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 2000–2005 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 when data are available. There are 19 indicators in this section: 10, prepared for this year's volume, appear on the following pages, and all 19, 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, writing, mathematics, and other academic subject areas, and the progress being made in improving their performance and closing their achievement gaps. 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.

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 proceed 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 development of specific skills and proficiency in reading and mathematics from kindergarten through 3rd grade.

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 civic knowledge, community volunteerism, and voting participation. Other measures are patterns of communication and media use, adult literary reading habits, 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.

Early Childhood Outcomes

Children's Skills and Proficiency in Reading and Mathematics Through Grade 3

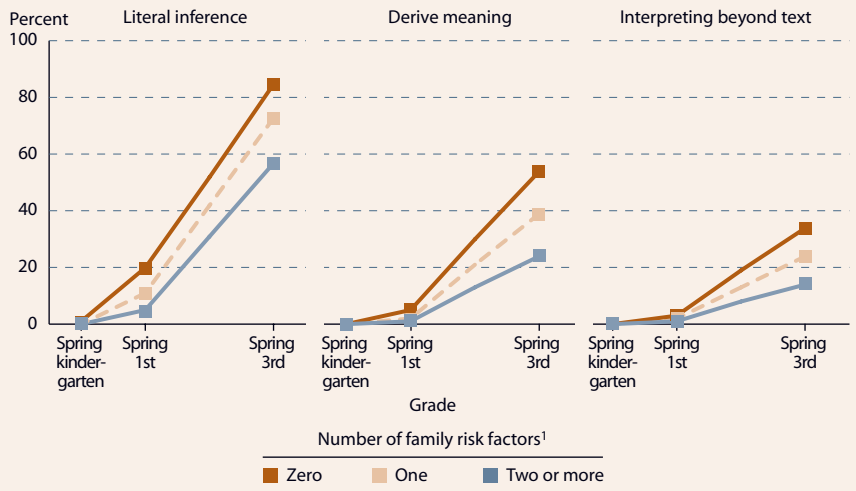
Smaller percentages of children from homes with more risk factors, such as poverty and a primary home language other than English, mastered specific reading and mathematics skills by grade 3, compared with children with fewer or no risk factors.

Basic proficiency in reading and mathematics is a foundation for later success in schooling, but not all children master the fundamental skills needed for proficiency at the same rate in their early years. This indicator looks at the different rates at which children who started kindergarten in fall 1998 mastered fundamental reading and mathematics skills.

By spring of grade 3, almost all of these children (95 percent or more) could identify ending sounds, common sight words, and words in context in reading, and recognize ordinality and sequence and add and subtract in mathematics (see supplemental tables 8-1 and 8-2). By 3rd grade, many of these students has also acquired more complex skills, such as making literal inferences based upon cues stated in text, identifying clues to derive meaning in text, and making interpretations beyond text in reading, and multiplying and dividing, understanding place value in integers to the hundreds place, and using rate and measurement to solve word problems in mathematics. For example, overall, 4 percent of these children were proficient at deriving meaning from text in spring of 1st grade compared with 46 percent by spring of 3rd grade.

The percentage of these children who had mastered these more complex skills by spring of grade 3, however, tended to vary according to the number of family risk factors in kindergarten, defined as living in poverty, non-English primary home language, mother's education less than a high school diploma/GED, and single-parent household. In general, children whose families had more risk factors were less likely to have mastered more complex reading and mathematics skills by spring of 3rd grade than children from families with fewer risk factors. For example, in reading, the percentage of children with no family risk factors who were proficient at deriving meaning from text increased from zero to 54 percent from spring kindergarten to grade 3, compared with an increase from zero to 24 percent for children with two or more risk factors. In mathematics, the percentage of children with no family risk factors who were proficient at understanding place value increased from zero to 50 percent from spring kindergarten to grade 3, compared with an increase from zero to 21 percent for children with two or more risk factors.

EARLY READING PROFICIENCY: Acquisition of reading skills from spring kindergarten to spring 3rd grade among children who began kindergarten in fall 1998, by number of family risk factors: 1998–2002



[1] Family risk factors include living below the federal poverty level, primary home language was non-English, mother's highest education was less than a high school diploma/GED, and living in single-parent household, as measured in kindergarten. Values range from zero to four. See *supplemental note 1* for more information on mother's education and poverty.

NOTE: Estimates reflect the sample of children assessed in English in all assessment years (approximately 19 percent of Asian children and approximately 30 percent of Hispanic children were not assessed). Data were not collected in 2001, when most of the children were in 2nd grade. Although most of the sample was in 3rd grade in 2002, 10 percent were in 2nd grade and 1 percent were enrolled in other grades. See *supplemental note 3* for more information on the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS–K).

SOURCE: Rathbun, A., and West, J. (2004). *From Kindergarten Through Third Grade: Children's Beginning School Experiences* (NCES 2004–007), table A-9 and previously unpublished tabulation (November 2004). Data from U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998 (ECLS–K), Longitudinal Kindergarten-First Grade Public-Use Data File and Third Grade Restricted-Use Data File.

FOR MORE INFORMATION:

Supplemental Notes 1, 3

Supplemental Tables 8-1, 8-2

Academic Outcomes

Reading Performance of Students in Grades 4 and 8

While 8th-graders' reading performance improved between 1992 and 2003, no difference was detected in the performance of 4th-graders.

