Section 2

Learner Outcomes

Contents

Section 2: Website Contents

This List of Indicators includes all the indicators in Section 2 that appear on *The Condition of Education* website (http://nces.ed.gov/programs/coe), drawn from the 2000—2007 print volumes. The list is organized by subject area. The indicator numbers and the years in which the indicators were published are not necessarily sequential.

Introduction: Learner Outcomes

The indicators in this section of *The Condition of Education* examine student achievement and other outcomes of education among students in elementary and secondary education, and among adults in the larger society. There are 26 indicators in this section: 10, prepared for this year's volume, appear on the following pages, and all 26, including indicators from previous years, appear on the Web (see Website Contents on the facing page for a full list of the indicators). The indicators on student achievement show how students are performing on assessments in reading, mathematics, science, and other academic subject areas; trends over time in student achievement; and gaps in achievement. The indicators in this section are organized into five subsections.

The indicators in the first subsection trace the gains in achievement and specific reading and mathematics skills of children through the early years of elementary education. Children enter school with varying levels of knowledge and skill. Measures of these early childhood competencies represent important indicators of students' future prospects both inside and outside of the classroom. Two indicators available on the Web show changes in student achievement for a cohort of children who began kindergarten in fall 1998 as they progressed through 3rd grade in 2001–02.

The indicators in the second subsection report trends in student performance by age or grade in the later years of elementary education through high school. As students progress through school, it is important to know the extent to which they are acquiring necessary skills and becoming proficient in challenging subject matter. Academic outcomes are basically measured in three ways: as the change in students' average performance over time, as the change in the percentage of students achieving predetermined levels of achievement, and through international comparisons of national averages.

Together, measures in the first two subsections, across indicators, help create a composite picture of academic achievement in U.S. schools. For example, one indicator that appears on the Web shows the overall reading and mathematics achievement of U.S. students from kindergarten through 3rd grade, while another in this volume shows the overall reading and mathematics achievement of students in grades 4 and 8.

In addition to academic achievement, there are adult literacy measures in the third subsection and culturally and socially desirable outcomes of education in the fourth subsection. These outcomes contribute to an educated, capable, and engaged citizenry, which can be gauged by adult literacy, civic knowledge, community volunteerism, and voting participation. Other measures are patterns of adult reading habits, communication and media use, and the health status of individuals.

The fifth subsection looks specifically at the economic outcomes of education. Economic outcomes refer to the likelihood of being employed, the salaries that employers are prepared to pay individuals with varying levels of skill and competence, the job and career satisfaction of employees, and other measures of economic well being and productivity.

The indicators on student achievement from previous editions of *The Condition of Education* that are not included in this volume are available at http://nces.ed.gov/programs/coe/list/i2.asp.

Academic Outcomes

Reading Performance of Students in Grades 4, 8, and 12

National average reading scores of 4th- and 8th-graders have varied little over time, though both were 2 points higher in 2005 than in 1992. During this time, however, the reading scores of 12th-graders declined 6 points.

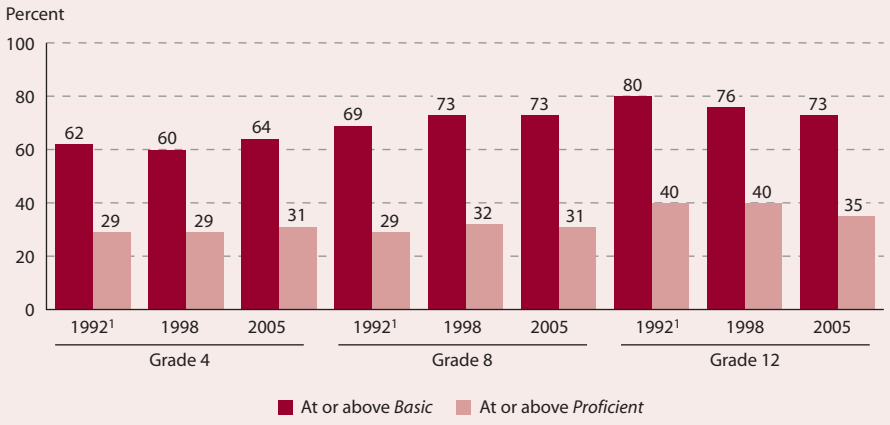
The National Assessment of Educational Progress (NAEP) has assessed the reading abilities of students in grades 4, 8, and 12 in both public and private schools since 1992. Reported on a scale of 0–500, national average reading scores of 4th- and 8th-graders varied little between 1992 and 2005, though both were 2 points higher in 2005 than in 1992 (see supplemental table 11-1). The reading scores of 12th-grade students, however, decreased 6 points during this period.

Achievement levels (*Basic*, *Proficient*, and *Advanced*) identify what students should know and be able to do at each grade. The percentage of 4th-graders performing at or above *Basic* (indicating partial mastery of fundamental skills) in 2005 (64 percent) was not measurably different from the percentage in 1992; however, the percentage performing at or above *Proficient* (indicating solid academic achievement) increased from 29 to 31 percent during this time. Between 1992 and 2005, the percentage of 8th-graders performing at or above *Basic* increased from 69 to 73 percent, while the percentage performing at or above *Proficient* in 2005 (31 percent) was not measurably different from the percentage in 1992. The percentage of 12th-graders performing at or above *Basic* decreased from 80 to 73 percent, and the percentage performing at or above *Proficient* decreased from 40 to 35 percent between 1992 and 2005.

Reading results varied by sex and race/ethnicity. For example, females outperformed males in each grade in 2005 (see supplemental table 11-2). White and Asian/Pacific Islander students generally outperformed their peers in all three grades. Between 1992 and 2005, average scores increased for White, Black, Hispanic, and Asian/Pacific Islander 4th-graders (ranging from 5 to 13 points) and for White, Black, and Hispanic 8th-graders (ranging from 4 to 6 points), while scores decreased for White and Black 12th-graders (4 and 6 points, respectively).

NAEP results also permit state-level comparisons of the abilities of 4th- and 8th-graders (but not 12th-graders) in public schools. Of the 42 states that participated at grade 4 in 1992 and 2005, there were increases in average reading scores in 20 states and decreases in 3 states during this period (see supplemental table 11-3). In grade 8, of the 38 states that participated in 1998 and 2005, there were 3 states with higher and 8 states with lower average scores.

READING PERFORMANCE: Percentage of students performing at or above *Basic* and at or above *Proficient* in reading, by grade: 1992, 1998, and 2005



[1] Testing accommodations (e.g., extended time, small group testing) for children with disabilities and limited-English-proficient students were not permitted.

