half of the states have between 15 and 30 percent of their 14- to 17-year-old students enrolled below modal grade.

[15] Graue and DiPerna used the term "academic redshirting" to refer to children who delay entrance into kindergarten by a year, analogous to the college football practice of redshirting, which means a player has participated in the academic year but not that year's sports season, extending their eligibility to play sports for another year. Graue, M. Elizabeth and James DiPerna, "Redshirting and Early Retention: Who Gets the 'Gift of Time' and What Are Its Outcomes?" *American Educational Research Journal*, No. 37, 2000, pp. 509–534.

Figure 5.
Percentage Below Modal Grade, Aged 6 to 9: 2008
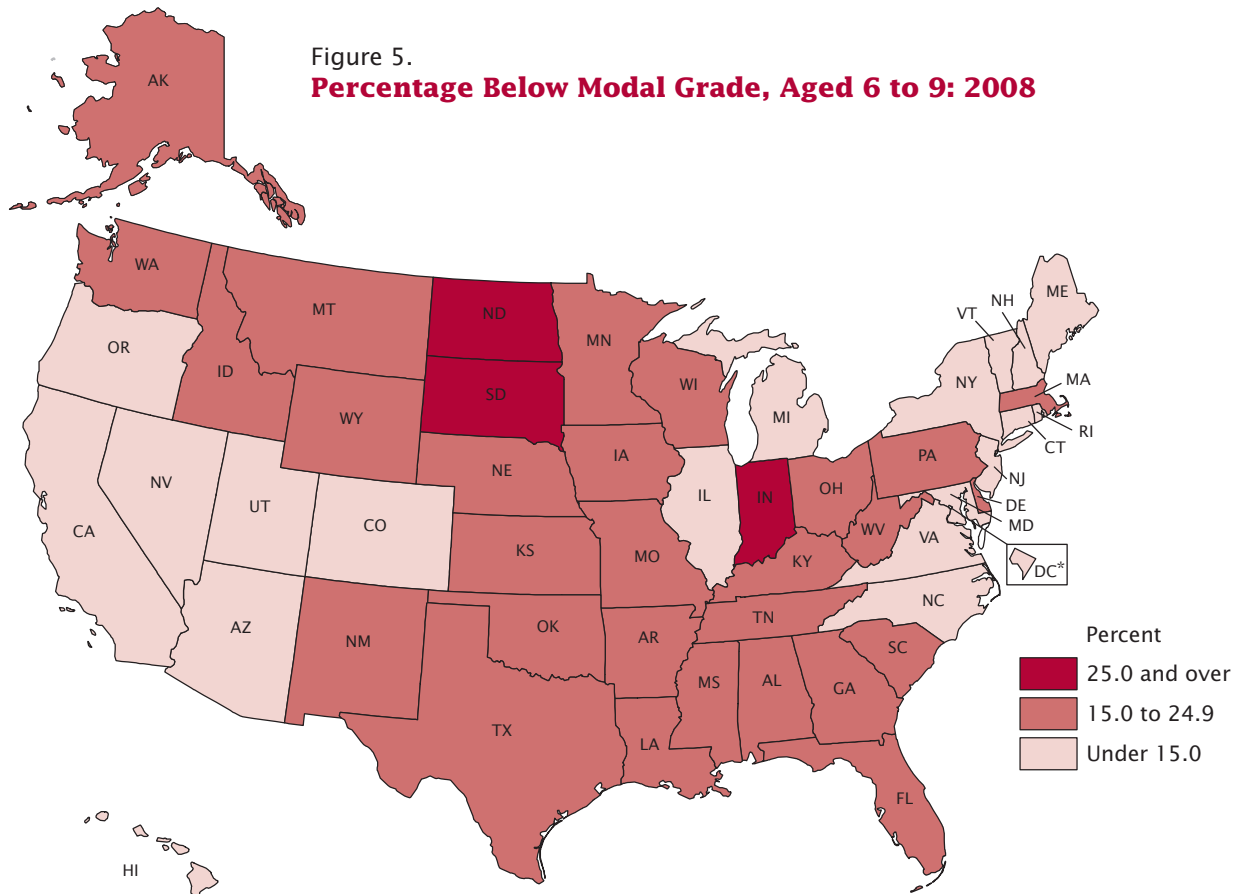
Percent

	25.0 and over
	15.0 to 24.9
	Under 15.0

Source: U.S. Census Bureau, 2008 American Community Survey. For information on sampling and nonsampling error, see <www.census.gov/acs/www/Downloads/data_documentation/Accuracy/accuracy2008.pdf>.