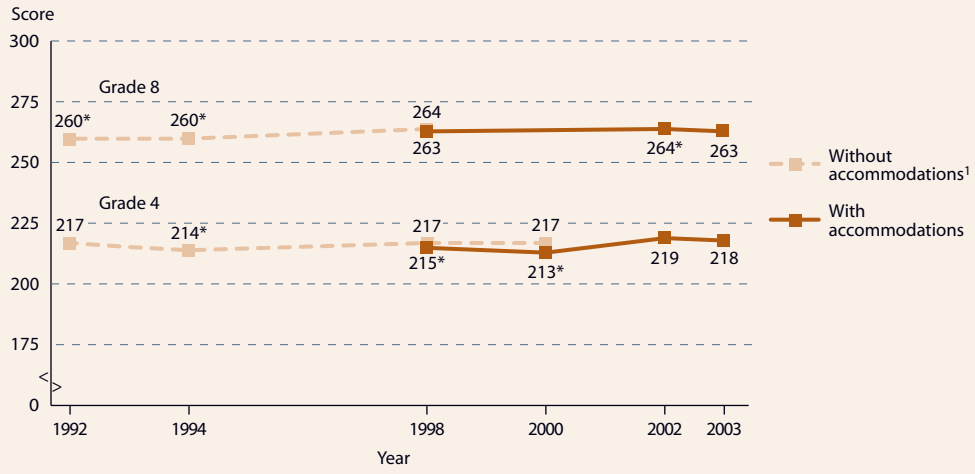
The National Assessment of Educational Progress (NAEP) has assessed performance in reading in grades 4 and 8 in public and private schools since 1992, using the assessment reported here. The average reading score, which represents what students know and can do, of 4th-graders in 2003 was not significantly different from that in 1992. After decreasing in the late 1990s, the average score increased from 2000 to 2002, with the score in 2003 not significantly different from that in 2002. The average score of 8th-graders was higher in 2003 than in 1992 but decreased 1 point from 264 in 2002 to 263 in 2003.

Achievement levels, 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 who read at or above *Proficient* increased between 1992 and 2003 (see supplemental table 9-1). The percentage of 8th-graders at or above *Basic* was higher in 2003 than in 1992. Changes in percentile scores show improvements or declines for higher- to lower-performing students. In 4th grade, scores at the 75th percentile were higher in 2003 than in 1992. There were increases in the scores in grade 8 at the 10th, 25th, 50th and 75th percentiles.

Certain subgroups outperformed others in reading in 2003. Females outperformed males in both grades (see supplemental table 9-2). White and Asian/Pacific Islander students had higher average scores than American Indian, Hispanic, and Black students in grades 4 and 8. Additionally, in grade 4, White students outperformed Asian/Pacific Islander students and Hispanic students outperformed Black students. The number of books in the home at both grades was positively associated with student achievement, as was parents' education at grade 8. The level of poverty in the school, as measured by the percentage of students eligible for free or reduced-price lunch, was negatively associated with student achievement in both grades in 2003.

NAEP also provides a comparison of public schools among the states in grades 4 and 8. In grade 4, of the 42 states and jurisdictions that participated in 1992 and 2003, the average reading score increased in 13 and decreased in 5 (see supplemental table 9-3). In grade 8, of the 39 states and jurisdictions that participated in 1998 and 2003, 8 experienced an increase in achievement, and 7 experienced a decrease.

READING PERFORMANCE: Average reading scores for 4th- and 8th-graders: Selected years, 1992–2003



* Significantly different from 2003.

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

NOTE: In addition to allowing for accommodations, the accommodations-permitted results at grade 4 (1998–2003) differ slightly from previous years' results, and from previously reported results for 1998 and 2000, due to changes in sample weighting procedures. Beginning in 2002, the NAEP national sample was obtained by aggregating the samples from each state, rather than by obtaining an independently selected national sample. As a consequence, the size of the national sample 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. In years with assessments for accommodations permitted and not permitted, NAEP focuses on comparisons using the accommodations-permitted results. The 2003 reading assessment did not include students in grade 12. See *supplemental note 4* for more information on testing accommodations, achievement levels, and the National Assessment of Educational Progress (NAEP).

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES). (2003). *The Nation's Report Card: Reading Highlights 2003* (NCES 2004–452) and NAEP web data tool (http://nces.ed.gov/nationsreportcard/naepdata/search.asp). Data from U.S. Department of Education, NCES, National Assessment of Educational Progress (NAEP), selected years, 1992–2003 Reading Assessments.

FOR MORE INFORMATION:

Supplemental Notes 1, 4

Supplemental Tables 9-1, 9-2, 9-3

Academic Outcomes

Mathematics Performance of Students in Grades 4 and 8

The mathematics performance of 4th- and 8th-graders improved steadily from 1990 to 2003. For both grades, the average scores in 2003 were higher than in all previous assessments.

The National Assessment of Educational Progress (NAEP) has assessed performance in mathematics in grades 4 and 8 in public and private schools since 1990, using the assessment reported here. Average scores, which represent what students know and can do, were higher in 2003 than in all previous assessments for 4th- and 8th-graders. The average score in grade 4 increased from 226 in 2000 to 235 in 2003, and the average score in grade 8 increased from 273 to 278.