NOTE: Beginning in 2002, the NAEP national sample for grades 4 and 8 was obtained by aggregating the samples from each state and the District of Columbia, rather than by obtaining an independently selected national sample. As a consequence, the size of the national samples for grades 4 and 8 increased, and smaller differences between years or between types of students were found to be statistically significant than would have been detected in previous assessments. Differences are based upon unrounded estimates. See *supplemental note 4* for more information on testing accommodations, achievement levels, and NAEP.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992, 1998, and 2005 Reading Assessments, NAEP Data Explorer.

FOR MORE INFORMATION:

Supplemental Notes 1, 4

Supplemental Tables 11-1, 11-2, 11-3

NCES 2006-451

NCES 2007-468

Academic Outcomes

Mathematics Performance of Students in Grade 12

On the 2005 12th-grade mathematics assessment, students in schools with lower percentages of students eligible for free or reduced-price lunch scored higher on average than those in schools with higher percentages of students eligible for this benefit.

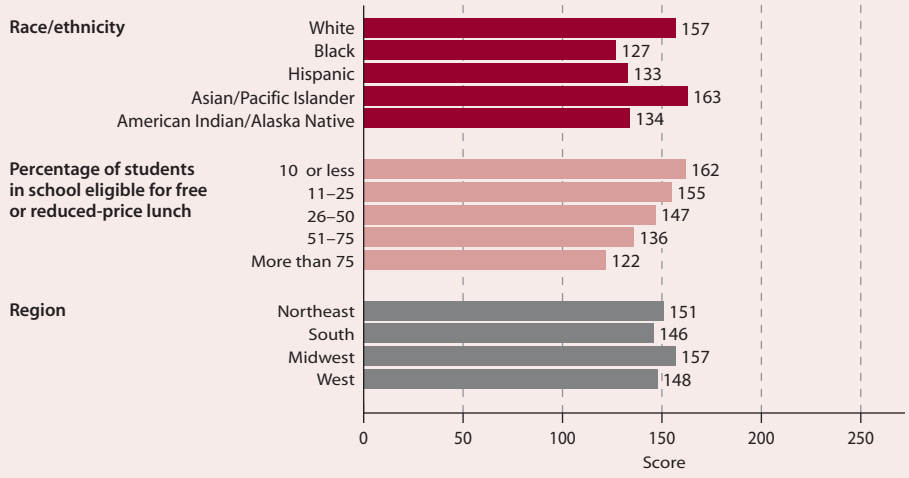
Although the National Assessment of Educational Progress (NAEP) has assessed the mathematics abilities of 12th-graders in public and private schools since 1990, in 2005, the National Assessment Governing Board revised the grade 12 mathematics framework to reflect changes in high school mathematics standards and coursework.[1] As a result, even though many questions are repeated from previous assessments, the 2005 results cannot be directly compared with those from previous years.

Reported on a 0–300 scale in 2005, the average mathematics score of 12th-graders was set at 150. Student performance varied on the assessment—scores ranged from 105 at the 10th percentile[2] to 194 at the 90th percentile (NCES 2007-468). NAEP achievement levels (*Basic*, *Proficient*, and *Advanced*) identify what students should know and be able to do at each grade. Some 23 percent of 12th-graders performed at or above *Proficient* (indicating solid academic performance) on the assessment, whereas 39 percent performed below *Basic* (indicating a level of performance below partial mastery of fundamental skills) (see supplemental table 12-1).

Examining overall scores, Asian/Pacific Islander students scored higher on average in 2005 than students in the other four racial/ethnic groups. The average score for White students was higher than the average scores for Black, Hispanic, and American Indian students; Hispanic students scored higher on average than Black students. The same patterns were evident for scores within the four content areas—numbers and operations, measurement and geometry, data analysis and probability, and algebra—with the following exceptions (see supplemental table 12-2): scores for Asian/Pacific Islander students and White students were not significantly different in the number properties and operations and the data analysis and probability content areas. Also, American Indian students scored higher on average than Black students in measurement and geometry.

Differences in overall scores were also observed by school poverty and region. Students attending schools with lower percentages of students eligible for free or reduced-price lunch scored higher than students in schools with higher percentages of eligible students. Students in the Midwest outperformed their peers in the West, South, and Northeast.

MATHEMATICS PERFORMANCE: Average mathematics scores of 12th-grade students, by race/ethnicity, percentage of students eligible for free or reduced-price lunch, and region: 2005



[1] Among other changes, the framework was revised by merging the measurement and geometry content areas into one and by adding additional questions on algebra, data analysis, and probability.

[2] A score location at or below which a specified percentage of the population falls. For example, in 2005, the 10th percentile of 12th-grade mathematics scores was 105. This means that 10 percent of 12th-graders had NAEP mathematics scores at or below 105, while 90 percent scored above 105.

NOTE: See *supplemental note 4* for more information on NAEP. Race categories exclude persons of Hispanic ethnicity.

SOURCE: Grigg, W., Donahue, P., and Dion, G. (2007). *The Nation's Report Card: 12th-Grade Reading and Mathematics 2005* (NCES 2007-468), data from U.S. Department of Education, National Center for Education Statistics, NAEP Data Explorer.

FOR MORE INFORMATION:

Supplemental Note 4

Supplemental Tables 12-1, 12-2

Academic Outcomes

Science Performance of Students in Grades 4, 8, and 12

In 2005, the average science score of students was higher at grade 4 than in previous assessment years, was not measurably different at grade 8, and was lower at grade 12 than in 1996.

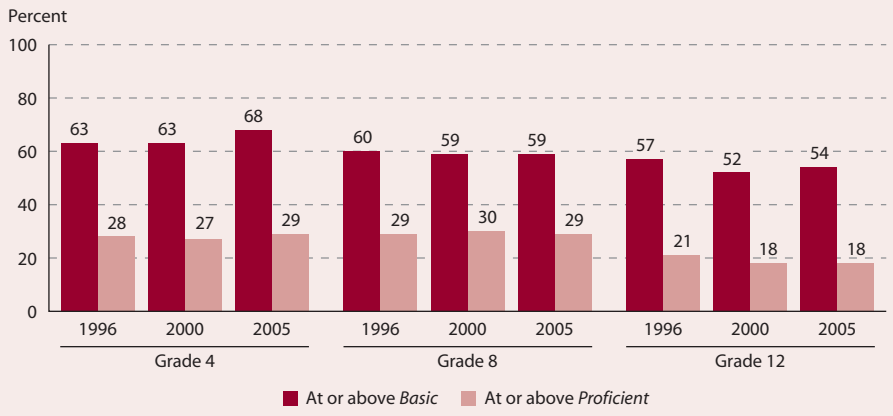
The National Assessment of Educational Progress (NAEP) has assessed the science abilities of students in grades 4, 8, and 12 in both public and private schools since 1996, using a separate 0–300 scale for each grade. The national average 4th-grade science score increased from 147 in 1996 to 151 in 2005; there was no measurable change in the 8th-grade score; and the 12th-grade score decreased from 150 in 1996 to 147 in 2005 (see supplemental table 13-1).

