Introduction

Welcome to the fourth edition of Facts & Figures, a compendium of statistical indicators and research findings that relate to literacy as well as other educational and social conditions. Please be aware that we have broken this information into two categories: NCFL’s research on family literacy, and research from other sources on a variety of literacy topics. You may wish to contact the original source if confirming the information or requesting permission to use it. We hope this document is a useful source of information.
Other Literacy Research

Adult Literacy in the United States

Twenty-one percent to 23% of adults—or some 40 to 44 million of the 191 million in this country—demonstrate skills in the lowest level of prose, document, and quantitative proficiencies (Level 1).

- Many are unable to total an entry on a deposit slip, locate the time and place of a meeting on a form, or identify a piece of specific information in a brief news article.
- Some 25% to 28%, representing about 50 million adults nationwide, demonstrate skills in the next highest level of proficiency (Level 2) on each of the literacy scales. While their skills were more varied than those of individuals performing in Level 1, their repertoire was still quite limited.
- Only 18% to 21% of the respondents—34 to 40 million adults—performed in the two highest levels of prose, document, and quantitative literacy (Levels 4 and 5). These adults demonstrated proficiencies associated with the most challenging tasks in this assessment, many of which involved long and complex document and test passages. *(National Adult Literacy Survey (NALS), 1993. Surveys were conducted during 1992 with 13,600 individuals age 16 and older, selected randomly, plus additional surveys for selected groups. Total sample size was over 26,000. Results were reported in terms of levels [Level 1 is lowest, Level 5 is highest] for three literacy scales: prose, document, and quantitative.)*

Adults with fewer years of education were more likely to perform in the lower literacy levels than those who completed high school or received some type of postsecondary education:

- On each of the three literacy scales, some 75% to 85% of adults with 0 to 8 years of education are in Level 1, while less than 1% are in Levels 4 and 5.
- In contrast, among adults with a high school diploma, 16% to 20% are in the lowest level on each scale, while 10% to 13% are in the two highest levels. Only 4% of adults with four-year college degrees are in Level 1; 44% to 50% are in the two highest levels. *(National Adult Literacy Survey (NALS), 1993. Surveys were conducted during 1992 with 13,600 individuals age 16 and older, selected randomly, plus additional surveys for selected groups. Total sample size was over 26,000. Results were reported in terms of levels [Level 1 is lowest, Level 5 is highest] for three literacy scales: prose, document, and quantitative.)*

The National Assessment of Adult Literacy (NAAL), planned for the year 2002, is a national survey of the literacy abilities of adults. The sample is representative of the non-institutionalized population ages 16 and older who are living in households in the United States. The NAAL will inform policymakers and educators about the factors believed to play critical roles in the development of adult literacy abilities. Knowledge about the roles, relationships, and impacts of such factors will help improve educational practices and programs.

The NAAL is an in-person household survey that includes an assessment of English-language literacy skills and an interview to collect background information. The literacy assessment measures the ability to use printed or written materials to perform prose, document, or quantitative tasks that simulate real-life experiences. The background questionnaire will identify key population subgroups (i.e., by age, gender, race and ethnic
group, and language minority) and address issues related to disabilities, health, English as a second language, education, employment, and other literacy-related activities.

Data from the NAAL 2002 will provide accurate estimates of the current distribution of literacy abilities for the nation at large and will help policymakers target resources to address literacy-related issues. Moreover, by comparing results from 2002 to those from 1992, the NAAL will provide the first indicators in a decade of the nation’s progress toward achieving its National Education Goal for Adult Literacy. (http://nces.ed.gov/naal/design/about02.asp)

**Education and Economics**

A college degree is now the single greatest factor in determining access to better job opportunities and higher earnings. Two-thirds of the nation’s high school graduates lack the college degree that is critical to success. (Children's Defense Fund. (2000, May). *State of America’s children yearbook*. Washington, DC: Beacon Press.)


About 80% of adults 25 years old and over with a bachelor’s degree participated in the labor force in 2000 compared with 65% of persons who were high school graduates. 43% of those who were not high school graduates were in the labor force. (U.S. Department of Education. (2001). *Digest of education statistics* (NCES No. 2002-130). Washington, DC: Author.)

The 2000 unemployment rate for adults (25 years old and over) who had not completed high school was 6.4% compared with 3.5% for those with 4 years of high school and 1.7% for those with a bachelor’s degree or higher. (U.S. Department of Education. (2001). *Digest of education statistics* (NCES No. 2002-130). Washington, DC: Author.)

Four years after graduating from college in 1992-93, 89% of those receiving bachelor’s degrees were employed (81% full time and 8% part time), 2.7% were unemployed, and 8.1% were not in the labor force. (U.S. Department of Education. (2001). *Digest of education statistics* (2002-130). Washington, DC: Author.)

In 1999, male and female college graduates earned 56% and 92% more, respectively, than those who completed high school education. In contrast, young males and females age 25-34 who dropped out of high school earned 31% and 39% less, respectively, than their peers who received a high school diploma. (U.S. Department of Education. (2001). *The condition of education* (NCES No. 2001-072). Washington, DC: Author.)

Between 1980 and 1999, the earnings of young adults who completed at least a bachelor’s degree have increased relative to their counterparts who completed no more than a high school education. This increase occurred for both men and women, from 19% to 58% higher for males, and from 52% to 92% higher for females. During the same period, the earnings of young adults who completed less than a high school education continued to lag behind those with a high school education, varying from 27% to 31% less for males, and from 35% to 39% less for females. (U.S. Department of Education. (2001). *The condition of education* (NCES No. 2001-072). Washington, DC: Author.)

Adults with a bachelor’s degree are 3 times more likely than people with less than a high school diploma to report reading newspapers, magazines, or books regularly. (U.S. Department of Education. (2001). *The condition of education* (NCES No. 2001-072). Washington, DC: Author.)

There is a strong, positive correlation between educational achievement and economics: In 1996, 25 to 34 year olds who had dropped out of high school were more than three times as likely to receive public assistance as high school graduates who did not go on to college (12% versus 4%). (U.S. Department of Education. (1998). *The condition of education* (NCES No. 98-013). Washington, DC: Author.)


**Families, Income, and Poverty**

Between the late 1970s and the late 1990s:

- The average income of the poorest fifth of families increased by $970, from $13,650 to $14,620.
- The average income of the middle fifth of families increased by $7,630, from $43,530 to $51,160.
- The average income of the richest fifth of families increased by $44,620, from $101,360 to $145,990.


From the late 1970s to the late 1990s, in every state but one the incomes of families in the top 20% of the income distribution have grown after adjustment for inflation. In 41 states, the incomes of the upper fifth of families jumped by more than 30% over the past two decades. (Center on Budget and Policy Priorities. (2002, April). *Pulling apart: A state-by-state analysis of income trends*. Washington, DC: Author.)


In 1999, the teenage unemployment rate for youths ages 16 to 19 looking for work was 14%, compared to 3.4% for adults. (Children’s Defense Fund. (2000, May). *State of America’s children yearbook*. Washington, DC: Beacon Press.)


26% of children who were poor in 1998 lived below 50% of the poverty line—up from 21% who were so extremely poor in 1996. (Children’s Defense Fund. (2000, May). *State of America’s children yearbook.* Washington, DC: Beacon Press.)

In 1998, 15.1% of white children under 18, 37.2% of black children under 18, 18% of Asian and Pacific Islander children under 18, and 34.4% of Hispanic children under 18 were poor. (Children’s Defense Fund. (2000, May). *State of America’s children yearbook.* Washington, DC: Beacon Press.)


In 2000, 16.2% of all children under age 18 were poor and 9.4% of adults from ages 18 to 64 were poor. (U.S. Census Bureau. (2001). *Poverty in the United States: 2000* (GPO No. 803-005-30068-4). Washington, DC: U.S. Government Printing Office.)

The number of school-age children (ages 5 to 17) who spoke a language other than English at home and who had difficulty speaking English was 2.6 million in 1999, up from 1.3 million in 1979. This represented 5% of all school-age children in the United States. (Federal Interagency Forum on Child and Family Statistics. (2001). *America’s children: Key national indicators of well-being, 2001.* Washington, DC: Author.)

In 2000, 69% of American children lived with two parents, down from 77% in 1980. Almost a quarter (22%) of children lived with only their mothers, 4% lived with only their fathers, and 4% lived with neither of their parents. (Federal Interagency Forum on Child and Family Statistics. (2001). *America’s children: Key national indicators of well-being, 2001.* Washington, DC: Author.)

White, non-Hispanic children are much more likely than black children and somewhat more likely than Hispanic children to live with two parents. In 2000, 77% of white, non-Hispanic children lived with two parents, compared with 38% of black children and 65% of children of Hispanic origin. (Federal Interagency Forum on Child and Family Statistics. (2001). *America’s children: Key national indicators of well-being, 2001.* Washington, DC: Author.)

Children under age 6 are more likely to be living in families with incomes below the poverty line than children ages 6 to 17. In 1998, 21% of children under age 6 lived in poverty, compared with 17% of older children. (Federal Interagency Forum on Child and Family Statistics. (2000). *America’s children: Key national indicators of well-being, 2000.* Washington, DC: Author.)
Young children living with their mothers only are five times as likely to be poor as those children living with married parents. In 2000, 45% of children under the age of three living only with their mother were poor compared to 9% of those living with married parents. (National Center for Children in Poverty. (2002, March). Low-income children in the United States: A brief demographic profile. New York, NY: Columbia University.)

Most children in poverty are white, non-Hispanic. However, the poverty rate of black or Hispanic children is much higher than the poverty rate of white, non-Hispanic children. In 1998, 10% of white, non-Hispanic children lived in poverty, compared with 36% of black children and 34% of Hispanic children. (Federal Interagency Forum on Child and Family Statistics. (2000). America’s children: Key national indicators of well-being, 2000. Washington, DC: Author.)

The percentage of children living in families with medium income has fallen from 41% in 1980 to 34% in 1998, while the percentage of children living in families with high income and the percentage of children in extreme poverty have risen, from 17% to 27% and from 7% to 8%, respectively. The data indicate that income disparities have increased among families with children. (Federal Interagency Forum on Child and Family Statistics. (2000). America’s children: Key national indicators of well-being, 2000. Washington, DC: Author.)

In 1998, 89% of children living in two-parent families had at least one parent who was a full-time, year-round worker. In contrast, 70% of children living with a single father and 44% of children living with a single mother had a parent who worked full time all year. (Federal Interagency Forum on Child and Family Statistics. (2000). America’s children: Key national indicators of well-being, 2000. Washington, DC: Author.)

Black, non-Hispanic children and Hispanic children were less likely than white, non-Hispanic children to have a parent working full time all year. In 1998, 58% of black, non-Hispanic children and 68% of Hispanic children had a parent working full time all year, compared with 84% of white, non-Hispanic children. (Federal Interagency Forum on Child and Family Statistics. (2000). America’s children: Key national indicators of well-being, 2000. Washington, DC: Author.)

Children living in poverty were much less likely to have a parent working full time all year than children living at or above the poverty line, 31% and 87%, respectively. For children living with both parents, 56% of poor children had at least one parent working full time all year compared with 92% of children living above poverty. For children living with single mothers, the differences are much larger. 17% of those below the poverty line and 66% of those above it had a parent working full time all year. (Federal Interagency Forum on Child and Family Statistics. (2000). America’s children: Key national indicators of well-being, 2000. Washington, DC: Author.)

In 1997, 36% of U.S. households with children, both owners and renters, had one or more of three housing problems: physically inadequate housing, crowded housing, or housing that cost more than 30% of household income. (Federal Interagency Forum on Child and Family Statistics. (2000). America’s children: Key national indicators of well-being, 2000. Washington, DC: Author.)

Households that receive no rental assistance and have severe cost burdens or physical problems are defined as having severe housing problems. In 1997, 11% of households with children had severe housing problems. Although the 1997 data are not directly comparable to estimates for earlier years, severe housing problems increased from 8% in 1978 to 12% in 1995 because of a rise in the percentage of families reporting severe cost burdens.
Children in families below poverty are less likely than higher-income children to have a diet rated “good.” For children ages 2 to 5, 19% of those in poverty had a good diet in 1994-96, compared with 28% of those living above the poverty line. (Federal Interagency Forum on Child and Family Statistics. (2000). America’s children: Key national indicators of well-being, 2000. Washington, DC: Author.)

Child health varies by family income. Children living below the poverty line are less likely than children in higher-income families to be in very good or excellent health. In 1997, about 68% of children in families below the poverty line were in very good or excellent health, compared with 86% of children in families living at or above the poverty line. (Federal Interagency Forum on Child and Family Statistics. (2000). America’s children: Key national indicators of well-being, 2000. Washington, DC: Author.)