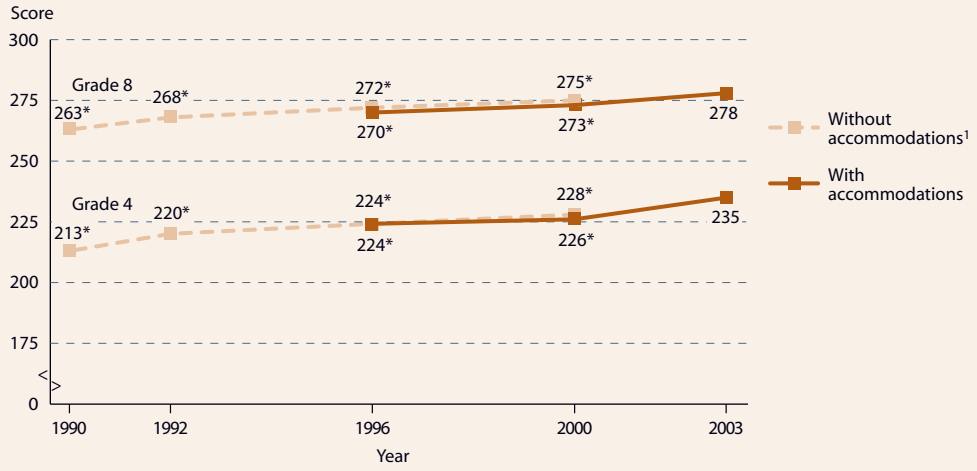
Achievement levels, which identify what students should know and be able to do at each grade, provide another measure of student performance. The percentages of 4th- and 8th-graders at or above *Basic* and *Proficient* and at *Advanced* in mathematics were higher in 2003 than in 1990 (see supplemental table 10-1).

Changes in percentile scores show improvements for higher- to lower-performing students. In both grades 4 and 8, students' scores at the 10th, 25th, 50th, 75th, and 90th percentiles were higher in 2003 than in any previous assessment, except for the 75th and 90th percentiles at grade 8 in 2000 when accommodations were not permitted.

Certain subgroups outperformed others in mathematics in 2003. Males, on average, scored higher than females in grades 4 and 8 (see supplemental table 10-2). In both grades, White and Asian/Pacific Islander students achieved higher scores than Black, Hispanic, and American Indian students. Hispanic and American Indian students outperformed Black students. In grade 8, student coursetaking and parents' education were positively associated with student achievement. The level of poverty in the school, as measured by the percentage of students eligible for free or reduced-price lunch, was negatively associated with student achievement in both grades in 2003.

NAEP also provides a state comparison of public schools in grades 4 and 8. In grade 4, all 42 states and jurisdictions that participated in 1992 and 2003 experienced an increase between the 2 years, and the average score of public school students nationally increased 15 points (see supplemental table 10-3). In grade 8, the average score for all 38 participating states and jurisdictions increased from 1990 to 2003, and the average score of public school students nationally increased 14 points.

MATHEMATICS PERFORMANCE: Average mathematics scores for 4th- and 8th-graders: Selected years, 1990–2003



* Significantly different from 2003.

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

NOTE: In addition to allowing for accommodations, the accommodations-permitted results (1996–2003) differ slightly from previous years' results, and from previously reported results for 1996 and 2000, due to changes in sample weighting procedures. The NAEP national sample in 2003 was obtained by aggregating the samples from each state, rather than by obtaining an independently selected national sample. As a consequence, the size of the national sample 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. The 2003 mathematics assessment did not include students in grade 12. See *supplemental note 4* for more information on testing accommodations, achievement levels, and the National Assessment of Educational Progress (NAEP). For more information on differences between NAEP and the Trends in International Mathematics and Science Study (TIMSS) used in *indicators 11* and *12* and the Program for International Student Assessment (PISA) used in *indicator 13*, see http://nces.ed.gov/timss/pdf/naep_timss_pisa_comp.pdf.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES). (2003). *The Nation's Report Card: Mathematics Highlights 2003* (NCES 2004–451) and NAEP web data tool (http://nces.ed.gov/nationsreportcard/naepdata/search.asp). Data from U.S. Department of Education, NCES, National Assessment of Educational Progress (NAEP), selected years 1990–2003 Mathematics Assessments.

FOR MORE INFORMATION:

Supplemental Notes 1, 4

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

Academic Outcomes

International Comparison of 4th- and 8th-Grade Performance in Mathematics

U.S. 4th-graders showed no measurable change in mathematics from 1995 to 2003, while 8th-graders showed improvement over this period.

The Trends in International Mathematics and Science Study (TIMSS) conducted in 2003 assessed students' mathematics performance at grade 4 in 25 countries and at grade 8 in 45 countries. The assessment is curriculum based and measures what students have actually learned against what is expected to be typically taught in the participating countries by the end of grades 4 and 8.

U.S. students at grades 4 and 8 scored above the international average in 2003 (see supplemental table 11-1). U.S. 4th-graders scored higher, on average, than students in 13 countries, while students in 11 countries outperformed U.S. students. At grade 8, the average U.S. mathematics score was higher than those of students in 25 countries, but below the average scores of students in 9 countries.

While the international average scores of males and females were similar at grades 4 and 8 in 2003, there were measurable differences in a few countries. At grade 4, males outperformed females in the United States and two other countries, while females outperformed males only in Armenia. At grade 8, no measurable difference was detected between the U.S. average scores of males and females; males outperformed females in five countries and females outperformed males in four countries.

TIMSS previously assessed students in mathematics at grade 4 in 1995 and at grade 8 in 1995 and 1999. Comparing 2003 scores with these scores provides additional perspective on U.S. students' performance. For example, although there was no measurable difference between U.S. 4th-graders' average scores in 1995 and 2003, the United States' standing declined relative to the 14 other countries participating in both assessments. In 1995, students in four of these countries outperformed U.S. students on average, compared with students in seven countries outperforming U.S. students in 2003 (see supplemental table 11-2).

At grade 8, average U.S. mathematics scores increased from 1995 to 2003. No difference was detected in average scores between 1999 and 2003, indicating that the increase occurred primarily between 1995 and 1999. The standing of U.S. 8th-graders between 1995 and 2003 increased relative to the 21 other countries participating in both assessments: in 1995, students in 12 countries outperformed U.S. students, while students in 7 countries outperformed U.S. students in 2003.