MULTIVARIATE ANALYSIS

A multivariate analysis was performed to ascertain the independent effects of certain characteristics on the likelihood of being enrolled below modal grade. The model allows us to examine the effects of characteristics such as sex, race, and disability while controlling for other factors (for example, age, nativity, and region) that influence the probability of being below modal grade. Factors in the model include sex, age, nativity, disability, poverty,[16]

[16] A child was counted as living in poverty if the family in which he lived had income lower than the official poverty threshold. For more information, see <www.census.gov/hhes/www/poverty.html>.

control of school, language spoken at home, and region of residency.

Table 3 displays results from logistic regression analysis predicting enrollment below modal grade by selected characteristics. Results are displayed as odds ratios, which are related to the probability of enrollment below modal grade, after allowing for the influence of other variables in the model. Values above 1 indicate that, compared to the reference group, children have a higher probability of enrollment below modal grade, net of other variables in the model. Values less than 1 indicate that, compared to the reference group, children have a lower probability of enrollment below modal grade.

Results from our basic model reveal that compared to girls, boys had a higher likelihood of enrollment below modal grade (Model 1, Table 3). Enrollment below modal grade also increased with age. Children with a disability had a much higher probability of enrollment below modal grade than children without a disability. Similarly, children living in poverty had a higher probability of being enrolled below modal grade than children not living in poverty.

The regression included some interaction terms. These show how some effects act in combination. For example, the odds of 1.52 for "Male" in the model show that the probability of being below modal

Figure 6.
Percentage Below Modal Grade, Aged 10 to 13: 2008

Percent

■	25.0 and over
■	15.0 to 24.9
■	Under 15.0

Source: U.S. Census Bureau, 2008 American Community Survey. For information on sampling and nonsampling error, see <www.census.gov/acs/www/Downloads/data_documentation/Accuracy/accuracy2008.pdf>.

grade is higher for boys than for girls in the reference age category. The value of odds for "Male*Age" is also greater than 1, indicating that the probability of being below modal grade increases faster with age for boys than for girls. This can be seen by examining the predicted probabilities[17] for enrollment below modal grade (Figure 8). The effects of disability and poverty on enrollment below modal grade are cumulative and

have a larger effect at later ages. Boys with a disability have a much higher probability of enrollment below modal grade compared with boys without a disability. The effect of poverty on enrollment below modal grade is much higher at age 16 than at age 6.

A major advantage of the regression model for enrollment below modal grade is that we can closely examine the effects of race and Hispanic origin. In our tabular analysis presented earlier (Table 2), Hispanic students were found to be no more likely than non-Hispanic White students to be below modal grade. By contrast, our first regression model (Model 1, Table 3) shows that Hispanic

students are more likely to be below modal grade. The main reason for this difference is that the effect of being below modal grade varied across regions of the country. Students in the Midwest and in the South were more likely to be below modal grade than those in the West. In our first regression, the effect of Hispanic origin was obscured by the fact that many Hispanics are located in the West, where fewer students are below modal grade overall.

Our second model was one in which we examined how the effect of race and Hispanic origin varied by region (Model 2, Table 3). In the model, the odds of being below modal grade for Black (.84) and

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[17] Predicted probabilities are the probabilities expected for given types of people, based on a regression model, such as the regression of enrollment below modal grade shown in Table 3. The predicted probability for females age 6, for example, can be compared with the predicted probability for females age 16 with differences attributable to poverty, nativity, language, type of school, race, Hispanic origin, and region all held constant.

Figure 7.
Percentage Below Modal Grade, Aged 14 to 17: 2008

Percent

- 25.0 and over
- 15.0 to 24.9
- Under 15.0

Source: U.S. Census Bureau, 2008 American Community Survey. For information on sampling and nonsampling error, see <www.census.gov/acs/www/Downloads/data_documentation/Accuracy/accuracy2008.pdf>.