While the number of poor children in working families fell in 1999 (from 9.5 million in 1998) it remains high by historical standards—including higher than it was at the height of the last recession in 1991 (8.3 million) or in 1989 (when 7.5 million children lived in working families). (Children’s Defense Fund. (2000, May). State of America’s children yearbook. Washington, DC: Beacon Press.)


Poor children are poorer than they were 20 years ago; 39% of poor children lived below one-half the poverty line in 1999, higher than in any year from 1975 (when the numbers are first available) through 1981. (Children’s Defense Fund. (2000, May). State of America’s children yearbook. Washington, DC: Beacon Press.)


The United States’ child poverty rate is substantially higher—often two-to-three times higher—than that of most other major Western industrialized nations. (National Center for Children in Poverty. (2002, March). Low-income children in the United States: A brief demographic profile. New York, NY: Columbia University.)


8% of America’s children under age six live in extreme poverty, in families with incomes below 50% of the poverty line. In 2000, the extreme poverty line was $6,930 for a family of three. (National Center for Children in Poverty. (2002, March). Low-income children in the United States: A brief demographic profile. New York, NY: Columbia University.)

37% of American children live in or near poverty, in families with incomes below 200% of the poverty line ($27,722 for a family of three). Many of the concerns of “near poor” families overlap with those of the poor, e.g., the need for well-paying jobs and access to affordable quality childcare and health care. (National Center for Children in Poverty. (2002, March). Low-income children in the United States: A brief demographic profile. New York, NY: Columbia University.)

In 1999, the federal poverty threshold for a family of three was $13,861 and $16,895 for a family of four. By this definition, 18% of all children under age six are growing up in poverty. Altogether, 41% of all young children are in families with incomes under 200% of the poverty level. (Knitzer, J. (2001). Federal and state efforts to improve care for infants and toddlers. The Future of Children, 11(1), 82.)


In 1998—compared to children in poor, non-working families—children in working poor families were:
- More likely to have one parent who completed high school, 66% to 57%;
- Less likely to have health insurance, 70% to 77%

Compared with children in poor families not meeting the work standard, children in working poor families are:
- More likely to live with both parents
- More likely to have at least one parent who completed 12 years of education
- Less likely to be covered by health insurance

Public Assistance and Welfare Reform


40.7% of adults receiving TANF had not completed high school, compared with 28.9% of adults who had left welfare. (Children’s Defense Fund. (2000, May). State of America’s children yearbook. Washington, DC: Beacon Press.)

Of current welfare recipients, 41.1% have three or more children compared with 33.4% of former recipients. (Children’s Defense Fund. (2000, May). State of America’s children yearbook. Washington, DC: Beacon Press.)

43% of those currently receiving aid had either never worked or last worked three or more years ago, compared with only 13% of those who had left TANF. (Children’s Defense Fund. (2000, May). State of America’s children yearbook. Washington, DC: Beacon Press.)

Among parents who recently left welfare, 7.1% could not pay for shelter, 38.7% could not pay utility bills, 49.4% ran out of food or could not buy more, and 61% are currently employed. (Children’s Defense Fund. (2000, May). State of America’s children yearbook. Washington, DC: Beacon Press.)

Research shows that welfare recipients with the same levels of education as other adults tend to have substantially lower basic skills. Only about 40% of the difference in basic skills scores between welfare recipients and other adults can be attributed to lower educational attainment. (Public Policy Institute of California. (1999, April). Many welfare recipients lack the basic skills needed to succeed in the workplace (Issue No. 19). San Francisco, CA: Author.)

The National Adult Literacy Skill Paradigm has four skill levels:
- minimal = school dropout (Level 1)
- basic = below average high school graduate (Level 2)
- competent = some postsecondary education (Level 3)
- advanced/superior = Bachelor’s degree or beyond (Level 4/5)

32% of welfare recipients demonstrated competent skills, similar to people with at least some post-secondary education. A change in skill level from competent to advanced requires an average of 200 hours of education or training (a full semester course load). (Carnevale, A.P., & Desrochers, D. M. (1999). Getting down to business: Matching welfare recipients’ skills to jobs that train. Princeton, NJ: Educational Testing Service.)


31% of welfare recipients have minimal skills similar to dropouts. To reach the basic skills level would require up to 900 hours of education or training (over two years of coursework).
From 1995 to 1997, 22.2% of welfare recipients were no longer receiving AFDC/TANF benefits; however, the number of poor, single-mother families—before means-tested benefits—declined 5.4%. (Porter, K., & Primus, W. (1999). *Recent changes in the impact of the safety net on child poverty.* Washington, DC: Center on Budget and Policy Priorities.)

In 1995, 57 of every 100 poor children received AFDC (88 of 100 received food stamps); in 1998, 41 of every 100 poor children received TANF (72 of 100 received food stamps). (Porter, K., & Primus, W. (1999). *Recent changes in the impact of the safety net on child poverty.* Washington, DC: Center on Budget and Policy Priorities.)

After adjusting for the decline in the number of children who were poor before means-tested benefits, the means-tested programs removed 700,000 fewer children out of poverty in 1997 than in 1995. (Porter, K., & Primus, W. (1999). *Recent changes in the impact of the safety net on child poverty.* Washington, DC: Center on Budget and Policy Priorities.)

35% to 36% of the decline in AFDC/TANF caseloads from 1996 to 1998 was due to changes in the cash assistance program, while only 8% to 10% was due to the improved labor market. (Porter, K., & Primus, W. (1999). *Recent changes in the impact of the safety net on child poverty.* Washington, DC: Center on Budget and Policy Priorities.)

Participation in the food stamp program has increased by 2.3 million people since July 2000 to 19.1 people in April 2002. (Tenny, D. (2002). *Food stamp caseloads are rising.* Washington, DC: Center on Budget and Policy Priorities.)


Among welfare recipients, 21% held jobs, 10% were in school, and 24% were actively looking for work because of TANF. (Annie E. Casey Foundation. (1999). *1999 Kids count data book.* Baltimore, MD: Author.)

Three in four parents on welfare have one significant obstacle to work and 20% have three or more obstacles to work. The most common obstacles to work include poor physical or mental health (48%), lack of a high school diploma (41%), having an infant (15%), lack of transportation to work (10%), limited English skills (7%), and having a disabled child (4%). (Annie E. Casey Foundation. (1999). *1999 Kids count data book.* Baltimore, MD: Author.)

**Employers, Workers’ Skills, and the New Economy**

Three out of four companies report a shortage of qualified applicants for existing positions. In a recent survey, 95% of employers rated basic skills as important in hiring decisions. (National Institute for Literacy. (2000). *Literacy skills for 21st century America: A blueprint for creating a more literate nation.* Washington, DC: Author.)

Job growth is concentrated in industries paying above-average wages, in industries requiring new skills and a more educated workforce, and in industries that disproportionately employ "knowledge workers." Two particular areas of growth are managerial and professional specialty jobs. From 1983 to 1996, employment in occupations...
requiring an associate’s degree or post-secondary vocational training grew at a 3.1% annual rate compared to a 2.0% growth rate for all employment. (National Institute for Literacy. (2000). *Literacy skills for 21st century America: A blueprint for creating a more literate nation.* Washington, DC: Author.)

The need for access to immediate information and the need to make timely decisions will require that all Americans upgrade their Information Technology (IT) skills. By 2006, almost half of American workers will be employed by industries that are either IT producers or intensive users of IT. In 1997, IT-producing industries added 350,000 jobs, a one-year increase of 7.7% as compared to average employment growth of about 3.0%. (National Institute for Literacy. (2000). *Literacy skills for 21st century America: A blueprint for creating a more literate nation.* Washington, DC: Author.)


Four out of every five mayors surveyed reported the lack of skilled workers and 77 percent said shortages have grown worse over the past five years. (O'Driscoll, P. (1999, September 23). Mayors: Lack of skilled workers hurting cities. *USA Today*.)

Researchers found in California that almost 40% of welfare recipients were not employed, and an additional 23% were employed only part time or semi-permanently. When they did find work, their earnings were meager. Those who found work earned an average annual income of $12,400. Those with very low basic skills averaged less than $10,000 per year; 70% did not earn enough to lift a family of three out of poverty. (Public Policy Institute of California. (1999, April). *Many welfare recipients lack the basic skills needed to succeed in the workplace* (Issue No. 19). San Francisco, CA: Author.)

While U.S. businesses invest up to $60 billion dollars annually on employee training, only 1% of that amount, or $600 million dollars, is dedicated to basic skills education and literacy services for their employees. (National Institute for Literacy. (2000). *Literacy skills for 21st century America: A blueprint for creating a more literate nation.* Washington, DC: Author.)

Education is essential in getting a high-paying job. All but two of the 50 highest paying jobs require a college degree. Air traffic controllers and nuclear power reactor operators are the only occupations of the 50 highest paying that do not require a college degree. (Bureau of Labor Statistics. (2002). *Occupational outlook handbook 2002-03 edition.* Washington, DC: U.S. Department of Labor.

In looking at barriers to hiring welfare recipients, 45% of employers noted that welfare recipients lacked "soft skills," those work-related social and interpersonal skills such as calling if one is going to be absent and staying on the job despite frustration; 18% of employers cited lifestyle issues such as domestic violence, drug abuse, family crises, and single parenthood; 10% noted no barriers. (Joint Center for Poverty Research. (2000). *Job performance and retention among welfare recipients* (Policy Brief Vol. 2, No. 11). Chicago, IL: Author.)

67% of employers felt it was the employee’s primary responsibility to improve their soft skills and attitudes; 32% of employers felt that social service partnerships could help

24% of employers felt recipients as well as partnerships that assist welfare recipients into the workforce should help employees secure transportation and child care; 48% felt social services could provide basic supports and resources such as transportation and child care. (Joint Center for Poverty Research. (2000). Job performance and retention among welfare recipients (Policy Brief Vol. 2, No. 11). Chicago, IL: Author.)

56% of employers expressed that they need to understand recipients’ issues and barriers and to encourage and support them. 48% of employers felt they need to link employees with basic supports and training. (Joint Center for Poverty Research. (2000). Job performance and retention among welfare recipients (Policy Brief Vol. 2, No. 11). Chicago, IL: Author.)

The minimum wage has not kept pace with inflation. Someone working full-time 52 weeks a year at the minimum wage earned only 80% of the poverty level for a family of three in 1998. (Children’s Defense Fund. (1999, April). State of America’s children yearbook. Washington, DC: Beacon Press.)

Crime


In 1997, federal inmates were more likely than state inmates to be:
- women (7% vs. 6%)
- Hispanic (27% vs. 17%)
- age 45 or older (24% vs. 13%)
- with some college education (18% vs. 11%) noncitizens (18% vs. 5%)


Among 1997 federally jailed inmates, 12% of them had less than an 8th grade education, 17.4% had some high school education, 24% were high school graduates, and 9.1% were college graduates. (Bureau of Justice Statistics. (2000). Correctional populations in the United States, 1997 (NCJ No. 177613). Washington, DC: U.S. Department of Justice.)

In the month prior to their arrest, 29% of the parents in State and 27% of parents in Federal prison said that they were unemployed. (Bureau of Justice Statistics. (2000). Incarcerated parents and their children (NCJ No. 182335). Washington, DC: U.S. Department of Justice.)

Forty-six percent of the parents in State and 53% of parents in federal prison reported a personal income of at least $1,000 in the month before their arrest. (Bureau of Justice
Parents in State prison (15%) were more likely than those in Federal prison (9%) to report receiving transfer payments such as welfare, Social Security, or compensation payments. (Bureau of Justice Statistics. (2000). *Incarcerated parents and their children* (NCJ No. 182335). Washington, DC: U.S. Department of Justice.)

The average proficiencies of the prison population are substantially lower than those of the general population:
- About 7 in 10 perform in Levels 1 and 2 on the prose, document, and quantitative scales.
- Educational attainment is highly related to literacy proficiency: Prisoners who have not received a high school diploma or GED demonstrate lower levels of proficiency than those who have completed high school, earned a GED, or received some postsecondary education.
- Prisoners, in general, attain lower levels of education than their parents. For example, 49% of prisoners reported not having a high school diploma or GED, compared with 36% if their parents. Furthermore, 39% of prisoners overall attained lower levels of education than their parents, compared with 21% of the general population. (Haiger, K., Harlow, C., O’Connor, P., & Campbell, A. (1994). *Literacy behind prison walls*. Washington, DC: National Center for Education Statistics.)