INTERNATIONAL MATHEMATICS PERFORMANCE: Average mathematics scores of 8th-grade students, by country: 2003

Average score relative to the United States	Country and score					
Significantly higher	Singapore	605	Chinese Taipei	585	Netherlands[2]	536
	Korea, Republic of	589	Japan	570	Estonia	531
	Hong Kong SAR[1,2]	586	Belgium-Flemish	537	Hungary	529
Not significantly different	Malaysia	508	Australia	505	Scotland[2]	498
	Latvia	508	**United States[3]**	**504**	Israel[3]	496
	Russian Federation	508	Lithuania[4]	502	New Zealand	494
	Slovak Republic	508	Sweden	499		
Significantly lower	Slovenia	493	Cyprus	459	Palestinian National Authority	390
	Italy	484	Macedonia, Republic of[3]	435	Chile	387
	Armenia	478	Lebanon	433	Morocco[3]	387
	Serbia	477	Jordan	424	Philippines	378
	Bulgaria	476	Iran, Islamic Republic of	411	Botswana	366
	Romania	475	Indonesia[4]	411	Saudi Arabia	332
	International average[5]	*466*	Tunisia	410	Ghana	276
	Norway	461	Egypt	406	South Africa	264
	Moldova, Republic of	460	Bahrain	401		

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

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

[3] Country did not meet international sampling or other guidelines.

[4] National desired population does not cover all of the international desired population.

[5] The international average reported here differs from that reported in Mullis et al. (2004) because England was deleted from the international average for not satisfying guidelines for sample participation rates.

NOTE: Countries were required to sample students in the upper of the two grades that contained the larger number of 9- and 13-year-olds. In the United States and most countries, this corresponds to grades 4 and 8. See *supplemental note 5* for more information on this study. For information on differences between TIMSS and the National Assessment of Educational Progress (NAEP) used in *indicators 9* and *10* and the Program for International Student Assessment (PISA) used in *indicator 13*, see http://nces.ed.gov/timss/pdf/naep_timss_pisa_comp.pdf.

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2003* (NCES 2005–005), table 3. Data from the International Association for the Evaluation of Educational Achievement (IEA), TIMSS 1995, 1999, and 2003 assessments.

FOR MORE INFORMATION:

Supplemental Note 5

Supplemental Tables 11-1, 11-2

NCES 2005–112

Mullis et al. 2004

Academic Outcomes

International Comparison of 4th- and 8th-Grade Performance in Science

U.S. 4th-graders showed no measurable change in science from 1995 to 2003, while 8th-graders showed improvement over this period.

The Trends in International Mathematics and Science Study (TIMSS) conducted in 2003 assessed student performance in science at grade 4 in 25 countries and at grade 8 in 45 countries. The assessment is curriculum based and measures what students have actually learned against what is expected to be typically taught in the participating countries by the end of grades 4 and 8.

On average, U.S. students at grades 4 and 8 scored above the international average (see supplemental table 12-1). At grade 4, U.S. students outperformed students in 16 countries, while students in 3 countries scored higher, on average, than U.S. students. At grade 8, U.S. students outperformed students in 32 countries, while students in 7 countries outperformed U.S. students.

The international average scores of males and females were similar at grade 4, while males outperformed females at grade 8 in 2003. Differences by sex were measurable in a few countries. At grade 4, while no measurable difference was detected in the United States between the scores of males and females, males outperformed females in three countries and females outperformed males only in the Islamic Republic of Iran. At grade 8, males outperformed females in the United States and 17 other countries, while females outperformed males in 5 countries.

TIMSS previously assessed students in science at grade 4 in 1995 and at grade 8 in 1995 and 1999. Comparing 2003 scores with these earlier scores provides additional perspective on U.S. students' performance. For example, although there was no measurable difference between U.S. 4th-graders' average scores in 1995 and 2003, the standing of the United States declined relative to that of the 14 other countries participating in both assessments. U.S. 4th-graders outperformed students in 13 of these countries in 1995, on average, compared with outperforming students in 8 countries in 2003 (see supplemental table 12-2).

At grade 8, U.S. students scored higher, on average, in 2003 than in 1995 or 1999, with most of the increase occurring between 1999 and 2003. As a result, the standing of the U.S. 8th-graders increased relative to the 21 other countries participating in both the 1995 and 2003 assessments. In 1995, U.S. 8th-graders outperformed students in 5 countries, on average, compared with outperforming students in 11 countries in 2003.

INTERNATIONAL SCIENCE PERFORMANCE: Average science scores of 8th-grade students, by country: 2003

Average score relative to the United States	Country and score					
Significantly higher	Singapore	578	Hong Kong SAR[1,2]	556	Hungary	543
	Chinese Taipei	571	Estonia	552		
	Korea, Republic of	558	Japan	552		
Not significantly different	Netherlands[2]	536	Australia	527	Slovenia	520
	United States[3]	**527**	Sweden	524	New Zealand	520
Significantly lower	Lithuania[4]	519	Jordan	475	Egypt	421
	Slovak Republic	517	*International average[5]*	*473*	Indonesia[4]	420
	Belgium-Flemish	516	Moldova, Republic of	472	Chile	413
	Russian Federation	514	Romania	470	Tunisia	404
	Latvia	512	Serbia	468	Saudi Arabia	398
	Scotland[2]	512	Armenia	461	Morocco[3]	396
	Malaysia	510	Iran, Islamic Republic of	453	Lebanon	393
	Norway	494	Macedonia, Republic of[3]	449	Philippines	377
	Italy	491	Cyprus	441	Botswana	365
	Israel[3]	488	Bahrain	438	Ghana	255
	Bulgaria	479	Palestinian National Authority	435	South Africa	244

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

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

[3] Country did not meet international sampling or other guidelines.

[4] National desired population does not cover all of the international desired population.