Hispanic (.93) students represent what is happening in the West, since that is the reference category for interactions. That these odds are significantly below 1 indicates that in the West, Black and Hispanic students are less likely to be below modal grade than the reference non-Hispanic White group. For other regions of the country, the odds of being below modal grade relative to non-Hispanic White students is measured by combining the basic odds of being below modal grade (for example, .84 for Black students) and the interaction of race and Hispanic origin with region (for example, 1.41 for Black students in the Northeast). In order to interpret these interactions, it is easiest to turn once again to

predicted probabilities, which show the effect of combining these terms together (Figure 9).[18]

All three race and Hispanic origin groups examined in Figure 9 show lower probability of being below modal grade in the Northeast and the West than in either the South or the Midwest (for each race and Hispanic origin group, all four estimates for regions are significantly different from one another). As with Hispanic students, the probability of Black students being below modal grade in the West is smaller than that of non-Hispanic

[18] The predicted probabilities in Figure 9 are for males, age 16, not in poverty, not disabled, in public school. Race, Hispanic origin, language use, and foreign-born status are listed in the figure.

White students. Black students in the Midwest are also less likely than non-Hispanic White students to be below modal grade. By contrast, non-Hispanic White students are less likely to be enrolled below modal grade in the Northeast and in the South. Hispanic students are not significantly different from non-Hispanic White students in the Midwest.

Note that in making these comparisons, we have controlled for important characteristics that affect the probability of being enrolled below modal grade. In particular, we are examining effects of Hispanic origin, net of immigration and language factors. Hispanic students born outside the United

Table 3.
Regression Models, Enrollment Below Modal Grade: 2008

Characteristic	Odds ratio of enrollment below modal grade	
	Model 1	Model 2
Sex		
Female...............................	(R)	(R)
Male.................................	*1.52	*1.52
Nativity		
Native-born	(R)	(R)
Foreign-born	*1.42	*1.42
Disability		
Not disabled.........................	(R)	(R)
Disabled.............................	*2.07	*2.07
Language Spoken at Home		
English only.........................	(R)	(R)
Language other than English.	*0.87	*0.87
Poverty		
Not in poverty	(R)	(R)
In poverty...........................	*1.79	1.80*
Type of School		
Public...............................	(R)	(R)
Private	1.00	*1.01
Region		
West	(R)	(R)
Midwest.............................	*1.60	*1.54
South...............................	*1.59	*1.43
Northeast............................	1.03	*0.92
Race and Hispanic Origin		
White alone, non-Hispanic...............	(R)	(R)
Black	*1.04	*0.84
Hispanic (any race)	*1.08	*0.93
Other race	*0.83	*0.82
Race and Hispanic Origin Interactions With Region		
Black alone:	(X)	
West................................	(X)	(R)
Midwest.............................	(X)	1.04
South...............................	(X)	*1.32
Northeast............................	(X)	*1.41
Hispanic (any race):	(X)	
West................................	(X)	(R)
Midwest.............................	(X)	1.03
South...............................	(X)	*1.30
Northeast............................	(X)	*1.35

(R) Reference category.

* Significant at .001 level.

(X) Not applicable.

Source: U.S. Census Bureau, 2008 American Community Survey. For information on sampling and nonsampling error, see <www.census.gov/acs/www/Downloads/data_documentation/Accuracy/accuracy2008.pdf>.

States and who speak a language other than English at home are more likely than non-Hispanic White students to be below modal grade in all regions of the country (Figure 9).

DROP-OUTS

The Census Bureau calculates two types of drop-out rates. The event drop-out rate was first introduced in the October 1983 CPS School Enrollment report as a way to approximate longitudinal data by asking persons what their enrollment status currently is, and what it was at some defined point in the past. The CPS asks a retrospective question on enroll-ment, "Were you enrolled in school last October?" (1 year ago). Based on the answers to this question and the current enrollment item, the numbers of persons who were enrolled a year ago, but who pres-ently are not, are estimated. The event drop-out rate captures the percentage of youth aged 15 to 24 who dropped out of Grades 10 through 12 in the 12 months between one October and the next (October 2007 and October 2008).