There appears to be a link between education and recidivism. A review of prison education programs found that:
- For basic and secondary education, 9 of 14 studies showed a positive effect on reducing recidivism, and three of four studies showed a positive effect on post-release employment success.
- For vocational education, 10 of 13 studies showed a positive effect on recidivism, and five of seven studies showed a positive effect on post-release employment success.
- For college-level education, 10 of 14 studies showed a positive effect on recidivism and 3 out of 3 showed a positive effect on post-release employment success. (Barton, P.E., & Coley, R.J. (1996). *Captive students: Education and training in America’s prisons*. Princeton, NJ: Educational Testing Service.)


**Voting Behavior**

In the 1998 congressional elections, college graduates ages 25-44, as a group, were 77% more likely than high school graduates of the same age group to vote. High school dropouts in the same age range were 52% less likely than high school graduates to vote. Similarly, in the 1996 presidential elections, among people ages 25-44, college graduates were 70% more likely than high school graduates to vote, and high school dropouts were 49% less likely than high school graduates to vote. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)
In the presidential elections the voting rate for 25- to 44-year-olds with a college degree fell from 86% in 1964 to 68% in 1996, compared with a decline for those with less than a high school education from 61% in 1964 to 20% in 1996. (U.S. Department of Education. (2000). The condition of education (NCES No. 2000-062). Washington, DC: Author.)

In the 1998 congressional elections, young adults ages 18-24 who were enrolled in college were more likely to have voted than their counterparts of the same age group who were not enrolled in school (24% and 16%, respectively). Among those not enrolled, adults ages 21-24 were more likely to vote than those ages 18-20. (U.S. Department of Education. (2000). The condition of education (NCES No. 2000-062). Washington, DC: Author.)

Among eligible voters ages 18 to 24, approximately 43.6% register to vote, and 18.5% actually vote. Hispanics are least likely to register to vote (36.4%) and vote (14.7%), while 40.6% of eligible black voters register to vote and 16.9% vote. Among white voters, 45.9% register to vote and 19.5% actually vote. (U.S. Department of Education. (2000). The condition of education (NCES No. 2000-062). Washington, DC: Author.)

**Schools and Teachers**


More than one-fourth of newly hired teachers are put in a classroom without having completed their state’s licensing requirements: 12% of newly hired teachers do not have license, and 15% hold only temporary, provisional, or emergency licenses. (Children’s Defense Fund. (2000, May). State of America’s children yearbook. Washington, DC: Beacon Press.)

38% of teachers have an undergraduate or graduate major in an academic field, 18% have a major in a subject area of education, and 37% have a major in general education. (Children’s Defense Fund. (2000, May). State of America’s children yearbook. Washington, DC: Beacon Press.)

7.2% of white youth, 6.8% of African-American youth, and 2.4% of Hispanic youth feel too unsafe to go to school. (Children’s Defense Fund. (2000, May). State of America’s children yearbook. Washington, DC: Beacon Press.)


In 1998, 37% of public school students enrolled in these grades were considered part of a minority group, an increase of 15% from 1972. This increase was largely due to the growth in the proportion of students who were Hispanic. In 1998, black and Hispanic students accounted for 17% and 15% of the public school enrollment, up 2% and 9%, respectively,

In 1999, a higher percentage of white (mother 35.2%; father 31.5%) children compared with black (mother 37.1%; father 39.3%) and Hispanic (mother 25.2%; father 26.2%) children ages 6-18 had parents who had attained at least a high school education. The same is true for the percentage who had attained at least a bachelor's degree: white mother: 26.4%; father: 33.6%; black mother: 13.9%; father: 16.5%; Hispanic mother: 7.4%; father: 10.1%. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

In 1999, 57% of Hispanic students in grades K-12 spoke mostly English at home, 25% spoke mostly Spanish, and 17% spoke English and Spanish equally. Hispanic students who were enrolled in grades K-5 were more likely than those enrolled in higher grades (6-8 or 9-12) to speak mostly Spanish at home (28% versus 21% and 22%, respectively). (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

24% of fourth grade teachers always talk to students about what they are writing, 19% of fourth grade teachers always ask students to write more than one draft of a paper, and 76% of students discuss their studies with someone at home. Among those students, their average writing scale scores are higher than among those students who do not discuss or revise their writings. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

The average kindergarten class in public schools had 20 students in 1998. Approximately 15% of these kindergarten classrooms had 15 or fewer children enrolled; 85% had more than 15 children enrolled. The average kindergarten class in private schools had 18 children. 41% of these classes had 15 or fewer students and the remainder had more than 15 students. (U.S. Department of Education. (2001). *The condition of education* (NCES No. 2001-072). Washington, DC: Author.)


Class size also varied by the percentage of minority children in the classroom. Kindergarten classrooms with less than 10% minority children were more likely to have 15 or fewer children than classrooms where 75% or more of the children were minorities. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

Nearly all kindergarten classrooms have reading (99%), mathematics (95%), and play (98%) areas. Almost 90% of kindergarten classrooms have a writing area, and about 67% have a science area. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

Public school kindergarten classrooms are more likely to have writing and mathematics areas (91% and 97%, respectively) than are private schools (79% and 87%, respectively). (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)
In 1998, almost all public school teachers had a bachelor’s degree and 45% held a master’s degree. Teachers at schools with high minority enrollment (50% or more) or a high percentage of students eligible for free or reduced-price lunch (60% or more) were less likely to have master’s degrees than their counterparts at schools with a low minority enrollment (5% or less) or a low percentage of students eligible for free or reduced-price lunch (less than 15%). (U.S. Department of Education. (2000). The condition of education (NCES No. 2000-062). Washington, DC: Author.)


Most public school teachers in 1998 had regular or standard state certificates or advanced professional certificates (93% and 92% of general elementary and departmentalized teachers, respectively). (U.S. Department of Education. (2000). The condition of education (NCES No. 2000-062). Washington, DC: Author.)

In 1998, the percentage of full-time public school teachers who participated in development activities in the past 12 months ranged from 81% (implementing state or district curriculum and performance standards) to 31% (addressing the needs of students with limited English proficiency or from diverse cultural backgrounds). (U.S. Department of Education. (2000). The condition of education (NCES No. 2000-062). Washington, DC: Author.)

In 1998, 12% of teachers who participated in an in-depth study in the subject area of their main teaching assignment for one to eight hours believed that the activity improved their classroom teaching a lot, whereas 41% of teachers who spent more than 8 hours participating in this activity shared the same perception. (U.S. Department of Education. (2000). The condition of education (NCES No. 2000-062). Washington, DC: Author.)

Among children in grades K-8, 19% received care from a relative, 7% received care from a non-relative, 19% attended a center-based program, and 12% cared for themselves in 1999. In contrast, about half of children in grades K-8 received before and after school care from a parent. (U.S. Department of Education. (2000). The condition of education (NCES No. 2000-062). Washington, DC: Author.)

The richest school districts spend 56% more per student than do the poorest; schools with large numbers of poor children tend to have fewer books, supplies, and teachers with less training and experience. (Children’s Defense Fund. (2000, May). State of America’s children yearbook. Washington, DC: Beacon Press.)

2.2 million new teachers are needed. Unfortunately, many states are responding to the need by lowering standards: one-fourth of newly hired teachers are put in classrooms without having their state’s licensing requirements. (Children’s Defense Fund. (2000, May). State of America’s children yearbook. Washington, DC: Beacon Press.)

Too many of today’s teachers in our nation’s public school system are not formally trained in the classes they are now teaching. In addition, over the next decade, 2.2 million new teachers will be needed to replace retiring teachers and those leaving the teaching profession as well as to accommodate population increases and the movement to reduce class-size. Students at public schools in poor communities were more likely than their wealthier counterparts to be taught core subjects by a teacher who had not majored in that subject matter.
• More than one-fourth of newly hired teachers are put in a classroom without having completed their state’s licensing requirements.
• 70% of 7th through 12th graders in high poverty schools (both inner city and rural) were recently taught physical science by unqualified teachers.

The most recent data shows that nearly 25% of students in public schools were taught English by a teacher who did not major in English. (Children’s Defense Fund. (2000, May). *State of America’s children yearbook*. Washington, DC: Beacon Press.)

38% of all teachers have an undergraduate or graduate major in an academic field (i.e. biology teacher having a degree in biology); 18% have a major in a subject area of education (i.e. reading education); 37% have a major in general education. (Children’s Defense Fund. (2000, May). *State of America’s children yearbook*. Washington, DC: Beacon Press.)

The number of public school teachers has risen slightly faster than the number of students over the past 10 years, resulting in small declines in the pupil/teacher ratio. In 1999, there were 16.2 public school pupils per teacher, compared with 17.2 public school pupils per teacher in 1990. (U.S. Department of Education. (2000). *Digest of education statistics* (NCES No. 2001-034). Washington, DC: Author.)


In 1999, lack of discipline was cited as a major problem by 18% of the teacher population; fighting, gangs, and violence was cited by 11%; and lack of financial support was cited by 9%. Use of drugs and large schools/overcrowding were cited as major problems by 8% of the population. (U.S. Department of Education. (2000). *Digest of education statistics* (NCES No. 2001-034). Washington, DC: Author.)

The percentage of private elementary and secondary students decreased slightly, from 12% in 1989 to 11% in 1999. In 2000, about 6.0 million students were enrolled in private schools at the elementary and secondary levels. (U.S. Department of Education. (2000). *Digest of education statistics* (NCES No. 2001-034). Washington, DC: Author.)

College enrollment fell from 14.5 million in Fall 1992 to 14.3 million in Fall 1995. However, total college enrollment is expected to increase for the next ten years as increasing numbers of high school graduates pursue higher education. (U.S. Department of Education. (2000). *Digest of education statistics* (NCES No. 2001-034). Washington, DC: Author.)

Although school attendance rates among 5- to 17-year-olds have remained relatively steady over the past 10 years, the proportion of 18- and 19-year-olds attending high school or college rose from 56% in 1988 to 61% in 1999. The proportion of 20- to 24-year-olds enrolled in school rose from 26% to 33% during the same period. (U.S. Department of Education. (2000). *Digest of education statistics* (NCES No. 2001-034). Washington, DC: Author.)

Of the $34.5 billion spent by the U.S. Department of Education in FY 1999, about $12.8 billion went to school districts, $6.7 billion to institutions of higher education, $6.2 billion to college students, and $4.2 billion to state education agencies. A portion of the remaining $4.0 billion went to banks to subsidize student loans. 33% of public elementary and secondary school students in the United States received publicly funded free or reduced-price lunches in 1993-94. At public elementary schools, the participation rate was 39%

In 1993-94, there were 83 school library visits each week per 100 public school students. Elementary school students were more likely to visit their school libraries (89 visits per 100 students each week) than secondary school students (69 per 100). Private school students were slightly less likely to visit their libraries (77 per 100). (U.S. Department of Education. (2000). *Digest of education statistics* (NCES No. 2001-034). Washington, DC: Author.)

Public school libraries generally had smaller numbers of books on a per student basis than private school libraries. In 1993-94, public school libraries held an average of 2,585 books per 100 students compared to an average of 3,716 per 100 students at private schools. Although public elementary school libraries had slightly smaller holdings than public secondary schools on a per student basis, the elementary school students checked out twice as many books on a per student basis (1.5 per week compared to .7 per week). (U.S. Department of Education. (2000). *Digest of education statistics* (NCES No. 2001-034). Washington, DC: Author.)

**Pre-School Education**


In 2001, 64% of black children ages 3 to 5 attended preprimary education programs compared to 40% of Hispanic children. (U.S. Department of Education. (2002). *The condition of education* (NCES No. 2002-025). Washington, DC: Author.)

Other factors associated with children’s enrollment in preprimary education are parents’ highest level of education and household income. As parents’ education increases, so do their children’s enrollment rates in preprimary education. In addition, children in households with an annual income of more than $50,000 are generally more likely to be enrolled in preprimary education than children in households with lower annual incomes (57.6% versus 41.25% for children in families with an annual salary of $20,000 or less). (U.S. Department of Education. (2002). *The condition of education* (NCES No. 2002-025). Washington, DC: Author.)


A recent major study found that children in high quality childcare demonstrated greater mathematical ability, greater thinking and attention skills, and fewer behavioral problems
than children in lower quality care. These differences held true for children from a range of family backgrounds, with particularly significant effects for children at risk. (Peisner-Feinberg, E.S. (1999). *The children of the cost, quality, and outcomes study go to school: Executive summary*. Chapel Hill, NC: University of North Carolina.)

Full-day childcare can easily cost $4,000 to $10,000 per year—at least as much as college tuition at a public university. (Schulman, K. (2000). *The high cost of child care puts quality care out of reach for many families*. Washington, DC: Children's Defense Fund.)