[5] The international average reported here differs from that reported in Martin et al. (2004) because England was deleted from the international average for not satisfying guidelines for sample participation rates.

NOTE: Countries were required to sample students in the upper of the two grades that contained the larger number of 9- and 13-year-olds. In the United States and most countries, this corresponds to grades 4 and 8. See *supplemental note 5* for more information on this study. For information on differences between TIMSS and the National Assessment of Educational Progress (NAEP) used in *indicators 9* and *10* and the Program for International Student Assessment (PISA) used in *indicator 13*, see http://nces.ed.gov/timss/pdf/naep_timss_pisa_comp.pdf.

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2003* (NCES 2005–005), table 9. Data from the International Association for the Evaluation of Educational Achievement (IEA), TIMSS 1995, 1999, and 2003 assessments.

FOR MORE INFORMATION:

Supplemental Note 5

Supplemental Tables 12-1, 12-2

NCES 2005–106

Martin et al. 2004

Academic Outcomes

International Comparisons of Mathematics Literacy

U.S. 15-year-olds performed below the international average of 29 industrialized countries in both mathematics literacy and problem solving in 2003.

The Program for International Student Assessment (PISA) 2003 reports on the mathematics literacy and problem-solving ability of 15-year-olds in 29 participating Organization for Economic Cooperation and Development (OECD) industrialized countries and 11 non-OECD countries. By assessing students near the end of compulsory schooling, PISA provides information about how well prepared students will be for their future as they approach an important transition point for education and work.

U.S. 15-year-olds, on average, scored below the international average for participating OECD countries in combined mathematics literacy, specific mathematics skill areas (space and shape, change and relationships, quantity, and uncertainty), and problem solving (see supplemental table 13-1). In combined mathematics literacy, students in 20 OECD countries and 3 non-OECD countries outperformed U.S. students, while U.S. students outperformed students in 5 OECD countries and 7 non-OECD countries. In problem solving, students in 22 OECD countries and 3 non-OECD countries outperformed U.S. students, while U.S. students outperformed students in 3 OECD countries and 6 non-OECD countries.

The OECD average score of males was greater than that of females in combined mathematics literacy and in each of the four mathematics subscales in 2003 (see supplemental table 13-2). Males outperformed females in two-thirds of the participating countries in combined mathematics literacy; Iceland was the only country where females outperformed males. In the United States, males outperformed females in both combined mathematics literacy and the space and shape subscale. No such sex difference was detected among U.S. 15-year-olds in their performance on the other three subscales. In 33 of the 40 countries, including the United States, there were no performance differences between males and females in problem solving.

The cutoff scores for both the top and bottom 10 percent of U.S. students (the highest and lowest achievers) in combined mathematics literacy were lower than the overall OECD cutoff scores for these percentiles, respectively (see supplemental table 13-3).

NOTE: The OECD average is the average of the national averages of the Organization for Economic Cooperation and Development (OECD) member countries with data available. Because the Program for International Student Assessment (PISA) is principally an OECD study, the results for non-OECD countries are not included in the OECD average. Due to low response rates, data for the United Kingdom are not included in this indicator. Non-OECD countries participating in this assessment are Brazil, Hong Kong-China, Indonesia, Latvia, Liechtenstein, Macao-China, Russian Federation, Serbia and Montenegro, Thailand, Tunisia, and Uruguay. For more information on this study and a description of *mathematics literacy* and *problem solving*, see *supplemental note 5*. For information on differences between PISA and the National Assessment of Educational Progress (NAEP) used in *indicators 9* and *10* and the Trends in International Mathematics and Science Study (TIMSS) used in *indicators 11* and *12*, see http://nces.ed.gov/timss/pdf/naep_timss_pisa_comp.pdf.

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *International Outcomes of Learning in Mathematics Literacy and Problem Solving: PISA 2003 Results from the U.S. Perspective* (NCES 2005–003), table 2. Data from Organization for Economic Cooperation and Development (OECD), Program for International Student Assessment (PISA), 2003.

FOR MORE INFORMATION:

Supplemental Note 5

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

NCES 2005–112

NCES 2005–107

OECD 2004a, 2004b

INTERNATIONAL MATHEMATICS LITERACY: Average combined mathematics literacy scores of 15-year-olds, by country: 2003

Average score relative to the United States	Country and score					
Significantly higher	Hong Kong-China	550	Switzerland	527	Sweden	509
	Finland	544	Macao-China	527	Austria	506
	Korea	542	New Zealand	523	Germany	503
	Netherlands	538	Australia	524	Ireland	503
	Liechtenstein	536	Czech Republic	516	*OECD average*	*500*
	Japan	534	Iceland	515	Slovak Republic	498
	Canada	532	Denmark	514	Norway	495
	Belgium	529	France	511	Luxembourg	493
Not significantly different	Poland	490	Spain	485	Latvia	483
	Hungary	490	**United States**	**483**		
Significantly lower	Russian Federation	468	Serbia and Montenegro	437	Mexico	385
	Portugal	466	Turkey	423	Indonesia	360
	Italy	466	Uruguay	422	Tunisia	359
	Greece	445	Thailand	417	Brazil	356

Academic Outcomes

Student Reading and Mathematics Performance in Public Schools by Urbanicity

In 2003, 4th- and 8th-grade students in large central city public schools were outperformed by their peers in other types of communities in reading and mathematics.