In 2008, 3.3 percent of 15- to 24-year-olds who had been enrolled in Grades 10 through 12 the previ-ous year had dropped out of school (event drop-outs, Table 4).[19] The high school event drop-out rate was lower for students aged 15 to 17 (3 percent) than for students aged
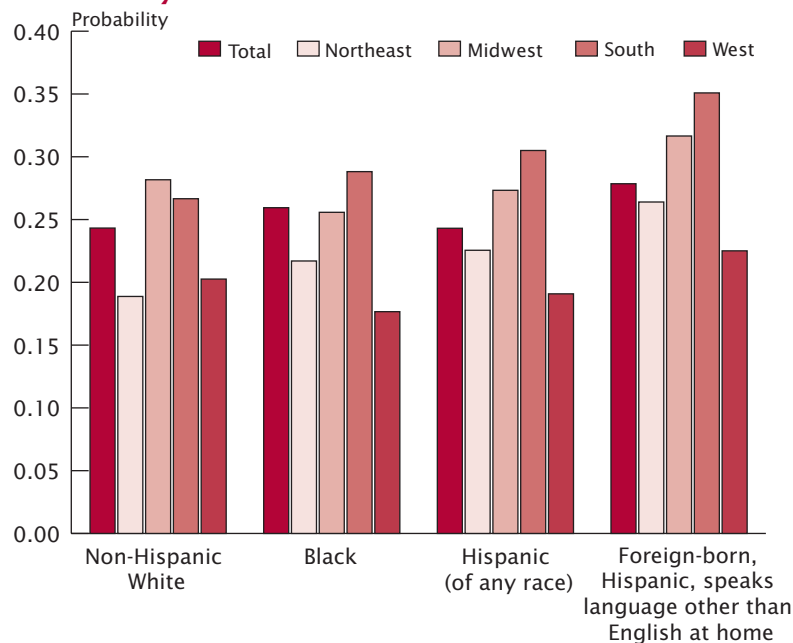
[19] Asian students (4 percent) and 18- to 19-year-old (4 percent) drop-out rates were not statistically different from the total of 15- to 24-year-old drop-outs (3 percent).

Figure 8.
Predicted Probabilities of Enrollment Below Modal Grade by Age, Sex, Disability, and Poverty: 2008

Probability

Legend: Age 6, Age 16

Categories: Female, Male, Male, with disability, Male, below poverty
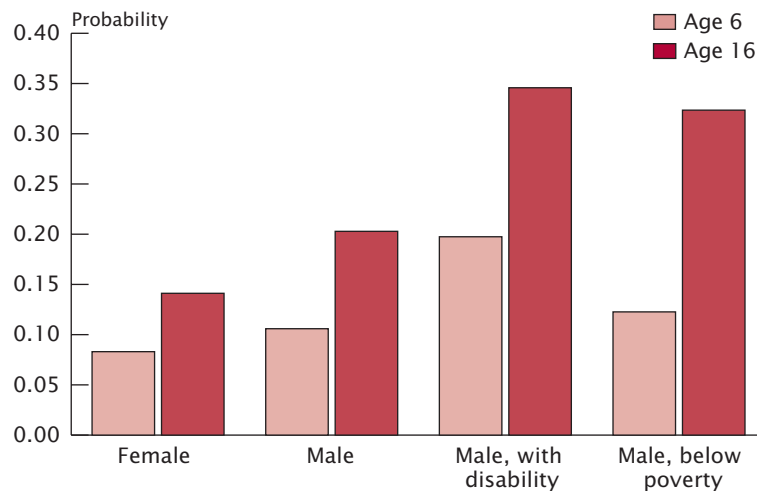
Note: The predicted probabilities shown here are based on average effects for people who vary by the characteristics shown (age, sex, poverty, and disability). It is assumed that the people being compared are native-born, non-Hispanic White, from the same region (West), all speak only English at home, and attend public schools.

Source: U.S. Census Bureau, 2008 American Community Survey. For information on sampling and nonsampling error, see <www.census.gov/acs/www/Downloads/data_documentation/Accuracy/accuracy2008.pdf>.

Figure 9.
Predicted Probabilities of Enrollment Below Modal Grade by Region, Race, Hispanic Origin, and Nativity: 2008

Probability

Legend: Total, Northeast, Midwest, South, West

Categories: Non-Hispanic White, Black, Hispanic (of any race), Foreign-born, Hispanic, speaks language other than English at home

Note: The predicted probablilities shown here are based on average effects for people who vary by the characteristics shown (race, Hispanic origin, nativity and speaking a language other than English at home, age, sex, poverty, and disability). It is assumed that the people being compared are male, age 16, not in poverty, and attend public schools.

Source: U.S. Census Bureau, 2008 American Community Survey. For information on sampling and nonsampling error, see <www.census.gov/acs/www/Downloads/data_documentation/Accuracy/accuracy2008.pdf>.