Achievement levels (*Basic*, *Proficient*, and *Advanced*), which identify what students should know and be able to do at each grade, provide another measure of student performance. The percentages of 4th- and 8th-graders at or above *Proficient* (indicating solid academic achievement) were not measurably different from 1996 to 2005, while the percentage of 12th-graders at or above this achievement level was lower in 2005 than in 1996. In 2005, some 29 percent of 4th- and 8th-graders and 18 percent of 12th-graders were at or above *Proficient*.

Certain subgroups outperformed others in science in 2005. For example, males outperformed females at all three grades. Male 4th-graders had a higher average score in 2005 than in 1996, and both male and female 12th-graders had lower scores in 2005 than in 1996 (see supplemental table 13-2). White students scored higher, on average, than Black and Hispanic students at all three grades in 2005. At 4th grade, average scores were higher for White, Black, Hispanic, and Asian/Pacific Islander students in 2005 than in 1996. At 8th grade, the average score for Black students was higher in 2005 than in 1996, but the scores did not measurably change for other racial/ethnic groups. At 12th grade, there were no measurable changes in average scores for any racial/ethnic group when comparing results from 2005 with those from 1996.

NAEP results also permit state-level comparisons of the abilities of 4th- and 8th-graders (but not 12th-graders) in public schools. At grade 4, of the 36 states that participated in both the 2000 and 2005 assessments, average science scores were higher in 2005 than in 2000 in 9 states (see supplemental table 13-3). At grade 8, of the 36 states that participated in 1996 and 2005, average scores were higher in 2005 than in 1996 in 8 states and lower in 5 states.

SCIENCE PERFORMANCE: Percentage of students performing at or above *Basic* and at or above *Proficient* in science, by grade: 1996, 2000, and 2005



NOTE: Variations or changes in exclusion rates for students with disabilities and limited-English-proficient students in the NAEP samples may affect comparative performance results. See *supplemental note 4* for more information on testing accommodations and NAEP.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1996, 2000, and 2005 Science Assessments, NAEP Data Explorer.

FOR MORE INFORMATION:

Supplemental Notes 1, 4

Supplemental Tables 13-1, 13-2, 13-3

NCES 2006-446

Academic Outcomes

Trends in the Achievement Gaps in Reading and Mathematics

Between 1990 and 2005, differences between White and Black and Hispanic scores in reading and mathematics fluctuated at the 4th and 8th grades. Between 2003 and 2005, the most recent period, the achievement gaps in reading and mathematics narrowed for most groups.

The National Assessment of Educational Progress (NAEP) has assessed student reading and mathematics performance since the early 1990s. NAEP thus provides a picture of the extent to which student performance in each subject has changed over time, including the achievement gaps between White and Black and White and Hispanic students.

In reading, the achievement gaps between White and Black and White and Hispanic 4th-graders have fluctuated since 1992, but the gaps in 2005 were not measurably different from those in 1992. In 2005, at the 4th-grade level, Blacks scored, on average, 29 points lower than Whites (on a 0–500 scale), and Hispanics scored, on average, 26 points lower than Whites (see supplemental table 14-1). At 8th grade, there was no measurable change in the White-Black achievement gap between 1992 and 2005, and little change in the White-Hispanic gap, although the gap in 2005 was slightly lower than that in 2003 (25 points compared with 27 points).

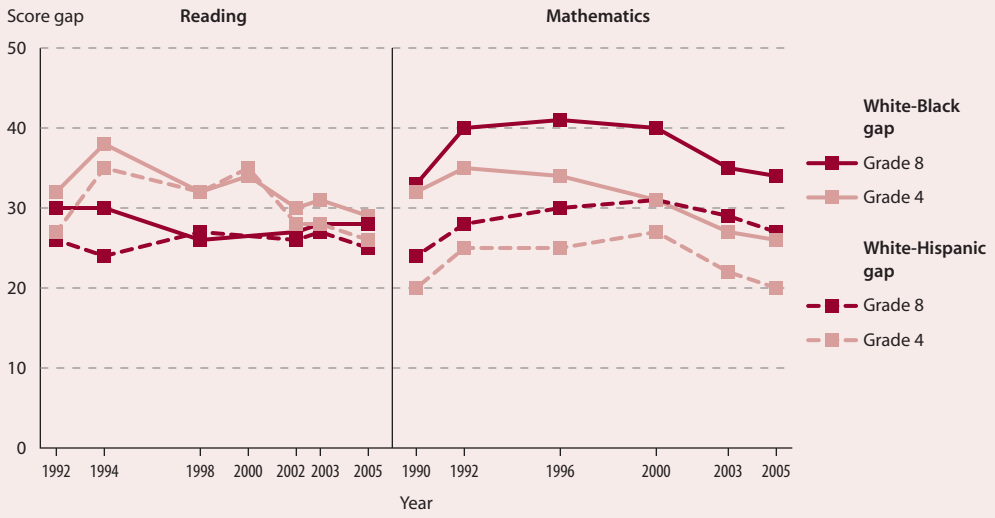
In mathematics, the achievement gap between White and Black 4th-graders decreased between 1990 and 2005 (from 32 to 26 points). The White-Hispanic 4th-grade gap increased in the 1990s before decreasing in the first half of the 2000s, but the gap in 2005 (20 points) was not measurably different from that in 1990. Among 8th-graders, a similar trend existed in both the White-Black and White-Hispanic score gaps: increases occurred in the 1990s before decreasing to levels not measurably different from those in 1990. In 2005, the White-Black gap was 34 points, and the White-Hispanic gap was 27 points.

NOTE: NAEP scores are calculated on a 0–500 scale. Student assessments are not designed to permit comparisons across subjects or grades. Race categories exclude persons of Hispanic ethnicity. The score gap is determined by subtracting the average Black and Hispanic score, respectively, from the average White score. Testing accommodations (e.g., extended time, small group testing) for children with disabilities and limited-English-proficient students were not permitted in 1990–94. Beginning in 2002, the NAEP national sample for grades 4 and 8 was obtained by aggregating the samples from each state, rather than by obtaining an independently selected national sample. See *supplemental note 4* for more information on NAEP.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2005 Reading and Mathematics Assessments, NAEP Data Explorer.