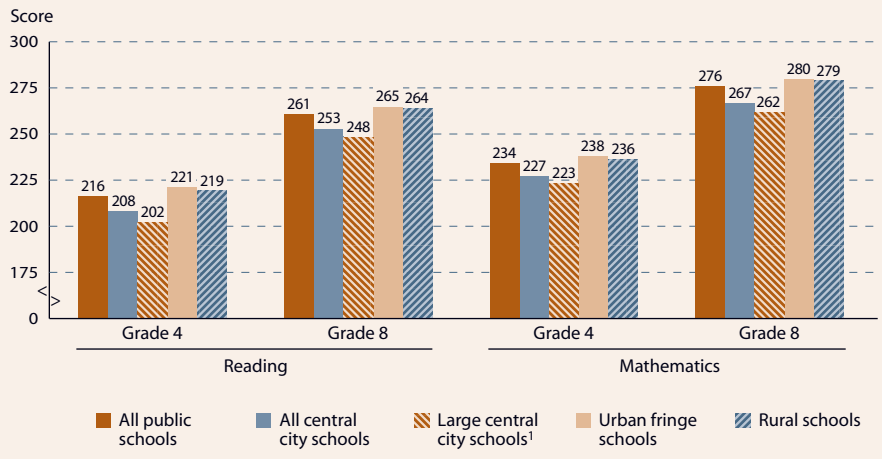
The National Assessment of Educational Progress (NAEP) assessed the performance of 4th- and 8th-graders in mathematics and reading in 2003. Examining the results by urbanicity provides an opportunity to compare the performance of public school students in large central cities with that of public school students in other types of communities. A large central city school is defined as a school in a central city within a Metropolitan Statistical Area (MSA) of 2.5 million or larger.

The distribution of students in large central city public schools differs from the distribution of students in other public schools in notable ways. For example, in 2003, large central city schools were the only types of schools in which the percentages of Black and Hispanic students were greater than the percentage of White students in grades 4 and 8 (see supplemental table 14-1). In addition, schools in large central cities, on average, were more likely than schools in other types of communities to have more than 75 percent of their 4th- and 8th-graders eligible for free or reduced-price lunch and to have a minority enrollment of more than 75 percent.

Overall, in 2003, 4th- and 8th-graders in large central city public schools had lower average scores, which represent what students know and can do, in reading and mathematics than students in other public schools, including those in rural, urban fringe, and all central city schools (see supplemental table 14-2).

Achievement levels, which identify what students should know and be able to do, provide another measure of student performance. In both reading and mathematics, the percentages of 4th- and 8th-graders in large central city public schools who performed at or above *Basic* and at or above *Proficient* were lower than the national percentages at each level. In addition, the percentages of students in large central city schools performing at or above each of these levels were lower than the percentages of students in rural, urban fringe, and all central city public schools. For example, while 30 percent of all public school 4th-graders performed at or above *Proficient* in reading in 2003, only 18 percent of 4th-graders in large central cities did so, compared with larger percentages of urban fringe, rural, and all central city students (34, 32, and 22 percent, respectively).

URBAN PERFORMANCE: Average reading and mathematics scores of public school students, by grade and school location: 2003



[1] "Large central city" includes all students enrolled in schools that are located in a "central city" of a Metropolitan Statistical Area (MSA) of at least 2.5 million in total population.

NOTE: An MSA is a Census Bureau designation encompassing a "large population nucleus together with adjacent communities that have a high degree of economic and social integration with that core." The majority of large central city schools in this indicator are in what are commonly considered to be inner cities. A few schools not thought to be in what is commonly considered to be an "inner city" are included in this category because within each MSA the *largest city* is designated a "central city," even if the geographic area of this city does not technically meet the Census requirements concerning population size and commuting patterns to be designated as a "central city" area. For more information about community type, see *supplemental note 1*. For more information on the National Assessment of Educational Progress (NAEP), see *supplemental note 4*.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2003 Reading and Mathematics Assessments, previously unpublished tabulation (January 2005).

FOR MORE INFORMATION:

Supplemental Notes 1, 4

Supplemental Tables 14-1, 14-2

NCES 2004–458

NCES 2004–459

Adult Literacy

Trends in Adult Literary Reading Habits

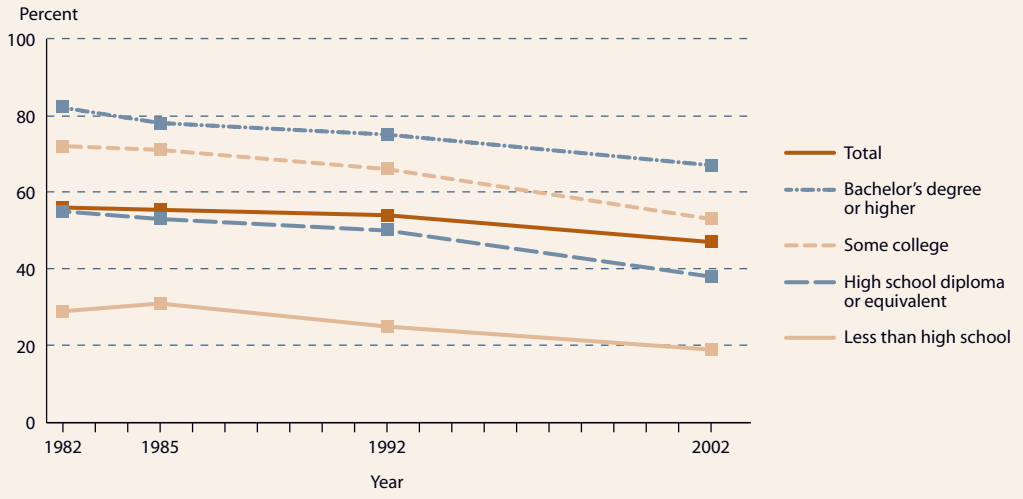
The percentage of adults age 25 or older who reported having read a novel, short story, play, or poem in the past 12 months decreased between 1982 and 2002.