Only 42% of low-income children between ages 3 and 5 are in pre-kindergarten programs compared with 65% of higher income children; 5 million children are left home alone after school. (Children's Defense Fund. (2000, May). *State of America's children yearbook*. Washington, DC: Beacon Press.)

Between 1996 and 1999, the percentage of children attending early childhood programs increased from 55% to 59%. Most groups of children had higher participation rates in 1999 than in 1996, but especially noteworthy were increases among children living in poverty, among children with mothers who were not in the labor force, and among black, non-Hispanic and other minority children. (Federal Interagency Forum on Child and Family Statistics. (2000). *America’s children: Key national indicators of well-being, 2000*. Washington, DC: Author.)

Children living in poverty were still less likely to attend these programs than those living in families at or above poverty in 1999 (52% compared with 62%). (Federal Interagency Forum on Child and Family Statistics. (2000). *America’s children: Key national indicators of well-being, 2000*. Washington, DC: Author.)

Children with more highly educated mothers were more likely to attend an early childhood center than others: 74% of children whose mothers had completed college attended such programs in 1999, compared with 40% whose mothers had less than a high school education. (Federal Interagency Forum on Child and Family Statistics. (2000). *America’s children: Key national indicators of well-being, 2000*. Washington, DC: Author.)

Black, non-Hispanic children were more likely than white, non-Hispanic children or Hispanic children to attend an early childhood center. In 1999, 73% of black, non-Hispanic children ages 3 to 5 attended such programs, compared with 59% of white, non-Hispanic children and 44% of Hispanic children. (Federal Interagency Forum on Child and Family Statistics. (2000). *America’s children: Key national indicators of well-being, 2000*. Washington, DC: Author.)

Children attending high quality childcare centers had better language and math skills (PPVT-R score range 98 to 104) from the preschool years into elementary school than children attending low quality childcare facilities (PPVT-R score range 92 to 102). (Peisner-Feinberg,

Children with closer teacher-child relationships in better quality childcare had higher thinking/attention skills and sociability, and less behavioral problems, from the preschool years into elementary school than children who did not have a closer teacher-child relation and were placed in low quality child care centers. (Peisner-Feinberg, E. S., Burchinal, M. R., Clifford, R. M., Culkin, M. L., Howes, C., Kagan, S. L., Yazejian, N., Byler, P., Rustici, J., & Zelado, J. (2000). *The children of the cost, quality and outcome study go to school*. Chapel Hill, NC: University of North Carolina, Frank Porter Graham Child Development Center.)


The Perry Preschool Project analyzed the data from former High/Scope’s active learning preschool program participants. Research staff found the following major differences favoring the 27-year-olds who had been enrolled in High/Scope’s active learning preschool program:

- **Social responsibility.** By age 27, only one fifth as many preschool group members as control group members had been arrested five or more times (7% vs. 35%), and only one third as many had ever been arrested for drug dealing (7% vs. 25%).

- **Earnings and economic status.** At age 27, four times as many preschool group members as control group members earned $2,000 or more per month (29% vs. 7%). Almost three times as many preschool program group members as control group members owned their own homes (36% vs. 13%); and over twice as many owned second cars (30% vs. 13%). Only three fourths as many preschool program group members as control group members received welfare assistance or other social services at some time as adults (59% vs. 80%).

- **Educational performance.** Over 30% more preschool group members as control group members graduated from regular or adult high school or received General Education Development certification (71% vs. 54%). Earlier in the study, the preschool program group had significantly higher average achievement scores at age 14 and literacy scores at age 19 than the control group. (High/Scope Educational Research Foundation. (1999). *Significant benefits: The High/Scope Perry preschool project*. Ypsilanti, MI: Author.)

Child-initiated activities during early childhood fare best for children’s long-term development. The High/Scope Preschool Curriculum Comparison Study that compared the
High/Scope, Nursery School, and Direct Instruction curriculum approaches and found differences among participants in the area of social responsibility. Initially, all three curriculum approaches improved young children’s intellectual performance substantially, with the average IQs of children in all three groups rising 27 points. By age 15, however, students in the High/Scope group and the Nursery School group—that is, those students whose curriculum approaches had emphasized child-initiated activities—reported only half as much delinquent activity as the students in the Direct Instruction group. (High/Scope Educational Research Foundation. (1999). Significant benefits: The High/Scope Perry preschool project. Ypsilanti, MI: Author.)

Children who participated in the High/Scope Perry Preschool Project had more positive outcomes than children who did not participate in the program:

- 49% of participants scored in the tenth percentile or better on eight-grade achievement tests verses 15% of non-participants.
- 66% of participants graduated high school verses 45% of non-participants.
- 15% of participants required special education verses 34% of non-participants.
- 59% of participants collect welfare benefits verses 80% of non-participants.
- 29% of participants earn $2,000 or more a month verses 7% of non-participants.
- 7% of participants have had five or more adult arrests verses 31% of non-participants.


Kindergarten

Emergent literacy—a child’s understanding that the print in books has meaning—was assessed among incoming kindergartners in 1998. One aspect of emergent literacy is the ability to recognize letters, which plays an essential role in learning to read. Upon entry to kindergarten, 66% of children were proficient in recognizing letters. This skill varied by the level of the mother’s education, from 38% of children with mothers who had not completed high school to 86% of those whose mothers had a bachelor’s degree or higher. (Denton, K. & Germino-Hausken, E. (2000). America’s kindergartners (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Another emergent literacy skill is recognizing the sounds associated with the letters that begin and end words: 29% of first-time kindergartners were proficient with beginning sounds and 17% were proficient with ending sounds. (Denton, K. & Germino-Hausken, E. (2000). America’s kindergartners (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Social skills are an important part of children’s development. The ability to make and keep friends forms the social foundation of school, and children’s experiences with peers will likely influence their attitudes toward school and learning. According to their teachers, 74% of beginning kindergartners often accepted peer ideas for group activities and 77% often formed and maintained friendships. (Denton, K. & Germino-Hausken, E. (2000). America’s kindergartners (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

The ways in which children approach learning frame how they think and act in learning situations. Behavioral inclinations or dispositions such as task persistence and eagerness to learn affect their ability to learn. According to their teachers, 71% of beginning


In reading, mathematics, and general knowledge, older kindergartners (born in 1992) outperformed the younger kindergartners (born September through December 1993). The older kindergartners are more likely to score in the highest quartile of the distribution of scores than the younger kindergartners. However, some of the youngest children, those just turning 5, also score in the highest quartile (16% in reading, 12% in mathematics and 12% in general knowledge). (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

66% of first-time kindergarteners can recognize letters, 29% know the beginning sounds of words, 17% know the ending sounds of words, 2% can read sight words, and 1% can read words in context. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Among first-time kindergarteners, 94% can count 10 objects, identify shapes and numerals; 58% can count 20 objects and judge relative length; 20% know number sequence and ordinality; 4% can do simple addition and subtraction problems; and less than 1% can multiply and divide. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Children’s performance in reading, mathematics, and general knowledge increases with the level of their mothers’ education: Kindergartners whose mothers have more education are more likely to score in the highest quartile in reading, mathematics, and general knowledge. However, some children whose mothers have less than a high school education also score in the highest quartile (6% in reading, 7% in mathematics and 5% in general knowledge). (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Children’s reading, mathematics, and general knowledge performances differ by their family type: Kindergartners from two-parent families are more likely to score in the highest quartile in reading, mathematics, and general knowledge than children from single-mother families. However, some children with single mothers also score in the highest quartile (14% in reading, 14% in mathematics and 12% in general knowledge). (Denton, K. &

White children are more likely to score in the highest quartile than black or Hispanic children in reading, mathematics, and general knowledge. However, some black (15%) and Hispanic (15%) children score in the highest quartile. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)


Also, from the perspective of kindergarten teachers, children with some characteristics of risk for school difficulty (those whose mothers have lower education, are single mothers, or whose families have received or are receiving public assistance) are less likely than children whose mothers have higher levels of education, who come from two-parent families and whose families have never received public assistance to accept peer ideas and form friendships. Parent reports concerning joining others and making friends reflect most of these same differences. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

The incidence of problem behavior is relatively infrequent in first-time kindergartners. Teachers report that 10% to 11% of first-time kindergartners argue or fight with others or get angry often to very often. Children also exhibit few anti-social problems as rated by their parents. However, parents report a somewhat higher incidence of these behaviors. According to their parents, 15% of children often or very often fight with others and 33% often or very often argue with others. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)
The frequency of children’s problem behaviors varies by their family type. Single mothers are more likely than respondents from two-parent families to report their children as arguing, fighting, or getting angry often or very often. Teachers are less likely to rate children from households with two parents than children from single-mother families as exhibiting problem behavior. (Denton, K. & Germino-Hausken, E. (2000). America’s kindergartners (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Reports of children’s problem behaviors vary by race/ethnicity. The pattern of these differences and their magnitude depends on who is rating the children’s behavior. When teachers rate the children in their classrooms, black children are more likely than white and Asian children to be seen as exhibiting higher levels of problem behaviors (arguing with others, fighting with others, getting angry easily). (Denton, K. & Germino-Hausken, E. (2000). America’s kindergartners (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

When parents rate their children, we see fewer differences between black and white children. Instead, we see more differences between Asian children and white, black and Hispanic children. Asian children are less likely than children in these other groups to be seen as arguing or fighting often to very often by their parents. (Denton, K. & Germino-Hausken, E. (2000). America’s kindergartners (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)


Children whose mothers have higher levels of education are more likely to score in the higher portion of the distribution for both the fine and gross motor skills than children whose mothers have a lower education level. (Denton, K. & Germino-Hausken, E. (2000). America’s kindergartners (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)


A majority of parents of first-time kindergartners report their child’s general health to be excellent (51%) or very good (32%). Only a minority of children are reported as having fair or poor general health (3%). (Denton, K. & Germino-Hausken, E. (2000). America’s kindergartners (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)


Almost 20% of first-time kindergartners are reported as being a lot more active than their age-peers. This indicator of risk for developmental difficulty in terms of hyperactivity varies by child’s sex, mother’s education, welfare participation, and race/ethnicity. More boys than girls are reported as a lot more active. Children with some characteristics of risk for school difficulty (low maternal education, single mothers, or receipt of welfare) are more frequently reported as being a lot more active than children not at risk. (Denton, K. & Germino-Hausken, E. (2000). America’s kindergartners (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)


Boys seem to pay attention “less well” or “much less well” to a greater extent than girls. Children whose mothers have lower levels of education report attention difficulties more frequently than children whose mothers have higher levels of education. Children who come from single mother-families and families who have utilized welfare services are at greater risk for this outcome than children from two-parent families and from families who have never utilized welfare services. Asian children are less likely to experience attention difficulties than white or black children. (Denton, K. & Germino-Hausken, E. (2000). America’s kindergartners (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)
Articulation of words and ability to communicate varies by children’s sex. Boys are more likely than girls to have difficulties in this area. Children whose mothers have higher levels of education are less likely than children whose mothers have lower levels of education to have difficulties with articulation. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Parents and teachers have similar views of children’s task persistence. Parents report that about 73% of children persist at tasks often or very often, and teachers report that about 71% of children persist at tasks often or very often. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)


Both parents and teachers were less likely to rate black children as often or very often persistent at tasks than white and Asian children. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Teachers are less likely than parents to identify the children as often or very often eager to learn. Parents report that 92% of children behave in this way; teachers report that 75% children seem eager to learn. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Teachers perceive differences by child and family characteristics in children’s eagerness to learn. For example, girls are more likely than boys to be seen as eager to learn, and older children (born in 1992) are more likely rated as eager to learn than younger children (born September through December 1993). Children with some characteristics of risk (low maternal education, single-mother household, and receipt of public assistance) are less likely to be seen as eager to learn than children not at risk. White and Asian children are more likely to be seen as eager to learn by their teachers than black or Hispanic children. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Parent ratings of children’s eagerness to learn differ by mother’s education and receipt of public assistance. Children whose mothers have lower levels of education and those who have received public assistance are less likely to be seen by their parents as eager to learn in comparison with children whose mothers have higher levels of education or whose family had not received public assistance. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

About 85% of children are seen by their parents as demonstrating creativity in work or play often to very often. Children whose mothers have not completed high school are less often seen as creative by their parents than children whose mothers have a high school diploma.