FOR MORE INFORMATION:
Supplemental Notes 1, 4
Supplemental Table 14-1
NCES 2006-451
NCES 2006-453

ACHIEVEMENT GAP: Differences in White-Black and White-Hispanic 4th- and 8th-grade average reading and mathematics scores: Various years, 1990–2005



Academic Outcomes

Reading and Mathematics Score Trends by Age

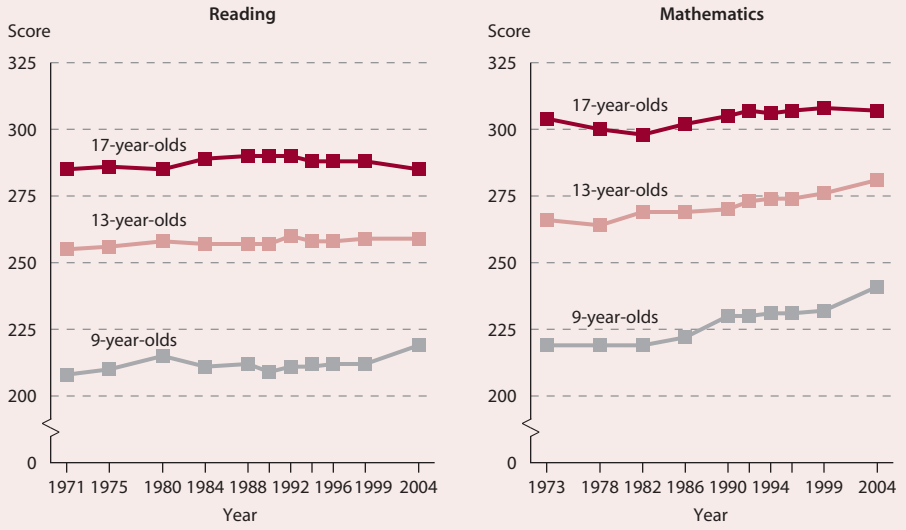
The average reading and mathematics scores on the long-term trend National Assessment of Educational Progress were higher in 2004 than in the early 1970s for 9- and 13-year-olds.

The long-term trend National Assessment of Educational Progress (NAEP) has provided information on the reading and mathematics achievement of 9-, 13-, and 17-year-olds in the United States since the early 1970s and is used as a measure of progress over time. These results may differ from the main NAEP results presented in *indicators 11*, *12*, *13*, and *14* as the content of the long-term trend assessment has remained consistent over time, while the main NAEP undergoes changes periodically (see *supplemental note 4*).

NAEP long-term trend results indicate that the reading and mathematics achievement of 9- and 13-year-olds improved between the early 1970s and 2004. In reading, 9-year-olds scored higher in 2004 than in any previous assessment year, with an increase of 7 points between 1999 and 2004. The 2004 average score for 13-year-olds was not measurably different from the 1999 average score, but still was higher than the scores in 1971 and 1975. In mathematics, the achievement of 9- and 13-year-olds in 2004 was the highest of any assessment year. The performance of 17-year-olds on the 2004 reading and mathematics assessment, however, was not measurably different from their performance on either the first reading and mathematics assessments (in 1971 and 1973, respectively) or the 1999 reading and mathematics assessments.

The performance of subgroups of students generally mirrored the overall national patterns; however, there were some notable differences. The average reading and mathematics scores of Black and Hispanic 9-year-olds in 2004 were the highest of any assessment year (see supplemental tables 15-1 and 15-2). For Black 13-year-olds, reading and mathematics scores were higher in 2004 than the scores in the early 1970s, and the 2004 mathematics score was higher than in any previous assessment year. For Hispanic 13-year-olds, mathematics scores were higher in 2004 than in any previous assessment year. In contrast to the overall national results, the average scores of Black and Hispanic 17-year-olds were higher in 2004 than in the early 1970s. Black 17-year-olds improved 25 points in reading between 1971 and 2004, and 15 points in mathematics between 1973 and 2004 on a 0–500 point scale. Hispanic 17-year-olds improved 12 points in reading between 1975 (the first year the reading achievement of Hispanics was specifically measured) and 2004, and 12 points in mathematics between 1973 and 2004.

NAEP SCORES: Average reading and mathematics scale scores on the long-term trend National Assessment of Educational Progress (NAEP), by age: Various years, 1971 through 2004



NOTE: NAEP has two distinct assessment programs: the long-term trend assessment program and the main assessment program. Data from the long-term trend program, presented in this indicator, come from subject assessments that have remained substantially the same since the early 1970s in order to measure and compare student achievement over time. In contrast, data from the main NAEP assessment program, presented in *indicators 11, 12, 13,* and *14*, come from subject assessments that are periodically adapted to employ the latest advances in assessment methodology and to reflect changes in educational objectives and curricula. Because the instruments and methodologies of the two assessment programs are different, it is not possible to compare long-term trend results with the main assessment results (see *supplemental note 4* for more information on the two NAEP programs). NAEP scores range from 0 to 500.

SOURCE: Perie, M., Moran, R., and Lutkus, A.D. (2005). *NAEP 2004 Trends in Academic Progress: Three Decades of Student Performance in Reading and Mathematics* (NCES 2005-464), figures 2-1 and 2-4, data from U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1971–2004 Long-Term Trend Reading and Mathematics Assessments.

FOR MORE INFORMATION:

Supplemental Note 4

Supplemental Tables 15-1, 15-2

Academic Outcomes

Reading and Mathematics Achievement at 5th Grade

Fifth-grade children living below the poverty threshold were less likely to demonstrate proficiency in specific reading and mathematics knowledge and skills than children living at or above the poverty threshold.

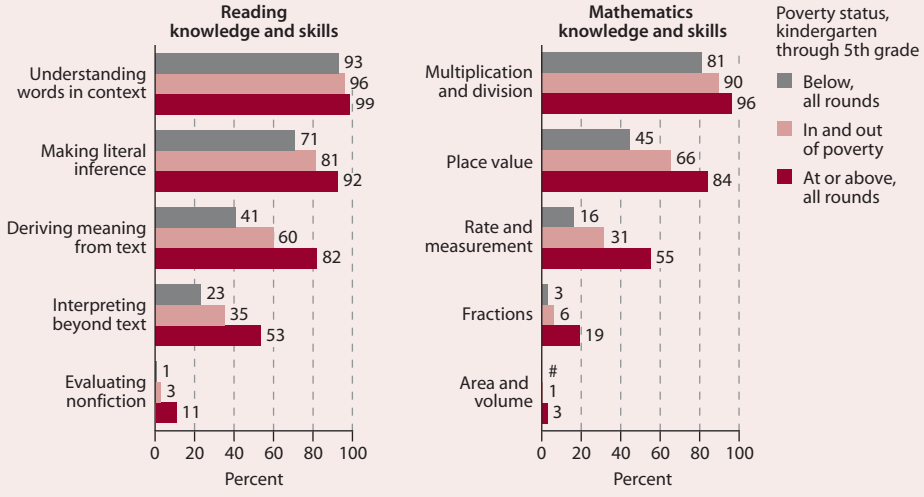
The Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) has followed a nationally representative cohort of children from kindergarten into the later grades. This indicator presents findings on children's achievement in reading and mathematics from the spring 2004 data collection, when most of the children were in 5th grade,[1] by child, family, and school characteristics.