This indicator examines trends in literary reading (novels, short stories, plays, and poems) from 1982 to 2002 among adults age 25 or older and the relationship between reading habits and educational attainment. The percentage of the population that reads literature regularly is an important measure of adult literacy.

The percentage of adults age 25 or older who reported reading any literature in the past 12 months declined between 1982 and 2002, from 56 to 47 percent, with most of the decrease occurring between 1992 and 2002 (see supplemental table 15-1). White adults were more likely than Black and Hispanic adults to report literary reading from 1982 to 2002. Between the two years, the Black literary reading rate was about the same, while the White and Hispanic reading rates decreased. Females were more likely to report literary reading than males, and females had a smaller decline in reading than males from 1982 to 2002. Adults ages 25–44 had a larger decline in the literary reading rate than older adults during this period.

A positive relationship exists between reading and educational attainment: the more education a person has, the more likely that person is to report having read literature in the past 12 months. For example, in 2002, 19 percent of adults age 25 or older with less than a high school diploma reported that they had read literature, compared with 67 percent of those with a bachelor's degree or higher (see supplemental table 15-2). Other factors such as family income, sex, and race/ethnicity are also related to literary reading. The positive relationship between educational attainment and literary reading persists even when one considers differences in reading rates associated with sex, family income, or race/ethnicity. For example, 13 percent of males and 25 percent of females with less than a high school diploma reported reading literature in 2002, compared with 58 and 76 percent, respectively, of their counterparts with a bachelor's degree or higher.

LITERARY READING: Percentage of adults age 25 or older who reported reading literature in the past 12 months, by educational attainment: Various years, 1982–2002



NOTE: Literature in this indicator refers to any type of fiction, plays, and poetry that the respondent felt should be included and not just what literary critics might consider literature. The 1982 and 1985 surveys asked "During the last 12 months, did you read any novels, short stories, or plays?" The 1992 and 2002 surveys, however, asked these as three separate questions and included the question, "With the exception of books required for work or school, did you read any books during the last 12 months?" On the 2002 survey, there was a strong correlation between literary reading and any book reading.

SOURCE: National Endowment for the Arts, Survey of Public Participation in the Arts as part of the 1982 Bureau of the Census National Crime Survey, 1985 and 1992 Bureau of the Census National Crime Victimization Survey, and 2002 Bureau of the Census Current Population Survey, August Supplement, previously unpublished tabulation (February 2005).

FOR MORE INFORMATION:

Supplemental Notes 1, 2

Supplemental Tables 15-1, 15-2

National Endowment for the Arts 2004a, 2004b

Economic Outcomes

Annual Earnings of Young Adults by Race/Ethnicity

White, Black, and Hispanic young adults who have at least a bachelor's degree have higher median earnings than their peers with less education, and these earnings differences increased between 1977 and 2003.

This indicator examines the relationship between education and median annual earnings, in constant 2003 dollars, for White, Black, and Hispanic young adults—ages 25–34—who work full time throughout a full year.

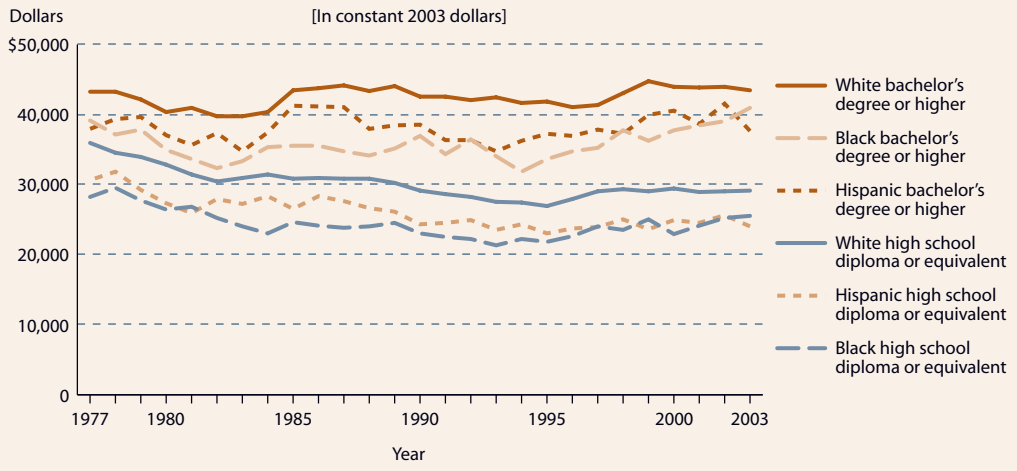
During the period from 1977 to 2003, the median annual earnings of all White, Black, and Hispanic young adults generally decreased through the early 1990s before increasing (see supplemental table 16-1). Overall, the median earnings of White and Hispanic young adults were lower in 2003 than in 1977, while there was no measurable change in the earnings of Black young adults.

For White, Black, and Hispanic young adults, earnings increase with education: for example, those with at least a bachelor's degree have higher median earnings than those with less education. In 2003, Black college graduates earned 60 percent more than Black high school completers[1] (see supplemental table 16-3). Conversely, Black workers who dropped out of high school earned 30 percent less than Black high school completers. The differences for White and Hispanic young adults followed the same pattern.

The median annual earnings of White, Black, and Hispanic young adults with at least a bachelor's degree in 2003 was not measurably different from their earnings in 1977, while the median earnings of their counterparts with less education generally fell. Consequently, the median earnings of those with a bachelor's degree or more increased relative to those with less education. For example, Whites with a bachelor's degree or higher earned 20 percent more than Whites whose highest level of education was high school completion in 1977, and 49 percent more in 2003. Increases among Black and Hispanic young adults during this period followed the same pattern.