A majority of children’s teachers (66%) state that first-time kindergartners are able to pay attention most of the time (often to very often). Girls are more likely than boys and older kindergartners are more likely than younger kindergartners to be seen as having this ability. According to teachers, children with some characteristics of risk are less likely than other children to be able to pay attention. Their teachers view black children as less likely than white, Asian, or Hispanic children to be able to pay attention. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)


The number of children’s books in the home varies by maternal education and family receipt of welfare. Mothers with lower education and families reporting receipt of welfare were more likely to report having fewer books in the home (0–25 books) than mothers with higher education and families with no reported welfare receipt. This pattern is also found for the number of children’s records, audiotapes, or CDs in the home. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Nearly half of parents report reading to their child and singing songs to their child every day (45%); 38% of parents report playing games with their kindergartners three to six times a week. Nearly half (44 to 47%) of families engage in telling stories, doing arts and crafts and playing sports or exercise once or twice a week or less. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Activities such as reading and singing songs vary by maternal education, family type, welfare receipt, and race/ethnicity. Children whose mothers have lower levels of education, single mothers, families reporting receipt of welfare services, and black parents are less likely to be read to every day than those with mothers with higher levels of education, two-parent families, families without welfare support and white, Hispanic, and Asian parents (respectively). (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

A different pattern emerges with an activity like singing songs. Children with single mothers, families with receipt of welfare services and black parents are more likely to be sung to every day than those with two parents, families with no receipt of welfare services and white, Hispanic and Asian parents (respectively). (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

About four out of five first-time kindergartners (81%) receive care on a regular basis from someone other than their parents the year prior to starting kindergarten. This care is most...

Prior to kindergarten, children whose mothers have higher levels of education are more likely to be in center-based care than children whose mothers have less education. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Prior to kindergarten, children from homes where English is not the primary language are less likely to have attended a center-based program the year before starting kindergarten. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)


At kindergarten entry, children whose mothers have less than a high school education are more likely to receive before- and/or after-school care from a relative than from a non-relative or center-based provider. In contrast, kindergartners whose mothers have a college education are more likely to receive care in a center-based setting than in either of the two home-based settings. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)


The children who do well in reading are also likely to do well in mathematics and general knowledge. As children enter kindergarten, their reading and mathematics skills and knowledge are strongly related ($r = 0.79$), as are their reading skills and general knowledge ($r = 0.60$) and their mathematics skills and general knowledge ($r = 0.65$). (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Both parents and teachers in the ECLS-K provided information on children’s social skills. Parent perceptions of children’s social skills are not directly related to their cognitive skills and knowledge. However, there is a small correlation between teacher perceptions of how easily children make and keep friends and children’s reading, mathematics, and general knowledge scores. (Denton, K. & Germino-Hausken, E. (2000). *America’s kindergartners* (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Teacher perceptions of children’s other social skills (i.e., accepts peer ideas, comforts others, argues, fights and gets angry easily) are only slightly related to children’s cognitive
skills. Neither parent nor teacher perceptions of children’s social skills as assessed by their ratings of children’s pro-social and problem behaviors are directly related to children’s fine or gross motor scores, their literacy environment, their home educational activity experiences, or their childcare history. (Denton, K. & Germino-Hausken, E. (2000). America’s kindergartners (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

Children’s fine motor skills relate to their cognitive skills and knowledge (reading, \( r = 0.41 \); mathematics, \( r = 0.48 \); general knowledge, \( r = 0.39 \)). Children’s gross motor skills relate to mathematics (\( r = 0.22 \)), but are not directly related to their reading and general knowledge. (Denton, K. & Germino-Hausken, E. (2000). America’s kindergartners (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)


Children’s approaches to learning were described by both their parents and their teachers. Parents’ perceptions of children’s approaches to learning (i.e., task persistence, eagerness to learn, and creativity) do not directly relate to children’s cognitive scores. Teacher perceptions of children’s approaches to learning (i.e., task persistence, eagerness to learn, and attention) are related to children’s reading, mathematics and general knowledge scores. Eagerness to learn relates to reading (\( r = 0.31 \)), mathematics (\( r = 0.32 \)) and general knowledge (\( r = 0.28 \)). Task persistence relates to reading (\( r = 0.32 \)), mathematics (\( r = 0.34 \)) and general knowledge (\( r = 0.27 \)). And attention relates to reading (\( r = 0.32 \)), mathematics (\( r = 0.34 \)) and general knowledge (\( r = 0.29 \)). Children’s approaches to learning are not directly related to their home literacy environment, their home educational activity experiences, or their childcare history. (Denton, K. & Germino-Hausken, E. (2000). America’s kindergartners (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

There are small relationships of children’s home literacy environment and home educational experiences to their reading, mathematics, and general knowledge scores. The number of children’s books in the home relates to children’s general knowledge (\( r = 0.21 \)) but not directly to their reading or mathematics knowledge and skills. And how frequently a family member reads to the child relates to children’s reading (\( r = 0.20 \)) and general knowledge (\( r = 0.21 \)), but not directly to their mathematics knowledge and skills. Children’s literacy environment and home educational experiences do not directly relate to their childcare history. (Denton, K. & Germino-Hausken, E. (2000). America’s kindergartners (NCES No. 2000-070). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

**U.S. Student Achievement**

In 1993, 17% of delayed entry children were reported to be not learning up to their capabilities, compared to 24% of those who entered kindergarten at the prescribed time. Also, 25% of delayed entry children were said to have problems concentrating in class, compared to 30% of those who entered kindergarten as soon as they were age-eligible. (National Center for Education Statistics. (2000). Children who enter kindergarten late or repeat kindergarten: Their characteristics and later school performance (NCES No: 2000-039). Washington, DC: Author.)
In 1995, children whose entry into kindergarten had been delayed were half as likely as those entering when age-eligible to have repeated first or second grade. On the other indicators, however, those who were held out of kindergarten performed as well as those who started kindergarten when eligible. (National Center for Education Statistics. (2000). *Children who enter kindergarten late or repeat kindergarten: Their characteristics and later school performance* (NCES No: 2000-039). Washington, DC: Author.)

In 1993, 40% of the retained pupils were said to have problems concentrating; more than a third, not learning up to their capabilities; and 29%, acting up or disrupting the class. All of these proportions were 40% to 50% higher than those for children who had not been retained in kindergarten. While less than a fifth of the retained pupils were said to have trouble taking turns or sharing with others, this proportion was twice as high as that for non-retained pupils. (National Center for Education Statistics. (2000). *Children who enter kindergarten late or repeat kindergarten: Their characteristics and later school performance* (NCES No: 2000-039). Washington, DC: Author.)

In 1995, more of the retained pupils had schoolwork that ranked around the middle or in the lower half of the class. Nearly 30% of retained children had their parents contacted by the teacher or school in the last year because of a schoolwork problem; this percentage was about 40% higher than that for non-retained pupils. (National Center for Education Statistics. (2000). *Children who enter kindergarten late or repeat kindergarten: Their characteristics and later school performance* (NCES No: 2000-039). Washington, DC: Author.)

In fall 1998, as children entered kindergarten, 66% recognized letters, 29% recognized beginning of word sounds, and 17% recognized ending of word sounds. Girls were more likely than boys to achieve each of these proficiency levels. In addition, children whose mothers have higher levels of education achieved these proficiency levels at higher rates than children whose mothers have less education. White and Asian children are more likely to achieve each level than are black or Hispanic children. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

Among children who entered kindergarten for the first time in 1998, 94% recognized basic (single-digit) numbers and shapes. In addition, 58% recognized numbers greater than single digits, could count beyond 10, and could use nonstandard units of length to compare objects. Finally, about 20% could sequence numbers (e.g., 2, 4, 6, 8, 10), read two-digit numerals, identify the ordinal position of an object (e.g., the third flower in a row of flowers), and solve basic word problems. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

White and Asian children were more likely to score in the highest quartile than black or Hispanic children in reading and mathematics. Still, many minority children performed above the average for all children. In reading, 15% of black children and 15% of Hispanic children scored in the highest quartile. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

White students outperformed their black and Hispanic classmates at each grade level in each year. Average reading scores for black students in grades 4 and 8 increased between 1994 and 1998 from 187 to 194 in the fourth grade and from 237 to 243 in the eighth grade, as did average reading scores for 12th-grade Hispanic students (from 270 to 275). The gap in scores between black and white students remained about the same between 1992 and 1998 for all grades, with the average difference in scores about 30 points. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)
Average scores for white students were higher than those for black and Hispanic students at all three grade levels in 1990, 1992, and 1996. The size of these performance gaps in scores between black or Hispanic and white students remained similar between 1990 and 1996. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

Between 1971 and 1996, there has been an overall decrease in the gap between reading achievement scales scores among black and white students. That decrease is most evident among 17 year olds: In 1971, the average score difference was 53 points and in 1996 the average score difference was 29 points. Among 9 year olds, the score difference decreased from 44 points in 1971 to 30 points in 1996. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

In the “Youth Interview Component” of the National Household Education Survey (NHES), a nationally representative sample of 6th-12th-grade students were asked in 1999 about their participation in various news gathering activities outside of school. According to this survey, 49% of such students reported either watching or listening to the national news, reading about national issues, or discussing national news and politics with their parents almost daily. 70% of all 6th-12th-grade students reported they had taken courses in the current or prior school year that required them to pay attention to government, politics, or national issues. On average, students who had taken these courses were more likely than those who had not done so to report that they participated in any of the previously mentioned news gathering activities on an almost daily basis. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

The percentage of 12th-graders who said they “definitely will” complete a bachelor’s degree increased considerably from 1980 to 1997 (35% to 56%). Furthermore, the proportion that said they “definitely will” attend graduate or professional school nearly doubled during the same period (11 to 21%). The percentage of students who definitely planned to complete a 2-year college program increased from 1980 to 1990, but that percentage did not change from 1990 to 1997. The percentage of 12th-grade students who definitely planned to attend a technical/vocational school declined slightly from 1980 to 1997. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

As students become older, they tend to hold a less than favorable attitude towards mathematics and their mathematic abilities. Among fourth graders, 69% stated they “like mathematics,” compared to 56% of eighth graders and 50% of twelfth graders. Only 66% of 4th graders, 63% of 8th graders, and 53% of 12th graders feel they are good at math. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

In 1998, kindergarten teachers reported that 71% of first-time kindergartners persisted at tasks, 75% seemed eager to learn, and 66% paid attention often or very often. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

According to teachers’ reports, children of mothers with lower levels of education were perceived as generally less likely than children whose mothers had higher levels of education to persist at tasks, to be as eager to learn, and to pay attention often or very

Teachers reported that white and Asian children were more likely to be perceived as persisting at tasks (75% and 81%), eager to learn (78% and 80%), and to pay attention (70% and 71%) than black (62%, 66%, and 55%) or Hispanic children (67%, 70%, and 62%). (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

Among high school students who were sophomores in 1990, 88% completed high school by August 1992, and another 7% were still enrolled at that time. The remaining 6% had dropped out. More than half (58%) of dropouts from the 1990 sophomore cohort had either completed or re-enrolled in school within two years of their scheduled graduation. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

While financial barriers to college exist for many low-income students, one reason for their lower enrollment rate is that they are less qualified academically. 86% of 1992 high school graduates from families with high incomes ($75,000 or more) were at least minimally qualified for admission to a 4-year institution, compared with 68% of those from middle-income ($25,000-74,999) and 53% from low-income (less than $25,000) families. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

Among 1992 graduates as a whole, the proportion that enrolled in 4-year institutions by 1994 increased at each family income level, from 33% of low-income students to 47% of middle-income students to 77% of high-income students. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

About 58% of all 1992 high school graduates had at least one factor in their family background or school experiences before entering high school that placed them at some risk of lower educational attainment. However, 35% of these graduates with risk factors not only finished high school, but also enrolled in a 4-year college or university within two years of their high school graduation (and 68% enrolled in some type of postsecondary institution). (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

The percentage of 25- to 29-year-olds who completed at least high school rose from 78% in 1971 to 88% in 1999. Over the same period, the percentage of high school completers in this age group who also completed at least some college increased from 44% to 66%, and the percentage who obtained a bachelor’s degree or higher rose from 22% to 32%. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

From 1971 to 1999, the gap in the rates at which blacks and whites completed at least high school began to close. In earlier years, the completion rate of blacks was 72% of that of whites, while in 1999, it was 95% that of whites. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

37% of the nation’s fourth-graders do not read at basic level, according to National Assessment of Educational Progress (NAEP) studies. (Donahue, P. L., Finnegan, R. J., Lutkus, A. D., Allen, N. L., & Campbell, J. R. (2001, April). *The nation’s report card: Fourth-


As the mother’s educational attainment increases, so does the child’s mathematics score. For children of mothers who have a high school diploma or less, the average score is 484. For children of mothers who have some college, the average score is 511. For children of mothers who have completed college, the average score is 539. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

A child’s science scores also increase with the mother’s level of education. For children of mothers who have a high school diploma or less, the average score is 499. For children of mothers who have some college, the average score is 525. For children of mothers who have completed college, the average score is 554. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

The number of high school graduates in 1998-99 totaled about 2.8 million. Approximately 2.5 million graduated from public schools, and less than 0.3 million graduated from private schools. (U.S. Department of Education. (1999). Digest of education statistics (NCES No. 2000-031). Washington, DC: Author.)