In the spring of 5th grade, the percentage of children demonstrating proficiency in specific skills varied. In reading, 97 percent of children were proficient in understanding words in context, 87 percent in making literal inferences, 70 percent in deriving meaning from text, 44 percent in making interpretations beyond the text, and 7 percent in evaluating nonfiction (see supplemental table 16-1). In mathematics, 92 percent of children demonstrated proficiency in multiplication and division, 74 percent in place value, 43 percent in rate and measurement, 13 percent in fractions, and 2 percent in area and volume (see supplemental table 16-2).

The percentage of children with proficiency in certain reading and mathematics skills varied by child, family, and school characteristics. Students who lived in households below the poverty threshold for all rounds of the survey were less likely to demonstrate proficiency in reading and mathematics skills than students who lived in households at or above the poverty threshold for all survey rounds. For example, in mathematics, 84 percent of students who lived at or above the poverty threshold for all survey rounds demonstrated proficiency in place value compared with 45 percent of students who lived in poverty for all survey rounds. Generally, students whose mothers had higher levels of education were more likely to master each reading and mathematics skill than students whose mothers had less education.

Female students were more likely than male students to show mastery in four of the five reading skills (no measurable difference was found for evaluating nonfiction); however, male students were more likely than female students to demonstrate mastery in each of the mathematics skills. Children who attended private schools for all rounds of the survey were more likely than students who attended public schools for all rounds of the survey to be proficient in nearly all of the reading and mathematics skills.

READING AND MATHEMATICS SKILLS: Percentage of children who demonstrate specific reading and mathematics skills, by poverty status from kindergarten through 5th grade: Spring 2004



Rounds to zero.

[1] Findings are based on all students who participated in the ECLS-K, not just those at grade level. Although most of the children in the sample were in 5th grade in spring 2004, some 14 percent were in a lower grade, and 1 percent were in a higher grade. Findings are representative of the 3.8 million students in school in spring 2004 who were in kindergarten in fall 1998.

NOTE: The federal poverty-level status composite variable is derived from household income and the total number of household members at each administration of the survey and is used to define households below the poverty level. For instance, in 1998, if a household contained four members and the annual household income was lower than $16,655, then the household was considered to be below poverty. Poverty status, kindergarten through spring 2004, and school type, kindergarten through spring 2004 are composite variables that are derived from five rounds of the survey (fall 1998, spring 1999, spring 2000, spring 2002, and spring 2004).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), Longitudinal Kindergarten–Third Grade Public-Use Data File, and Fifth-Grade Restricted-Use Data File.

FOR MORE INFORMATION:

Supplemental Notes 1, 3

Supplemental Tables 16-1, 16-2

NCES 2006-038

Academic Outcomes

International Comparisons of Mathematics Cognitive Domains of 4th- and 8th-Graders

U.S. 4th- and 8th-graders performed above the international averages in knowing mathematical facts, procedures, and concepts; in applying mathematical knowledge and understanding; and in mathematical reasoning.

The Trends in International Mathematics and Science Study (TIMSS) conducted in 2003 assessed students' mathematics performance in 25 countries at grade 4 and 46 countries at grade 8. In addition to reporting overall mathematics scores, TIMSS developed scales in three mathematics cognitive domains: *knowing* facts, procedures, and concepts needed to solve mathematical problems; *applying* knowledge of facts, skills, and procedures to create representations and solve routine problems; and *reasoning* to solve more complex, nonroutine problems through logical thinking.[1]

At grade 4, U.S. students scored above the international average of all 25 countries in the mathematics cognitive domains of knowing, applying, and reasoning (see supplemental table 17-1). U.S. 4th-graders performed relatively better in knowing than in applying and reasoning: U.S. students outperformed students in 17 countries in knowing, 11 countries in applying, and 12 countries in reasoning.

Among the participating countries with a high value on the United Nations Development Program's Human Development Index (HDI),[2] U.S. 4th-graders, on average, outperformed their peers in Australia, Italy, New Zealand, Norway, Scotland, and Slovenia across the three domains. Fourth-graders in Belgium (Flemish), Chinese Taipei, Hong Kong SAR, Japan, and Singapore outperformed U.S. students, on average, across all three cognitive domains. Students in England and the Netherlands outperformed U.S. 4th-graders in applying and reasoning, but not in knowing.

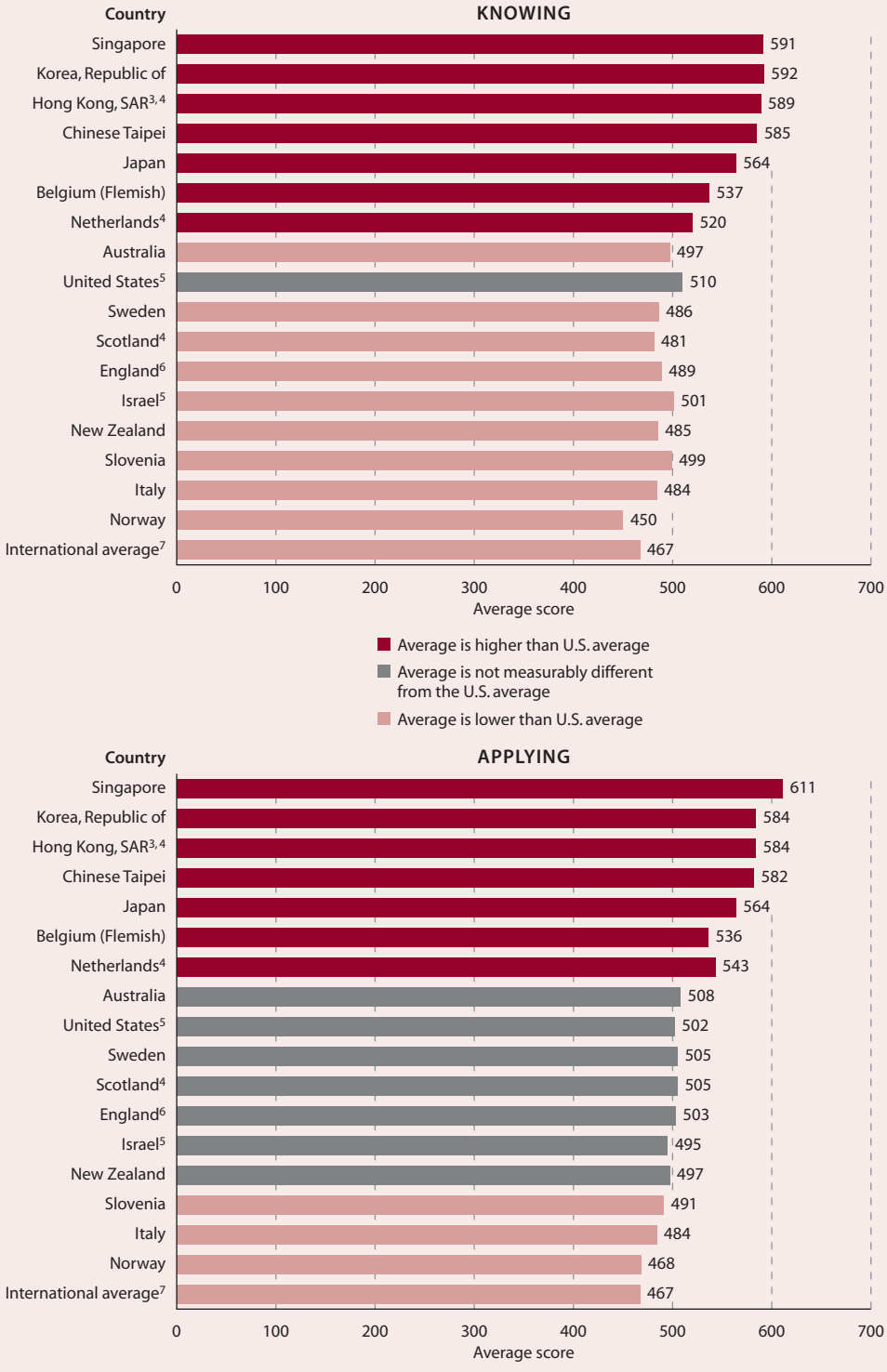
Like their 4th-grade counterparts, U.S. 8th-graders scored above the international average of all 46 countries in all three mathematics cognitive domains and relatively better in knowing than in applying and reasoning (see supplemental table 17-2). U.S. 8th-graders outperformed students in 31 countries in knowing, 25 countries in applying, and 27 countries in reasoning.