20 to 24 (9 percent).[20] Females had a higher high school drop-out rate than males, 4 percent compared with 3 percent. Non-Hispanic White students (2 percent) had a lower drop-out rate than Black students (6 percent) and Hispanic students (5 percent).[21]

The second measure of drop-outs used by the Census Bureau is the drop-out "pool," which is the percentage of youth aged 15 to 24 who are not enrolled in school and who do not have a high school degree (regardless of when they might have left school).

In 2008, 7 percent of 15- to 24-year-olds were in the drop-out pool. The number varies by age because younger students are less likely to be high school graduates. Three percent of 15- to 17-year-olds, 9 percent of 18- to 19-year-olds, and 10 percent of 20- to 24-year-olds were not enrolled and were not high school graduates. Hispanic students were more likely to be in the drop-out pool than other students, 17 percent compared to 5 percent of non-Hispanic White students, 4 percent of Asian students, and 9 percent of Black students.[22]

COLLEGE ENROLLMENT

The CPS is used in this section to discuss college enrollment because it provides data on type of school (2- or 4-year) and type of attendance (full- or part-time). In 2008,

[20] The high school event drop-out rate was not statistically different between age groups of 15- to 17-year-olds and 18- to 19-year-olds.

[21] The event drop-out rate of White students (2 percent) was not statistically different from Asian students (4 percent). The event drop-out rate of Black students (6 percent) was not statistically different from Hispanic students (5 percent) or Asian students (4 percent). The event drop-out rate of Asian students (4 percent) was not statistically different from Hispanic students (5 percent).

[22] The percent of non-Hispanic White students in the drop-out pool was not statistically different from the percent of Asian students in the drop-out pool.

Table 4.
Event Drop-Out Rates and High School Noncompleters, Aged 15 to 24: 2008
(Numbers in thousands and percents)

Characteristic		Population 15 to 24 years old				
		Enrolled in grades 10–12 in the previous year			No high school completion and not enrolled in school	
	Total	Total	Dropped out[1]	Event drop-out rate	Number	Percent
Total	**41,696**	**11,750**	**390**	**3.3**	**3,047**	**7.3**
Sex						
Male..........................	21,062	5,999	174	2.9	1,624	7.7
Female........................	20,635	5,751	216	3.8	1,423	6.9
Age						
15 to 17 years	12,746	7,051	192	2.7	345	2.7
18 to 19 years	8,492	4,146	146	3.5	750	8.8
20 to 24 years	20,459	553	51	9.3	1,951	9.5
Race and Hispanic Origin						
White alone	32,188	8,942	246	2.8	2,241	7.0
White alone, non-Hispanic..........	25,374	7,079	156	2.2	1,129	4.5
Black alone	6,259	1,868	114	6.1	576	9.2
Asian alone	1,620	429	17	3.9	64	4.0
Hispanic (any race)	7,498	2,062	101	4.9	1,236	16.5

[1] Dropped out means not enrolled and not a high school graduate, given that the person was enrolled in high school the previous year.

Source: U.S. Census Bureau, Current Population Survey, October 2008. For information on sampling and nonsampling error, see <www.census.gov/apsd/techdoc/cps/cpsoct08.pdf>.

Table 5.
Enrollment in Undergraduate and Graduate College by Selected Characteristic: 2008
(Numbers in thousands and percents)

Characteristic		College enrollment					
		2-year institution			4-year institution		
	Total	Total	Full-time	Part-time	Total	Full-time	Part-time
Total	**18,596**	**5,793**	**19.2**	**12.0**	**12,802**	**51.9**	**17.0**
Sex							
Male..........................	8,287	2,488	18.9	11.2	5,799	54.5	15.5
Female........................	10,309	3,305	19.4	12.7	7,003	49.8	18.1
Age							
16 to 18 years	2,156	884	35.0	6.0	1,271	57.5	1.5
19 to 20 years	4,239	1,488	28.4	6.8	2,751	62.1	2.8
21 to 22 years	3,220	659	14.1	6.4	2,562	72.8	6.8
23 to 24 years	2,055	489	14.6	9.2	1,566	59.4	16.8
25 years and older................	6,925	2,272	12.3	20.5	4,652	32.0	35.2
Race and Hispanic Origin							
White alone	14,376	4,427	19.3	11.5	9,950	51.9	17.4
White alone, non-Hispanic..........	12,300	3,490	18.1	10.3	8,809	54.3	17.4
Black alone	2,478	895	21.2	14.9	1,583	46.9	17.0
Asian alone	1,217	311	13.6	11.9	906	61.5	12.9
Hispanic (any race)	2,222	998	26.2	18.7	1,224	38.2	16.9
Employment							
Full-time.......................	5,533	1,861	10.2	23.3	3,693	26.0	40.5
Part-time	5,240	1,753	24.6	8.9	3,487	57.5	9.1
Not employed....................	7,802	2,180	21.9	6.0	5,622	66.6	5.5