The dropout rate also declined over this period, from 14% of all 16- to 24-year-olds in 1977 to 12% in 1998. (U.S. Department of Education. (1999). Digest of education statistics (NCES No. 2000-031). Washington, DC: Author.)

The number of degrees conferred by institutions of higher education during the 1998-99 school year by degree level: 563,000 associate’s degrees; 1,166,000 bachelor’s degrees; 385,000 master's degrees; 76,300 first-professional degrees; and 44,100 doctor's degrees. (U.S. Department of Education. (1999). Digest of education statistics (NCES No. 2000-031). Washington, DC: Author.)

Between 1980 and 1998, the proportion of the adult population 25 years of age and over with 4 years of high school or more rose from 69% to 83%, and the proportion of adults with at least 4 years of college increased from 17% to 24%. (U.S. Department of Education. (1999). Digest of education statistics (NCES No. 2000-031). Washington, DC: Author.)


In 1998, 83% of the population 25 years old and over had completed high school and 24% had completed 4 or more years of college. This represents an increase from 1980, when 69% had completed high school and 17% had 4 years of college. (U.S. Department of
In 1998, about 5% of persons 25 years old or over held a master’s degree as their highest degree, slightly more than 1% held a professional degree (e.g., medicine or law), and 1% held a doctor’s degree. (U.S. Department of Education. (1999). *Digest of education statistics* (NCES No. 2000-031). Washington, DC: Author.)

An overall increase was seen in reading proficiency scores for 9- and 13-year-olds since 1971, with 17-year-olds scoring about the same in 1996 as in 1971. After significant gains during the 1970s, 9-year-old reading proficiency fell during the 1980s, but the 1996 score was above the 1971 level. (U.S. Department of Education. (1999). *Digest of education statistics* (NCES No. 2000-031). Washington, DC: Author.)


Two of the other most highly rated goals in the 1992 survey were “finding steady work” (“very important” for 87% of men and 89% of women) and “having strong friendships” (“very important” for 80% of both men and women). Another value that was highly rated two years after high school was “providing better opportunities for my children,” which was cited by 91% of the young adults as “very important” (U.S. Department of Education. (1999). *Digest of education statistics* (NCES No. 2000-031). Washington, DC: Author.)

The rate for Hispanics (age 25 years old and over) in 2000 that completed high school was 57% compared with 79% for blacks and 88% for whites. (U.S. Census Bureau. (2002). *The big payoff: Educational attainment and synthetic estimates of work-life earnings* (Current Population Report P23-2002). Washington, DC: Author.)

Results of the Early Childhood Longitudinal study (ECLS-K) indicate that children whose mothers have more education than those of their peers tend to enter school with more skills and knowledge in reading and mathematics. (U.S. Department of Education. (2001). *The condition of education* (NCES No. 2001-072). Washington, DC: Author.)

**International Comparisons to U.S. Education**

Countries with a greater proportion of young people must set aside larger proportions of domestic product for their education. Among the OECD countries, Turkey had the largest percentage of young people ages 5 to 13—20% in 1996. Next was Ireland at 17%, then Iceland and the Russian Federation at 16%. Countries with relatively small numbers of persons in this age group included Italy at 10%, and Denmark, Germany, Japan, and Spain at 11%. The proportion of 5- to 13-year-olds in the U.S was 15%, which was higher than most other OECD countries. (U.S. Department of Education. (1999). *Digest of education statistics* (NCES No. 2000-031). Washington, DC: Author.)

In 1996, among the OECD countries, Canada reported the largest proportion of 18- to 21-year-olds enrolled in postsecondary education at 41%, followed by Belgium (40%), France (36%), the United States (35%), Ireland (31%), and New Zealand (29%). For the 22 to 25 age group, Finland’s enrollment rate was highest at 29%, with Norway following at 25%, Denmark at 24%, and Canada and the U.S. at 22%. (U.S. Department of Education. (1999). *Digest of education statistics* (NCES No. 2000-031). Washington, DC: Author.)
In 1997-98 there were 481,000 foreign students studying at U.S. colleges and universities; approximately 58% of these students were from Asian countries. (U.S. Department of Education. (1999). *Digest of education statistics* (NCES No. 2000-031). Washington, DC: Author.)


For primary education per student, Norway spent about $7,639 per student, Switzerland spent $5,760, Denmark spent $5,560, Sweden spent $5,004 and the United States spent $4,772. At the secondary level, Luxembourg, Iceland, Switzerland, and the United States had expenditures over $6,000 per student. The governments of Switzerland, Sweden, Germany, Netherlands, and the United States spent relatively large amounts per student in higher education. Switzerland spent $14,460, Sweden spent $11,488, Germany spent $8,309, Netherlands spent $8,056, and the United States spent $7,813. (U.S. Department of Education. (1999). *Digest of education statistics* (NCES No. 2000-031). Washington, DC: Author.)

In mathematics, U.S. eighth-graders scored below the international average, falling below 20 of the 41 countries tested. Fourth-graders performed above the international average, scoring below 7 of the 26 countries tested, including Singapore, Korea, and Japan. (U.S. Department of Education. (1999). *Digest of education statistics* (NCES No. 2000-031). Washington, DC: Author.)


In mathematics, U.S. eighth-grade students outperformed their peers in 17 nations, performed similarly to their peers in 6 nations, and performed lower than their peers in 14 nations in 1999. (National Center for Education Statistics. (2000, July). *Mathematics and
science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

In science, U.S. eighth-grade students outperformed their peers in 18 nations, performed similarly to their peers in 5 nations, and performed lower than their peers in 14 nations in 1999. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

Of the five mathematics content areas assessed in 1999, U.S. eighth-graders performed higher than the international average in fractions and number sense; data representation, analysis, and probability; and algebra. They performed at the international average of the 38 TIMSS–R nations in measurement and geometry. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

Of the six science content areas assessed in 1999, U.S. eighth-graders performed higher than the international average in earth science; chemistry; life science; environmental and resource issues; and scientific inquiry and the nature of science. They performed at the international average of the 38 TIMSS–R nations in physics. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

In 1999, the United States was one of 34 TIMSS–R nations in which eighth-grade boys and girls performed similarly in mathematics. In four nations, eighth-grade boys outperformed eighth-grade girls in mathematics. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

In 1999, the United States was one of 16 TIMSS–R nations in which eighth-grade boys outperformed eighth-grade girls in science. In 22 nations, no difference between the achievement of eighth-grade boys and girls was found. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

Between 1995 and 1999, there was no change in eighth-grade mathematics or science achievement in the United States. Among the 22 other nations, there was no change in mathematics achievement for 18 nations, and no change in science achievement for 17 nations. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

U.S. eighth-grade African-American students showed an increase in their achievement in mathematics over the 4 years. They showed no change in their achievement in science over the same period. U.S. eighth-grade white and Hispanic students showed no change in their mathematics or science achievement between 1995 and 1999. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)
The mathematics and science performance of the United States relative to this group of nations was lower for eighth-graders in 1999 than it was for fourth-graders 4 years earlier, in 1995. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

Among the 16 other nations, the mathematics performance of Canada relative to this group of nations was higher for eighth-graders in 1999 than it was for fourth-graders 4 years earlier, in 1995. The mathematics performance of the Czech Republic, Italy, and the Netherlands relative to this group of nations was lower. The mathematics performance of the 12 other nations was unchanged. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

According to their teachers, U.S. eighth-grade students were less likely than their international peers to be taught mathematics by teachers with a major or main area of study in mathematics, but as likely as their international peers to be taught by teachers who majored in mathematics education. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

According to their teachers, U.S. eighth-grade students were less likely than their international peers to be taught science by teachers with a degree in physics, but as likely as their international peers to be taught science by teachers with a major or main area of study in biology, chemistry, or science education in 1999. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

94% of U.S. eighth-graders said that their mathematics teachers showed them how to do mathematics problems “almost always” or “pretty often” in 1999, which was higher than the international average of 86%. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

86% of U.S. eighth-grade students reported that they worked from worksheets or textbooks on their own “almost always” or “pretty often” during mathematics lessons in 1999, which was higher than the international average of 59%. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

80% of U.S. eighth-grade students were asked to explain the reasoning behind an idea in most or every science lesson in 1999, a higher percentage than the international average of 67%. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)
When students were asked how often they conducted an experiment or practical investigation in their science lessons, 65% of U.S. eighth-graders reported that this occurred “almost always” or “pretty often” during their science lessons in 1999. This was higher than the international average of 57%. (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

A higher percentage of U.S. eighth-graders reported using computers “almost always” or “pretty often” in mathematics classes (12%) and science classes (21%) than their international peers in 1999 (5% and 8%, respectively). (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

According to their schools, U.S. eighth-grade students in 1999 were more than twice as likely as their international peers to attend schools with networked computer access to the Internet (91% compared to 41%). (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

A higher percentage of U.S. eighth-grade students reported that they could “almost always” or “pretty often” begin their mathematics or science homework during class (74% and 57%, respectively) than their international peers (42% and 41%, respectively). (National Center for Education Statistics. (2000, July). Mathematics and science in the eighth grade: Findings from the third international mathematics and science study (NCES No. 2000-014). Washington, DC: U.S. Department of Education.)

In mathematics, on average, U.S. students at the 4th-grade level scored above the international average in mathematics, performed above their peers in 12 countries, and scored lower than their peers in 7 countries. (U.S. Department of Education. (2000). The condition of education (NCES No. 2000-062). Washington, DC: Author.)

Conversely, both 8th- and 12th-grade students in the United States scored below the international averages in mathematics. Of the 41 nations participating at the 8th-grade level, the average student in the United States scored higher than their peers in seven countries and was outperformed by students in 20 countries. Of the 21 nations participating at the final year of secondary school level, U.S. students scored, on average, below the average student in 14 other countries and above the average student in two other countries. (U.S. Department of Education. (2000). The condition of education (NCES No. 2000-062). Washington, DC: Author.)


In the U.S., parents’ education is strongly linked to differences in student performance in reading, mathematics, and science literacy, as it is in most other industrialized countries. Fifteen-year-olds whose parents completed college show an advantage over students whose

**Absence from School**


13-14% of 8th grade students are absent 5 or more times in a four week period. (U.S. Department of Education. (2002). *The condition of education* (NCES No. 2002-025). Washington, DC: Author.)

The dropout rates for 16 to 19 year olds in central cities is 14%, which is twice the rate for teens in suburbs (7%). The rate in rural areas is 8%. In high poverty neighborhoods in large cities (neighborhoods with poverty rates above 20%), one-fifth of 16 to 19 year olds were high school dropouts. (Annie E. Casey Foundation. (2000). *2000 Kids count data book.* Baltimore, MD: Author.)

In 1999, 20% of Hispanic teens were high school dropouts, compared to 7% of white teens and 13% of African-American teens. (Annie E. Casey Foundation. (2000). *2000 Kids count data book.* Baltimore, MD: Author.)

High school dropouts are about three times as likely to slip into poverty from one year to the next as those who have finished high school. (Annie E. Casey Foundation. (2000). *2000 Kids count data book.* Baltimore, MD: Author.)

The percentage of teens not in school or working was 9% in 1997, with a range of 4% to 14%. African-American and Hispanic youth were twice as likely to be in this category than white youth. (Annie E. Casey Foundation. (2000). *2000 Kids count data book.* Baltimore, MD: Author.)

**Homework**

The amount of homework done by students is positively related to achievement. Students who read eleven or more pages each day for school or homework have higher average reading proficiency scores than those who read less than five pages a day. Between 1992 and 1994, the percentage of 12th-graders who read eleven pages or more each day decreased, as did the 12th-grade reading scores. (U.S. Department of Education. (1996). *The condition of education* (NCES No. 96-304). Washington, DC: Author.)

The amount of homework students do has changed little since 1984, but the amount students do vary considerably among countries. Among 13-year-old students doing homework two or more hours a day, the United States ranks eleventh out of 15 countries. The range is from 79% in Italy to 14% in Scotland. (Barton, P. E., & Coley, R. J. (1992). *America’s smallest school: The family.* Princeton, NJ: Education Testing Service. (ERIC Document Reproduction Service No. ED349320))
17-year-olds who typically spent more than 2 hours daily doing homework had higher average reading scores than those who spent less than 1 hour per day on homework or did none. (U.S. Department of Education. (2001). *The condition of education* (NCES No. 2001-072). Washington, DC: Author.)