Among the high-HDI-value participating countries, U.S. 8th-graders, on average, outperformed their peers in Italy, Norway, and Slovenia across the three domains (see the figure on pages 43–44). U.S. students outperformed their peers in an additional five countries in the knowing domain and in one country in the reasoning domain. Eighth-graders in Belgium (Flemish), Chinese Taipei, Hong Kong SAR, Japan, Korea, Netherlands, and Singapore outperformed their U.S. peers, on average, across all three cognitive domains.

[1] The cognitive domain scales were created to have the same mean and standard deviation as the overall TIMSS 2003 mathematics achievement scales: a mean of 495 and standard deviation of 100 at grade 4 and a mean of 467 and standard deviation of 100 at grade 8.

[2] The *Human Development Index* (HDI) ranks countries along three dimensions of human development: life expectancy at birth; the adult literacy rate and gross enrollment for primary, secondary, and tertiary education; and gross domestic product (GDP) per capita (using purchasing power parity [PPP] indices). The index has a minimum value of 0 and a maximum value of 1. Countries with high index values enjoy long life expectancy, high levels of school enrollment and adult literacy, and a good standard of living. For this indicator, a high index value is 0.9 or above. The index is explained in detail in the United Nations Development Program's (UNDP) *Human Development Report 2005*, available at http://hdr.undp.org/reports/global/2005/. Though Chinese Taipei is not assigned an HDI value in the UNDP report, it is included here because it is a high-achieving country in mathematics.

INTERNATIONAL MATHEMATICS PERFORMANCE: Average mathematics cognitive domain scores of 8th-grade students in knowing, applying, and reasoning, by country: 2003



[3] Hong Kong is a Special Administrative Region (SAR) of the People's Republic of China.

[4] Met international guidelines for participation rates only after replacement schools were included.

[5] Nearly satisfied guidelines for sample participation rates after replacement schools were included.

[6] Did not satisfy guidelines for sample participation rates. Less than 50 percent of original schools participated.

[7] The international average reflects the results of all participating countries, not just those shown in the figures. See supplemental tables 17-1 and 17-2 for the full results.

NOTE: Countries are ordered based on the overall 2003 mathematics average scores. Countries were required to sample students in the upper of the two grades that contained the largest number of 9-year-olds and 13-year-olds. In the United States and most countries, this corresponds to grades 4 and 8, respectively. Participants were scored on a 1,000-point scale. The international standard deviation is 100.

SOURCE: Mullis, I.V.S., Martin, M.O., and Foy, P. (2005). *IEA's TIMSS 2003 International Report on Achievement in the Mathematics Cognitive Domains: Findings From a Developmental Project*, exhibits 2.1–2.6, data from the International Association for the Evaluation of Educational Achievement (IEA), Trends in International Mathematics and Science Study (TIMSS), 2003.

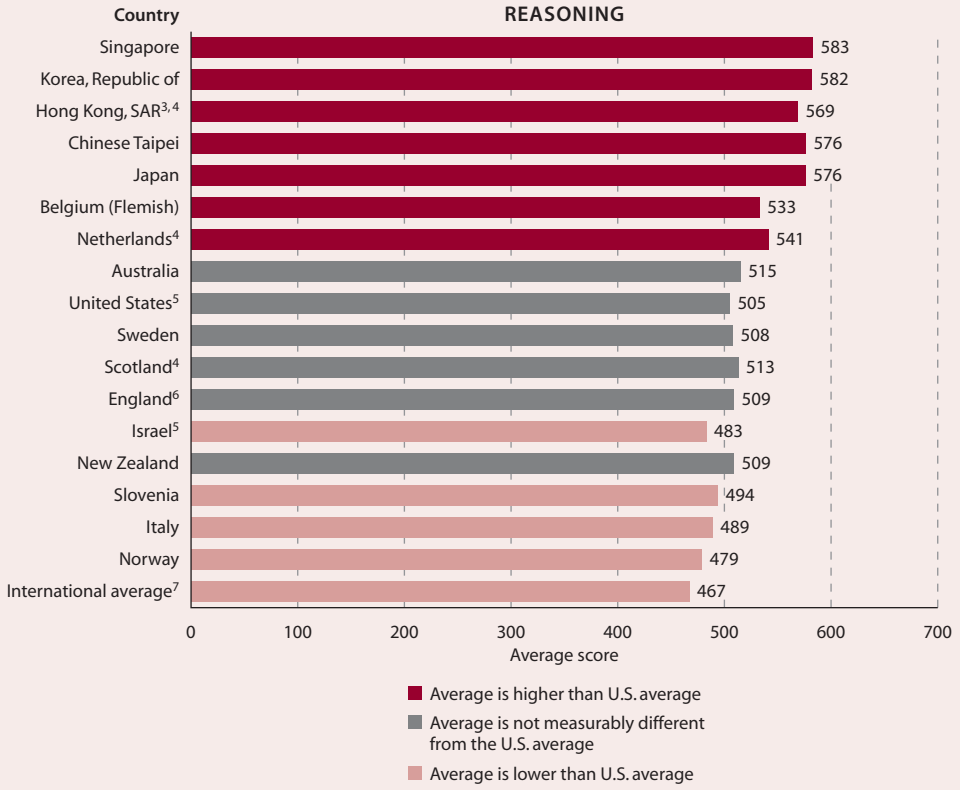
FOR MORE INFORMATION:

Supplemental Note 5

Supplemental Tables 17-1, 17-2

UNDP 2005

INTERNATIONAL MATHEMATICS PERFORMANCE: Average mathematics cognitive domain scores of 8th-grade students in knowing, applying, and reasoning, by country: 2003—Continued



[3] Hong Kong is a Special Administrative Region (SAR) of the People's Republic of China.