Source: U.S. Census Bureau, Current Population Survey, October 2008. For information on sampling and nonsampling error, see <www.census.gov/apsd/techdoc/cps/cpsoct08.pdf>.

college enrollment was at an all-time high with 18.6 million students enrolled, up 22 percent from 15.3 million in 2000 (Table 5).

Contributing to the overall increase in college enrollment in 2008 was an all-time high in 2-year college enrollment, with 5.8 million students enrolled, up 38 percent from 3.9 million in 2000. As a consequence, because the enrollment in 4-year colleges did not increase at that rate, the percentage of college students enrolled in 4-year colleges has declined since 2000, with more students attending 2-year colleges. Sixty-nine percent of college students were enrolled at a 4-year college in 2008, down from 72 percent in 2000.

Full-time enrollment is on the rise for students attending both 4- and 2-year colleges. In 2008, 75 percent of students at 4-year colleges attended full-time, up from 71 percent in 2000. At 2-year colleges in 2008, 61 percent of students were enrolled full-time, up from 55 percent in 2000.

Contributing to the increase of enrollment at 2-year colleges was an increase in Hispanic college enrollment. In 2008, 1 million Hispanic students were enrolled in 2-year colleges, up 85 percent from 540,000 in 2000. A higher number of Hispanic college students were enrolled in 2-year colleges (45 percent) compared with other groups: Black students (36 percent), non-Hispanic White students (28 percent), and Asian students (26 percent).[23]

In all age groups, except those aged 25 and over, the majority of students were enrolled full-time at 4-year colleges. Of students aged 25 and over, more than half were enrolled part-time at both 2-year and 4-year institutions (56 percent).

In 2008, over half of college students (55 percent) were women. Women made up 56 percent of enrollment at 2-year colleges and 55 percent of enrollment at 4-year colleges. Women also made up the majority of graduate students (57 percent).[24]

SOURCES OF THE DATA

Most estimates in this report are from the 2008 American Community Survey (ACS), the 2008 October supplement to the Current Population Survey (CPS), and Census 2000. Some estimates are based on data obtained by the CPS in earlier years.

The population represented (the population universe) in the October 2008 ACS includes both the household and the group quarters populations (that is, the resident population). The group quarters population consists of the institutionalized population (such as people in correctional institutions or nursing homes) and the noninstitutionalized population (most of who reside in college dormitories).

The population represented (the population universe) in the

School Enrollment Supplement to the October 2008 CPS is the civilian noninstitutionalized population living in the United States. The institutionalized population, which is excluded from the population universe, is composed primarily of the population in correctional institutions and nursing homes (91 percent of the 4.1 million institutionalized people in Census 2000).

ACCURACY OF THE ESTIMATES

Statistics from sample surveys are subject to sampling error and nonsampling error. All comparisons presented in this report have taken sampling error into account and are significant at the 90 percent confidence level. This means the 90 percent confidence interval for the difference between estimates being compared does not include zero. Nonsampling error in surveys may be attributed to a variety of sources, such as how the survey was designed, how respondents interpret questions, how able and willing respondents are to provide correct answers, and how accurately answers are coded and classified. To minimize these errors, the Census Bureau employs quality control procedures in sample selection, the wording of questions, interviewing, coding, data processing, and data analysis.

The final ACS population estimates are adjusted in the weighting procedure for coverage error by controlling specific survey estimates to independent population controls by sex, age, race, and Hispanic origin. This weighting partially corrects for bias due to over- or undercoverage,

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[23] Non-Hispanic White students (28 percent) were not statistically different from Asian students (26 percent).