**Television**


Children who watch 4 or more hours of TV per day spend less time on school work, have poorer reading skills, play less with friends, and have fewer hobbies than children who watch less TV. (Center for Media Education. (n.d.). *Children and television: Frequency asked questions*. Retrieved November 27, 2002, from http://www.cme.org)

By the time children complete elementary school, the average child will witness more than 100,000 acts of violence on TV, including 8,000 murders. (Center for Media Education. (n.d.). *Children and television: Frequency asked questions*. Retrieved November 27, 2002, from http://www.cme.org)

There is a close association between the amount of television watched and academic proficiency. States with a lower proportion of students who watch a lot of television have, on average, higher math scores. (Barton, P. E., & Coley, R. J. (1992). *America’s smallest school: The family*. Princeton, NJ: Education Testing Service. (ERIC Document Reproduction Service No. ED349320))

Among fifteen countries, the United States was second from the top in the percentage of 13-year-old students who watched five or more hours of television everyday. The highest was Scotland (24%); the lowest was Slovenia (4%). (Barton, P. E., & Coley, R. J. (1992). *America’s smallest school: The family*. Princeton, NJ: Education Testing Service. (ERIC Document Reproduction Service No. ED349320))

**The Home Literacy Environment**

In families with children ages 3 to 5, 54% of those children were read to everyday by a family member. (Federal Interagency Forum on Child and Family Statistics. (2001). *America’s children: Key national indicators of well-being, 2001*. Washington, DC: Author.)

50% of children aged 3 to 5 years not yet in kindergarten were told a story three or more times in the last week by a family member. 64% were taught letters, words, or numbers frequently by their families. Nearly half (48%) were taught songs or music three or more times in the last week, and more than a third (39%) did arts and crafts with their families three or more times in the last week. (U.S. Department of Education. (2001). *The condition of education* (NCES No. 2001-072). Washington, DC: Author.)

3-year-olds were more likely than 4-year-olds or 5-year-olds to have been taught songs or music three or more times in the last week by their families (57% of 3-year-olds compared
to 43% of 4-year-olds and 38% of 5-year-olds). However, they were less likely than 4- and 5-year-olds to have visited the library with their families in the last month (34%, versus 38% and 41%, respectively). (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). *Home literacy activities and signs of children’s emerging literacy: 1993 and 1999 (NCES No. 2000-026)*. Washington, DC: U.S. Department of Education.)

Hispanic children and black, non-Hispanic children were less likely than white, non-Hispanic children to have been read to (62% and 72% versus 89%), told stories by (40% and 44% versus 53%), or done arts and crafts with (32% and 27% versus 44%) their families three or more times in the last week. (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). *Home literacy activities and signs of children’s emerging literacy: 1993 and 1999 (NCES No. 2000-026)*. Washington, DC: U.S. Department of Education.)


48% of children living in families in poverty were read to everyday in 2001 compared to 58% of children living above poverty. (Federal Interagency Forum on Child and Family Statistics. (2002). *America's children: Key national indicators of well-being, 2002*.Washington, DC: Author.)

42% of children whose mothers had less than a high school education were read to every day in the last week compared to 73% of children whose mothers’ highest education was college graduate or graduate or professional school. (Federal Interagency Forum on Child and Family Statistics. (2002). *America’s children: Key national indicators of well-being, 2002*.Washington, DC: Author.)

43% of children 3 to 5 years not yet enrolled in kindergarten whose mothers had less than a high school education were taught songs or music three or more times in the last week, as were 47% of children whose mothers were college graduates and 45% of children whose mothers had attended graduate or professional school. (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). *Home literacy activities and signs of children's emerging literacy: 1993 and 1999 (NCES No. 2000-026)*. Washington, DC: U.S. Department of Education.)

27% of children with two or more risk factors had visited a library in the past month compared to 44% of children with no risk factors. 66% of children with two or more risk factors were read to three or more times in the last week compared to 91% of children with no risk factors. (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). *Home literacy activities and signs of children’s emerging literacy: 1993 and 1999 (NCES No. 2000-026)*. Washington, DC: U.S. Department of Education.)

Children in 1999 are more likely than those in 1993 to engage in literacy activities with family members. The one exception is that they are no more likely than their 1993 counterparts to have visited a library in the past month with a family member. They are more likely than children in 1993, however, to have been read to (81% versus 78%), told a story (50% versus 43%), and taught letters, words, or numbers (64% versus 58%) three or more times in the last week. They are also more likely than children in 1993 to have been taught songs or music (49% versus 41%) and to have done arts and crafts with a family member (39% versus 34%) three or more times in the last week. (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). *Home Literacy Activities and Signs of Children's Emerging Literacy: 1993 and 1999 (NCES No. 2000-026)*. Washington, DC: U.S. Department of Education.)
In 1999, 82% of children ages 3-5 who were not yet enrolled in kindergarten were read to by a family member 3 or more times a week. (U.S. Department of Education. (2001). *The condition of education* (NCES No. 2001-072). Washington, DC: Author.)

The percentage of white, non-Hispanic children who were read to three or more times in the last week increased from 85% in 1993 to 89% in 1999. Similarly, the percentage who were taught letters, words, or numbers three or more times in the last week increased from 58% in 1993 to 65% in 1999. Among black, non-Hispanic children, the percentage who was read to frequently rose from 66% in 1993 to 71% in 1999. (U.S. Department of Education. (2001). *The condition of education* (NCES No. 2001-072). Washington, DC: Author.)

In 2001, 58% of children ages 3 to 5 were read to daily by a family member. (National Center for Education Statistics. (2002). *National household education survey*. Washington, DC: U.S. Department of Education.)

As a mother’s education increases, so does the likelihood that her child is read to every day. In 2001, 73% of children whose mothers were college graduates were read aloud to every day. In comparison, daily reading aloud occurred for 60% of children whose mothers had some postsecondary education, 49% whose mothers had completed high school but had no education beyond that, and 42% whose mothers had not completed high school. (National Center for Education Statistics. (2002). *National household education survey*. Washington, DC: U.S. Department of Education.)

White, non-Hispanic children are more likely to be read aloud to every day than either black, non-Hispanic or Hispanic children. 64% of white, non-Hispanic children, 48% of black, non-Hispanic children, and 42% of Hispanic children were read to every day. (National Center for Education Statistics. (2002). *National household education survey*. Washington, DC: U.S. Department of Education.)

In 1996, at least 80% of children ages 3-5 were read to or told a story in the past week by a parent or family member, while 38% had visited a library in the past month. The percentage of children who were read to or told a story was higher in 1996 than in 1991. (U.S. Department of Education. (1999). *The condition of education* (NCES No. 1999-022). Washington, DC: Author.)

Children ages 3-5 who were not enrolled in preprimary education were usually as likely to have been read to or told a story by a parent or family member in the past week as those 3- to 5-year-olds who were enrolled in kindergarten or center-based care in 1996. However, children ages 3-5 who were not enrolled in preprimary education were less likely to have visited a library in the past month than children who were enrolled in kindergarten or a center-based program. (U.S. Department of Education. (1999). *The condition of education* (NCES No. 1999-022). Washington, DC: Author.)

In 1996, white children ages 3-5 were more likely than their black and Hispanic peers to have been read to in the past week and were more likely than their black peers to have been told a story in the past week. In addition, white children were more likely to have visited a library in the past month than their black and Hispanic peers. (U.S. Department of Education. (1999). *The condition of education* (NCES No. 1999-022). Washington, DC: Author.)
Parental involvement at school is related to household income and their level of education. As household income and educational attainment increases, the percentage of students whose parents reported attending a school event, general or scheduled meeting with teacher, serve as a volunteer or committee member also increases. (U.S. Department of Education. (2001). *The condition of education* (NCES No. 2001-072). Washington, DC: Author.)

In 1996, children ages 3-5 whose parents had completed a bachelor’s degree or more education were more likely to have been read to in the past week or to have visited a library in the past month than children whose parents’ highest education level was a high school diploma or less. (U.S. Department of Education. (1999). *The condition of education* (NCES No. 1999-022). Washington, DC: Author.)

Children living with two parents are more likely to be read aloud to every day than are children who live with one or no parent. 58% of children in two-parent households were read to every day in 1999, compared with 43% of children living with one or no parent. (Federal Interagency Forum on Child and Family Statistics. (2001). *America’s children: Key national indicators of well-being, 2001*. Washington, DC: Author.)


Average reading proficiency increases as the number of different types of reading materials at home increased. More than one-third of 4th graders and one-half of 8th and 12th graders reported having each of the four types of reading materials (books, newspapers, magazines, and encyclopedias) at home in 1994. (U.S. Department of Education. (1996). *The condition of education* (NCES No. 96-304). Washington, DC: Author.)


Students who do more reading at home are better readers and have higher math scores; however, students do less reading for fun as they get older. (Barton, P. E., & Coley, R. J. (1992). *America’s smallest school: The family*. Princeton, NJ: Education Testing Service. (ERIC Document Reproduction Service No. ED349320))
Among 15 countries, the U.S. was twelfth in the percentage of 13-year-old students who read for fun almost every day. The highest was Switzerland (51%); the lowest was Korea (11%). (Barton, P. E., & Coley, R. J. (1992). America’s smallest school: The family. Princeton, NJ: Education Testing Service. (ERIC Document Reproduction Service No. ED349320))

82% of children 3 to 5 years in 1999 who were not yet enrolled in kindergarten were read to three or more times in the last week by a family member, and 64% of the same group were taught letters, words, or numbers frequently by their family. (U.S. Department of Education. (2001). The condition of education (NCES No. 2001-072). Washington, DC: Author.)

In 1999, Hispanic and African-American children were less likely than white, non-Hispanic children to have been read to (62% and 72% versus 89%), told stories (40% and 44% versus 53%), or done arts and crafts with (32% and 27% verses 44%) their families three or more times in the last week. (U.S. Department of Education. (2001). The condition of education (NCES No. 2001-072). Washington, DC: Author.)

In 1999, 70% of children living in families with incomes below the poverty threshold were read to three or more times in the last week compared to 85% of children living above poverty. (U.S. Department of Education. (2001). The condition of education (NCES No. 2001-072). Washington, DC: Author.)

In 1999, 63% of children whose mothers had less than a high school education were read to three or more times in the last week compared to 93% of children whose mothers’ highest education was college graduate or graduate or professional school. (U.S. Department of Education. (2001). The condition of education (NCES No. 2001-072). Washington, DC: Author.)

Generally, the more students read for fun on their own time, the higher their reading scores. Between 1984 and 1996, however, the percentage of 12th graders that reported that they “never” or “hardly ever” read for fun increased from 9% to 16%. (U.S. Department of Education. (1998). The condition of education (NCES No. 98-013). Washington, DC: Author.)

64% of white, 44% of African American, and 39% of Hispanic children are read to every day. (U.S. Department of Education. (1998). Digest of education statistics (NCES No. 1999-036). Washington, DC: Author.)

In 1999, 26% of children who were read to three or more times in the last week by a family member recognized all letters of the alphabet compared to 14% of children read to less frequently. Children who were read to frequently are also more likely than those who were not to count to 20 or higher (60% versus 44%), to write their own names (54% versus 40%), and to read or pretend to read (77% versus 57%). (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). Home literacy activities and signs of children’s emerging literacy: 1993 and 1999 (NCES No. 2000-026). Washington, DC: U.S. Department of Education.)

Children who were read to frequently are nearly twice as likely as other children to show three or more skills associated with emerging literacy (42% versus 24%). (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). Home literacy activities and signs of children’s emerging literacy: 1993 and 1999 (NCES No. 2000-026). Washington, DC: U.S. Department of Education.)
Children who were told stories three or more times in the last week are also more likely than those who were not to recognize all the letters of the alphabet (28% versus 20%), to count to 20 or higher (60% versus 54%), and to read or pretend to read (79% versus 68%). They are also more likely to be able to write their own names (54% versus 49%).


Children who were told stories three or more times in the last week are more likely than those who were not to show at least three signs of emerging literacy (44% versus 34%).


24% of 3 to 5 year olds already recognize all the letters of the alphabet, 57% can count to 20 or higher, 51% can write their own names, and 74% either read or pretend to read storybooks. (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). Home literacy activities and signs of children's emerging literacy: 1993 and 1999 (NCES No. 2000-026). Washington, DC: U.S. Department of Education.)

Only 3% of 3- to 5-year-olds not yet in kindergarten actually read. Overall, 39% of 3- to 5-year-olds not yet in kindergarten are reported to have at least three of these four skills.


14% of Hispanic children can write their own names, compared with 25% of white, non-Hispanic; 25% of black, non-Hispanic; and 30% of children of some other race or ethnicity. Hispanic children are also less likely than non-Hispanic children to be able to count to 20 or higher: 41% of Hispanic children can do so compared to 60% of white, non-Hispanic children; 60% of black, non-Hispanic children; and 59% of children of some other race or ethnicity. Black, non-Hispanic children are less likely than white, non-Hispanic children to read or to pretend to read (66% versus 79%), but they are as likely as white, non-Hispanic children to recognize all the letters of the alphabet and to be able to count to 20 or higher.