In 2003, White young adults earned more than their Black and Hispanic peers at each level of educational attainment (see supplemental table 16-4). Between 1977 and 2003, the earnings gap between Blacks and Whites decreased among high school completers and those with less than a high school diploma. No change in the White-Black earnings gap was detected at higher levels of educational attainment, however. The overall gap in earnings between Whites and Hispanics increased during this period, but there was no measurable change in the gap at any of the levels of educational attainment.

ANNUAL EARNINGS: Median annual earnings of full-time, full-year wage and salary workers ages 25–34 whose highest educational level was a high school diploma or equivalent or a bachelor's degree or higher, by race/ethnicity: 1977–2003



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

NOTE: Black includes African American and Hispanic includes Latino. Race categories exclude Hispanic origin unless specified. Earnings presented in constant dollars by means of price indexes to eliminate inflationary factors and allow direct comparison across years. The Current Population Survey (CPS) questions used to obtain educational attainment were changed in 1992. In 1994, the survey methodology for the CPS was changed and weights were adjusted. See *supplemental note 2* for further discussion of the CPS. The Consumer Price Index (CPI) was used to adjust earnings into constant dollars. See *supplemental note 9* for further discussion of the CPI.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), Annual Social and Economic Supplement, 1978–2004, previously unpublished tabulation (January 2005).

FOR MORE INFORMATION:

Supplemental Notes 1, 2, 9

Supplemental Tables 16-1, 16-2, 16-3, 16-4

Economic Outcomes

Employment Outcomes of Young Adults by Race/Ethnicity

Young adults with a bachelor's degree are less likely to be unemployed than their peers with less education. This pattern holds for White, Black, and Hispanic young adults.

This indicator examines the relationships between educational attainment, employment, and race/ethnicity among young adults—individuals between the ages of 25 and 34. Most young adults in this age group have completed their formal education and are establishing themselves in a career.

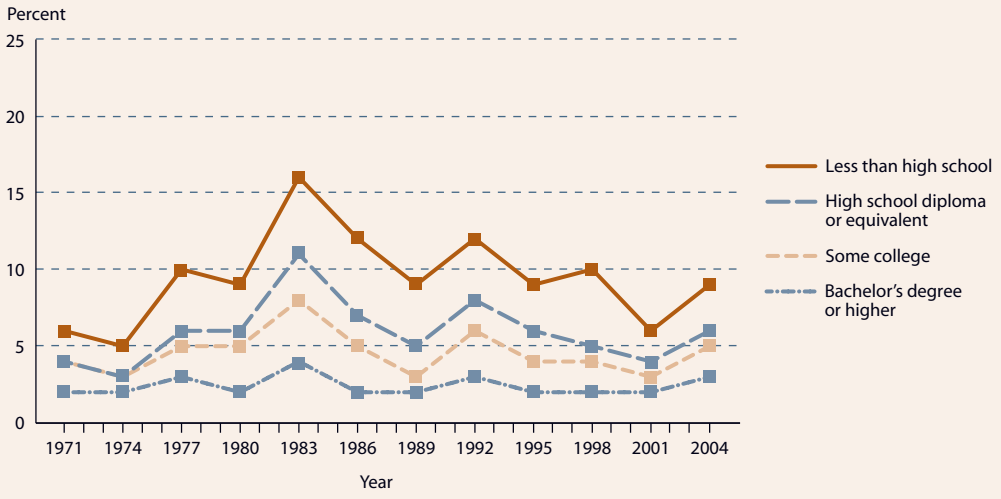
Five percent of young adults ages 25–34 were unemployed in 2004 (see supplemental table 17-1). This percentage has fluctuated since 1971 due to cyclical contractions and expansions in the U.S. economy. One constant throughout this period, though, has been the relationship between unemployment and educational attainment. That is, generally speaking the more education a person attains, the less likely that person is to be unemployed. For example, 9 percent of those ages 25–34 with less than a high school diploma were unemployed in 2004, compared with 6 percent of high school completers, 5 percent of those with some college education, and 3 percent of those with a bachelor's or higher degree.

As to the relationship between race/ethnicity and unemployment, Black adults ages 25–34 were more likely to be unemployed in 2004 than their White and Hispanic counterparts (9 vs. 4 and 6 percent, respectively). Within each racial/ethnic group, those with more education were generally less likely to be unemployed than their peers with less education.

Educational attainment and race/ethnicity were also related to rates of employment and full-time employment among young adults. Overall, those ages 25–34 with a bachelor's or higher degree were more likely than their peers with less education to be employed and to be employed full time in 2004; a similar pattern held for those with a bachelor's or higher degree versus those with less education within each racial/ethnic group. Black adults in general were less likely than White and Hispanic adults to be employed and to be employed full time.

Young adults with more education were also less likely than their peers with less education to be out of the labor force in 2004, a pattern that generally held for all racial/ethnic groups. However, Black and Hispanic young adults in general were more likely than Whites to be out of the labor force (21 percent for both Black and Hispanic vs. 15 percent for White young adults).

UNEMPLOYMENT: Percentage of adults ages 25–34 who were unemployed, by educational attainment: Selected years, 1971–2004



NOTE: Employment, unemployment, and not in the labor force rates in this indicator are the percentages of the total population. The labor force status was not available for a small percentage of respondents, but these respondents were included in the overall total population. Data are based upon sample surveys of the civilian noninstitutional population. In 1994, the survey methodology for the Current Population Survey (CPS) was changed and weights were adjusted. See *supplemental note 2* for more information.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), Annual Social and Economic Supplement, selected years, 1971–2004, previously unpublished tabulation (December 2004).

FOR MORE INFORMATION:
Supplemental Notes 1, 2
Supplemental Table 17-1