[4] Met international guidelines for participation rates only after replacement schools were included.

[5] Nearly satisfied guidelines for sample participation rates after replacement schools were included.

[6] Did not satisfy guidelines for sample participation rates. Less than 50 percent of original schools participated.

[7] The international average reflects the results of all participating countries, not just those shown in the figures. See supplemental tables 17-1 and 17-2 for the full results.

NOTE: Countries are ordered based on the overall 2003 mathematics average scores. Countries were required to sample students in the upper of the two grades that contained the largest number of 9-year-olds and 13-year-olds. In the United States and most countries, this corresponds to grades 4 and 8, respectively. Participants were scored on a 1,000-point scale. The international standard deviation is 100.

SOURCE: Mullis, I.V.S., Martin, M.O., and Foy, P. (2005). *IEA's TIMSS 2003 International Report on Achievement in the Mathematics Cognitive Domains: Findings From a Developmental Project*, exhibits 2.1–2.6, data from the International Association for the Evaluation of Educational Achievement (IEA), Trends in International Mathematics and Science Study (TIMSS), 2003.

FOR MORE INFORMATION:

Supplemental Note 5

Supplemental Tables 17-1, 17-2

UNDP 2005

Adult Literacy

Trends in Adult Literacy

While the quantitative literacy of adults improved from 1992 to 2003, the prose and document literacy of adults was not measurably different between these two years.

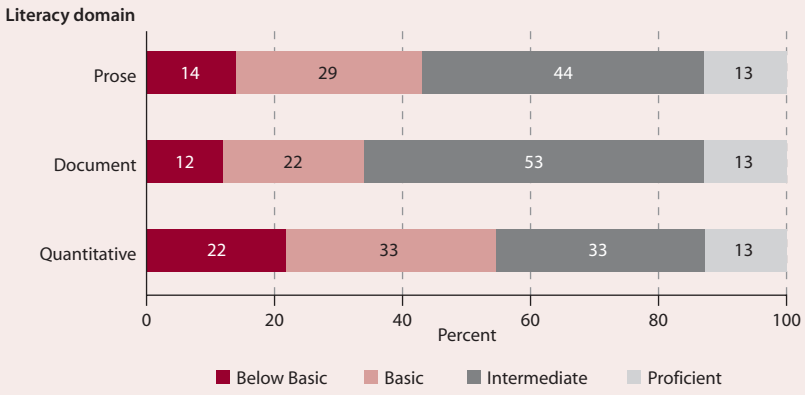
Adults age 16 or older were assessed in three types of literacy (prose, document, and quantitative) in 1992 and 2003. *Literacy* is defined as "using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential." The average prose and document literacy scores of U.S. adults were not measurably different in 2003 from 1992, but the average quantitative literacy score increased 8 points between these years (see supplemental table 18-1).

One measure of literacy is the percentage of adults who perform at four achievement levels: *Below Basic*, *Basic*, *Intermediate*, and *Proficient*. In each type of literacy, 13 percent of adults were at or above *Proficient* (indicating they possess the skills necessary to perform complex and challenging literacy activities) in 2003 (see supplemental table 18-2). Twenty-two percent of adults were *Below Basic* (indicating they possess no more than the most simple and concrete literacy skills) in quantitative literacy, compared with 14 percent in prose literacy and 12 percent in document literacy.

Differences in average literacy scores were apparent by sex and race/ethnicity. Women scored higher than men on prose and document literacy in 2003, unlike in 1992. Men outperformed women on quantitative literacy in both years. Male scores declined in prose and document literacy from 1992 to 2003, while female scores increased in document and quantitative literacy. In 1992 and 2003, White and Asian/Pacific Islander adults had higher average scores than their Black and Hispanic peers in the three types of literacy assessed. Black performance increased in each type of literacy from 1992 to 2003, while Hispanic average scores declined in prose and document literacy.

Additional differences in average literacy were apparent by education and age. Educational attainment is positively related to all three types of literacy: those with any education after high school outperformed their peers with less education in 1992 and 2003. Between these years, average prose literacy decreased for most levels of educational attainment, and average document literacy decreased for those with some college, associate's degrees, and college graduates. From 1992 to 2003, the average prose, document, and quantitative literacy scores of adults ages 50–64 and 65 or older increased.

ADULT LITERACY PERFORMANCE: Percentage of adults scoring at each achievement level in prose, document, and quantitative literacy: 2003



NOTE: Adults are defined as people age 16 or older living in households or prisons. *Prose literacy* is the knowledge and skills needed to perform prose tasks (i.e., to search, comprehend, and use information from continuous texts, such as paragraphs from stories); *document literacy* is the knowledge and skills needed to perform document tasks (i.e., to search, comprehend, and use information from noncontinuous texts in various formats, such as bills or prescription labels); and *quantitative literacy* is the knowledge and skills required to perform quantitative tasks (i.e., to identify and perform computations, either alone or sequentially, using numbers embedded in printed materials). Race categories exclude persons of Hispanic ethnicity. In 1992, respondents were allowed to identify only one race; in 2003, respondents were allowed to identify multiple races. Included in the total but not shown separately are American Indians/Alaska Natives and respondents with more than one race. Results are reported in terms of average scores on a 0–500 scale. To compare results between 1992 and 2003, the 1992 results were rescaled using the criteria and methods established for the 2003 assessment. Detail may not sum to totals because of rounding.

SOURCE: Kutner, M., Greenberg, E., and Baer, J. (2005). *A First Look at the Literacy of America's Adults in the 21st Century* (NCES 2006-470), figure 2, data from U.S. Department of Education, National Center for Education Statistics, 2003 National Assessment of Adult Literacy (NAAL).

FOR MORE INFORMATION:

Supplemental Notes 1, 3

Supplemental Tables 18-1, 18-2

NCES 2006-471

Social and Cultural Outcomes

Youth Neither in School nor Working

In 2006, about 8 percent of youth ages 16–19 were neither enrolled in school nor working.

There are many reasons why youth between the ages of 16 and 19 may neither be enrolled in school nor working. For example, they may be seeking but unable to find work, or they may have left the workforce or school, either temporarily or permanently, to start a family. This indicator provides information on youth at a time when most are transitioning into postsecondary education or the workforce. This is a critical period for young people as they pursue their educational goals and career paths.