[24] The percentage of students enrolled that are female is not statistically different from its subgroup of the percentage of students enrolled in 2-year colleges that are female. Additionally, the percentage of female students enrolled in 2-year colleges was not statistically different from the percentage of female students enrolled in 4-year colleges or graduate school.

but biases may still be present, for example, when people who were missed differ from those interviewed in ways other than sex, age, race, and Hispanic origin. How this weighting procedure affects other variables in the survey is not precisely known. All of these considerations affect comparisons across different surveys or data sources. For information on sampling and estimation methods, confidentiality protection, and sampling and nonsampling errors, please see the "2008 ACS Accuracy of the Data" document located at <www.census.gov/acs/www /Downloads/data_documentation /Accuracy/accuracy2008.pdf>.

The CPS weighting procedure uses ratio estimation whereby sample estimates are adjusted to independent estimates of the national population by age, race, sex, and Hispanic origin. This weighting partially corrects for bias due to undercoverage, but biases may still be present when people who are missed by the survey differ from those interviewed in ways other than age, race, sex, and Hispanic origin. How this weighting procedure affects other variables in the survey is not precisely known. All of these considerations affect comparisons across different surveys or data sources. Further information on the source of the data and accuracy of the estimates, including standard errors and confidence intervals, can be found at <www.census.gov/apsd/techdoc /cps/cpsoct08.pdf> or by contacting Dave Hall of the Demographic Statistical Methods Division via e-mail at <dsmd.source.and .accuracy@census.gov>.

MORE INFORMATION

Detailed tabulations, related information, and historic data are available on the Internet at the School Enrollment page on the Census Bureau's Web site at <www.census .gov/population/www/socdemo /school.html>.

For additional questions or comments, contact Jessica W. Davis at 301-763-2464 or via e-mail at <Jessica.W.Davis@census.gov>.

Appendix Table A.
Comparison of Census Bureau Data Sources on School Enrollment

Survey Characteristics	American Community Survey	Current Population Survey
Geographic scope	Annual estimates of the nation, regions, states, congressional districts, and geographies of 65,000 or more. Three-year estimates available for places of 20,000 or more and 5-year estimates of areas as small as census tracts.	National estimates and estimates of selected characteristics for regions and states.
Periodicity of collection	Every year	Every year
Timeliness	Released year after collection cycle.	Released after year of collection cycle.
Sample size	Annual sample of about 3 million addresses. Data are collected from about one-twelfth of the sample each month.	The school enrollment data come from October CPS supplement, which is based on a sample of about 72,000 addresses.
Data collection method	Mail, telephone, and personal-visit interviews for the 50 states, the District of Columbia, and Puerto Rico. About half the responses are obtained by mail. The ACS is a mandatory survey.	Telephone and personal-visit interviews for the 50 states and the District of Columbia. The CPS is a voluntary survey.
Questionnaire item(s)	The ACS asks respondents every month, "At any time in the last 3 months, has this person attended regular school or college?" The respondent is asked what grade or level this person attended.	In the month of October, the CPS asks a detailed and extensive list of questions about school enrollment in the current and past year. There are separate questions for adults 15 years and older and for children 3–14 years old.
Unique measures/data	ACS enrollment data can be produced at the national level and very small levels of geography.	The CPS provides data regarding single-year enrollment, enrollment status and level for the previous year, whether the respondent goes to school on a full-time or part-time basis, whether they attend a 2-year or a 4-year institution, whether they are obtaining any vocational training, what year they received their postsecondary degree, and whether they received a GED (general educational development test-based certification).
Technical issues	ACS statistics on school enrollment are based on interviews conducted during the entire year.	CPS statistics on enrollment are based on interviews conducted in October.
Population universe	The ACS includes the resident population of the United States, including household and group quarters populations.	The CPS includes the civilian noninstitutionalized population and Armed Forces personnel living off post or with their families on post.
Tables available/detail	ACS school enrollment tables can be accessed through American FactFinder showing school enrollment for the nation and smaller geographies by characteristics such as age, sex, educational attainment, and poverty status.	Detailed table package consists of eight tables with school enrollment for the nation shown by characteristics such as age, race, sex, family income, type of college, employment status, and vocational course enrollment.
Sampling error information	Only for published tables.	Can be computed by data user.
Historical data	The ACS began in 1996 in a limited number of test sites and began national implementation in 2000.	Enrollment data from the CPS have been gathered since 1947.
Public-use file	Yes.	Yes.
Electronic accessibility	Tables—American FactFinder. Public-use files—DataFerret.	Tables—School Enrollment home page. Public-use files—DataFerret.