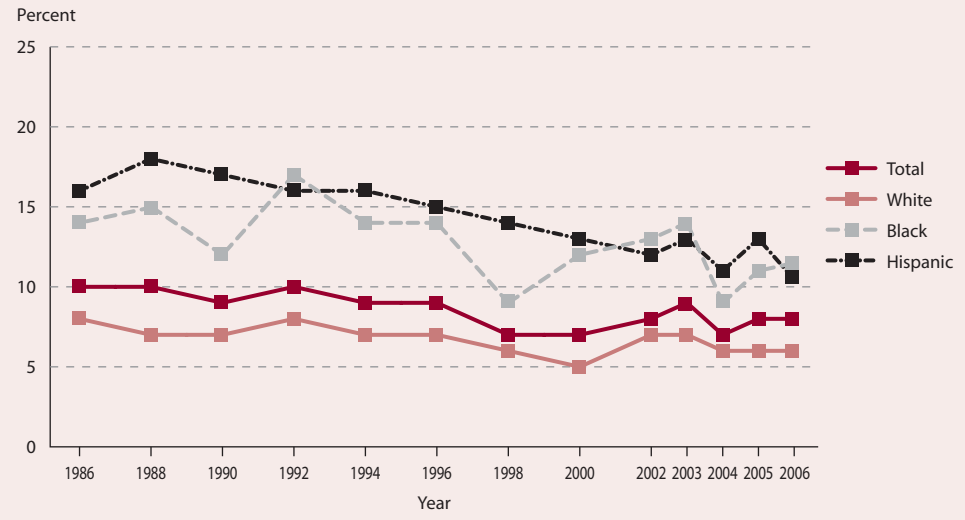
From 1986 through 2006, the percentage of youth ages 16–19 neither enrolled in school nor working remained between 7 and 10 percent annually (see supplemental table 19-1). Within any single year, the percentage of such youth varied across certain subgroups of the population. In 2006, for example, the percentage of such youth varied by age, education, race/ethnicity, citizenship, and family poverty, though it was not measurably different by sex.

Differences were found by race/ethnicity and citizenship. In each year observed, higher percentages of Black and Hispanic youth than White youth were neither enrolled in school nor working. In 2006, 11 percent each of Hispanic and Black youth were neither enrolled in school nor working, compared with 6 percent each of White and Asian youth. A greater percentage of non-U.S. citizen youth (13 percent) were neither enrolled in school nor working than U.S.-born youth (7 percent).

Family poverty was positively related to the prevalence of youth who were neither enrolled in school nor working. In each year observed from 1986 to 2006, the percentage of such youth was higher among youth from poor and near-poor families than among youth from nonpoor families. In 2006, these percentages were 17 percent, 10 percent, and 5 percent, respectively.

In 2006, about 12 percent of youth ages 18–19 were neither in school nor working, compared with 4 percent of youth ages 16–17. Higher percentages of youth ages 18–19 than youth ages 16–17 were neither in school nor working across all years observed. Of youth with less than a high school diploma or the equivalent, a greater percentage of youth ages 18–19 than youth ages 16–17 were neither in school nor working in 2006 (13 vs. 3 percent). This pattern held true for all years observed.

YOUTH EMPLOYMENT: Percentage of youth ages 16–19 who were neither enrolled in school nor working, by race/ethnicity: Selected years, 1986–2006



NOTE: Race categories exclude persons of Hispanic ethnicity. The Current Population Survey (CPS) questions used to obtain educational attainment data were changed in 1992. In 1994, the survey instrument for the CPS was changed and weights were adjusted. Estimates are revised from previous editions. The data presented here represent the percentage of civilian, noninstitutionalized 16- to 19-year-olds who are neither enrolled in school nor working. See *supplemental note 2* for more information on the CPS and for an explanation of the "neither enrolled nor working" variable.

SOURCE: U.S. Department of Commerce, Census Bureau, Current Population Survey (CPS), March and Annual Social and Economic Supplement, selected years, 1986–2006.

FOR MORE INFORMATION:

Supplemental Notes 1, 2

Supplemental Table 19-1

Economic Outcomes

Annual Earnings of Young Adults

Adults ages 25–34 with a bachelor's degree or higher have higher median earnings than their peers with less education, and these earnings differences increased from 1980 to 2005.

This indicator examines the relationship between education and median annual earnings, in constant 2004 dollars, for young adults ages 25–34 who work full time throughout a full year.

For each year shown between 1980 and 2005, earnings for young adults increased when education level increased (see supplemental tables 20-1 and 20-2). For example, young adults with at least a bachelor's degree consistently had higher median earnings than those with less education. This pattern generally held for male, female, White, Black, Hispanic, and Asian subgroups. Moreover, for the entire population and generally for each subgroup, the difference between the earnings of those with at least a bachelor's degree and those with less education grew during this period. For example, males with a bachelor's or higher degree earned 19 percent more than male high school completers[1] in 1980 and 64 percent more than male high school completers in 2005 (see supplemental table 20-1).

During the period between 1980 and 2005, earnings fluctuated among those with at least a bachelor's degree and decreased among those with less education, thus contributing to the growth in the median income gap. For example, the earnings of those with a high school diploma[1] decreased by $5,600 between 1980 and 2005, while the earnings of those with a bachelor's or higher degree increased by $2,300.

Males have higher median earnings than females at each level of educational attainment. However, the gaps between the sexes at each educational level were smaller in 2005 than in 1980. For example, males with a bachelor's degree or higher earned 36 percent more than their female counterparts in 1980, compared with 23 percent more in 2005.

In 2005, Asian young adults with a bachelor's degree or higher generally had higher earnings than their White peers, and both groups had higher earnings than their Black and Hispanic peers (see supplemental table 20-2). Unlike in 2004 where a difference was detected, in 2005 there were no measurable differences in earnings between White young adults who did not complete high school and their Black and Hispanic peers.

ANNUAL EARNINGS: Median annual earnings of full-time, full-year wage and salary workers ages 25–34, by educational attainment: Selected years, 1980–2005

[1] Includes those who earned a high school diploma or equivalent (e.g., a General Educational Development [GED] certificate).

NOTE: Earnings are presented in 2004 constant dollars by means of the Consumer Price Index (CPI) to eliminate inflationary factors and allow direct comparison across years. See *supplemental note 11* for further discussion. *Full-year worker* refers to those who were employed 50 or more weeks the previous year; *full-time worker* refers to those who were usually employed 35 or more hours per week. The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the survey instrument for the CPS was changed and weights were adjusted. See *supplemental note 2* for further discussion.

SOURCE: U.S. Department of Commerce, Census Bureau, Current Population Survey (CPS), March and Annual Social and Economic Supplement, selected years, 1981–2006.

FOR MORE INFORMATION:
Supplemental Notes 1, 2, 11
Supplemental Tables 20-1, 20-2