10% of 3- to 5-year-old children living in poverty recognize all the letters of the alphabet compared to 28% of non-poor children. Similarly, 39% of children living in poverty can count to 20 or higher compared to 62% of non-poor children. 19% of poor children show three or more signs of emerging literacy compared to 45% of non-poor children.

15% of children with two or more risk factors recognize all the letters of the alphabet compared to 29% of children with no risk factors. Similarly, 26% of children with two or more risk factors show at least three signs of emerging literacy compared to 47% of children with no risk factors. (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). *Home literacy activities and signs of children's emerging literacy: 1993 and 1999 (NCES No. 2000-026)*. Washington, DC: U.S. Department of Education.)

According to parental reports, 3- to 5-year-old children not yet in kindergarten in 1999 are more likely than their 1993 counterparts to be able to recognize all the letters of the alphabet (24% versus 21%) and to be able to count to 20 or higher (57% versus 52%). Children in 1999 are also more likely than children in 1993 to have three or four literacy skills (39% versus 35%). (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). *Home literacy activities and signs of children's emerging literacy: 1993 and 1999 (NCES No. 2000-026)*. Washington, DC: U.S. Department of Education.)

Children in 1999 whose mother's home language was English were more likely than their 1993 counterparts to recognize all the letters of the alphabet, to count to 20 or higher, to read or pretend to read, and to show at least three of the four literacy skills. On the other hand, children in 1999 whose mothers spoke a language other than English at home were no more likely than their 1993 counterparts to recognize all the letters of the alphabet, to count to 20, to read or pretend to read, or to show three or more emerging literacy skills. (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). *Home literacy activities and signs of children's emerging literacy: 1993 and 1999 (NCES No. 2000-026)*. Washington, DC: U.S. Department of Education.)

43% of children whose families taught them letters, words, or numbers three or more times in the last week show at least three of the four signs of emerging literacy compared to 31% of children whose mothers taught them letters, words, or numbers less frequently or not at all. Similarly, 49% of children whose families took them to the library at least once in the past month show three or more signs of emerging literacy compared to 33% of children whose families did not take them to the library in the past month. (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). *Home literacy activities and signs of children's emerging literacy: 1993 and 1999 (NCES No. 2000-026)*. Washington, DC: U.S. Department of Education.)

Children whose parents taught them songs or music three or more times in the last week are less likely to be able to write their own names than children who were taught songs or music less frequently (47% versus 55%). (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). *Home literacy activities and signs of children’s emerging literacy: 1993 and 1999 (NCES No. 2000-026)*. Washington, DC: U.S. Department of Education.)

76% of children whose families taught them songs or music three or more times in the last week read or pretend to read compared to 71% of other children. (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). *Home literacy activities and signs of children's emerging literacy: 1993 and 1999 (NCES No. 2000-026)*. Washington, DC: U.S. Department of Education.)

28% of children whose families did arts and crafts with them three or more times in the last week recognize all the letters of the alphabet compared to 21% of children whose families did arts and crafts with them less frequently or not at all. Similarly, 42% of children whose families did arts and crafts with them three or more times in the last week show at least three signs of emerging literacy compared to 37% of children whose families did arts and

43% of children whose families engaged in three or more types of literacy activities with them in the last week show three or more signs of emerging literacy compared to 30% of children whose families shared fewer activities with them. (Nord, C.W., Lennon, J., Liu, B., and Chandler, K. (1999). *Home literacy activities and signs of children’s emerging literacy: 1993 and 1999* (NCES No. 2000-026). Washington, DC: U.S. Department of Education.)

Most children will learn to read, no matter what method is used to teach them. But unless they receive special help, at least 20%—and perhaps as much as 40%—cannot master this simple task that other children take for granted. Their difficulty is painfully obvious when they try to read aloud. Children with reading difficulties stop and start frequently, mispronouncing some words and skipping others entirely.

The first casualty is self-esteem: they soon grow ashamed as they struggle with a skill their classmates’ master easily. In the later grades, when children switch from learning to read to reading to learn, reading-impaired children are kept from exploring science, history, literature, mathematics and the wealth of information that is presented in print.

Even what, to the rest of us, are everyday conveniences—a road map, the instructions for a microwave pizza—become daunting tasks for those with reading difficulties. And as more information becomes available, those who cannot read will be left behind by an information revolution that is largely text based:

- About 10 million children have difficulties learning to read.
- From 10% to 15% eventually drop out of high school.
- Only 2% complete a four-year college program.
- Surveys of adolescents and young adults with criminal records show that about half have reading difficulties.
- Similarly, about half of youths with a history of substance abuse have reading problems.

Even people with a mild reading impairment do not read for fun. For them, reading requires so much effort that they have little energy left for understanding what they have just read. Contrary to what many people believe, research has shown that reading disability affects boys and girls at roughly the same rate. Reading disabled boys, however, are more likely to be referred for treatment, as they are more likely to get the teacher’s attention by misbehaving. Reading disabled girls may escape the teacher’s attention, as they may withdraw into quiet daydreaming.

Another common misconception is that reading disabled people reverse letters and write in mirror image. In fact, such reversals are common among all beginning writers—reading impaired and non-reading impaired alike.

Research studies have shown, however, that in many cases, reading impairment can be related to deficiencies in the way that the brain processes letter sounds, a language-based task. If no steps are taken to compensate for this defect, reading disability will persist through life. Fortunately, treatment is available. (Bock, R. (n.d.). *Why children succeed or fail at reading.* Washington, DC: National Institute of Child and Human Development.)

Parental Involvement
Parent-child literacy activities in the home, such as helping children recognize letters, reading to children, or assisting children with reading and writing assignments have been found to improve children’s language skills and heighten their interest in books. (Primavera, J. (2000). Enhancing family literacy competence through literacy activities. *Journal of Prevention and Intervention in the Community*, 20, 85-101.)

Parental involvement can include attendance at a general meeting (open houses or back-to-school nights), a scheduled meeting with a teacher (parent-teacher conferences), a school event (class plays, sports, or science fairs), or acting as a volunteer or committee member. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

In both 1996 and 1999, at least 90% of children had parents who participated in at least one of these activities. However, parents in both years were least likely to participate in the activity that required the most time—acting as a volunteer or serving on a committee. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

In both 1996 and 1999, at least 86% of children in grades K-5 had parents who reported that they had attended a scheduled meeting with a teacher. In contrast, among children in grades 6-8 and 9-12 about 70% and 50%, respectively, had parents who reported attendance at such a meeting. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

Parents’ involvement is related to household income and their level of education. As household income and educational attainment increase, the percentage of students whose parents reported attending a general or a scheduled meeting with a teacher, attending a school event, or serving as a volunteer or committee member also increases. For instance, among parents who earn over $50,000, 96.4% were likely to participate in the child’s school verses 84.9% of participation among parents earning $10,000 or less a year. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

Among racial-ethnic groups, white (94%) students are more likely than African-American (87.7%) and Hispanic (87.6%) students to have parents who report participation in school activities. (U.S. Department of Education. (2000). *The condition of education* (NCES No. 2000-062). Washington, DC: Author.)

Eight in ten parents talk to their eighth grade children about their current school experience and half talk about high school plans. Six in ten have rules about TV watching and nine in ten about doing homework, and three in four have rules about maintaining a grade average. One in three parents contact the school about their child’s academic program and belong to the PTA. Parents with higher socioeconomic status are more likely to do both. (Barton, P. E., & Coley, R. J. (1992). *America’s smallest school: The family*. Princeton, NJ: Education Testing Service. (ERIC Document Reproduction Service No. ED349320))

The substantial relationship between parent involvement for the school and the reading comprehension levels of fourth grade classroom is obvious. Where involvement is low, classroom means average 46 points below the national average, and where involvement is high, classrooms score 28 points above the national average, a gap of 74 points. Even after controlling for the other attributes of communities, schools, principals, classes, and students that might confound this relationship, the gap is 44 points. (U.S. Department of Education.
In 1996, at least 80% of children ages 3-5 years old were read or told stories in the past week by a parent or family member. Children whose parents had a Bachelor’s degree or more education were more likely to read to their children than parents whose highest educational level was a high school diploma or less. Also, white children were more likely to have been read to in the past week (about 90%) than African American children (about 75%) and Hispanic children (about 65%). (U.S. Department of Education. (1999). The condition of education (NCES No. 1999-022). Washington, DC: Author.)

In general, schools with high poverty concentrations and minority enrollments reported less parent involvement than schools with lower poverty concentrations and minority enrollments:

- 72% of schools with low concentrations of poverty reported ‘most or all’ parents attended open house.
- 48% of schools with moderate concentrations of poverty reported ‘most or all’ parents attended open house.
- 28% of schools with high concentrations of poverty reported ‘most or all’ parents attended open house.


More schools with poverty concentrations and minority enrollments of 50% or more perceived the following issues to be barriers than schools low on these characteristics:

- Lack of parent education to help with schoolwork
- Cultural or socioeconomic differences
- Language differences between parents and staff
- Parent attitudes about the school
- Staff attitudes toward parents
- Concerns about safety in the area after school hours.


**Fatherhood**

Research shows that children benefit from positive relationships not only with their mothers, but also with their fathers:

- Father involvement is important even for very young children. Good fathering during infancy and early childhood contributes to the development of emotional security, curiosity, and math and verbal skills.
- Higher levels of involvement by fathers in activities with their children, such as eating meals together, going on outings, and helping with homework, are associated with fewer behavior problems, higher levels of sociability, and a higher level of school performance among children and adolescents.
- Involvement by fathers in children’s schooling, such as volunteering at school and attending school meetings, parent-teacher conferences and class events, is
associated with higher grades, greater school enjoyment, and lower chances of suspension or expulsion from school.

- The father-child relationship affects daughters as well as sons. Girls who live with both their mother and father do better academically. In addition, they are less likely to engage in early sexual involvement and in the use of alcohol or drugs. Although negative peer influence is the major reason kids use drugs, research suggests that positive family influence is the main reason kids do not use drugs. Both boys and girls have reduced risk of drug and alcohol use if their fathers are involved in their lives. (Horn, W. F., & Sylvester, T. (2002). Father facts: 4th edition. Gaithersburg, MD: National Fatherhood Initiative.)


Fathers with higher levels of education were generally more likely to report high involvement in their children’s schools. (Brown, B. V., Michelsen, E. A., Halle, T. G., & Moore, K. A. (2001, June). Fathers’ activities with their kids. Washington, DC: Child Trends Incorporated.)

Non-residential father involvement in their children’s school reduces the likelihood of children in grades 6 through 12 being suspended or expelled from school or repeating a grade. Also, the children are more likely to participate in extracurricular activities. (Brown, B. V., Michelsen, E. A., Halle, T. G., & Moore, K. A. (2001, June). Fathers’ activities with their kids.. Washington, DC: Child Trends Incorporated.)

Less than 10% of non-residential fathers who had contact with their child had high involvement in their child’s school. About 30% of fathers in two-parent households had high involvement in the school and over 40% of single fathers had high involvement in their child’s school. High involvement is defined as participation in three of four activities: volunteering at school, attending a class event, attending a parent-teacher conference, and attending a school meeting. (U.S. Department of Education. (1999). The condition of education (NCES No. 1999-022). Washington, DC: Author.)

One-parent families maintained by women were more likely than those maintained by men to have family incomes below the poverty level, 34% compared to 16%. (U.S. Census Bureau. (2000, June). America’s families and living arrangements (Current Population Reports P20-537). Washington, DC: Author.)

Children who live absent their biological fathers are, on average, at least two to three times more likely to be poor, to use drugs, to experience educational, health, emotional and behavioral problems, to be victims of child abuse, and to engage in criminal behavior than their peers who live with their married, biological (or adoptive) parents. (Horn, W. F., & Sylvester, T. (2002). Father facts: 4th edition. Gaithersburg, MD: National Fatherhood Initiative.)

When asked if the physical absence of the father from the home is the most significant family problem facing America:
• 52.1% of those between the ages of 18 to 24 agreed;
• 55.8% of college graduates agreed;
• 81.3% of people with less than a high school education agreed;
• 65.5% of persons earning over $50,000 agreed; 85.3% of unemployed persons agreed;
• 84.6% of persons 55 to 65 years old agreed.


When asked if fathers today spend more time with their children than their fathers did with them, 56.5% agreed, up from 50.9% in 1996. Overall, children with involved fathers are:
• More confident and less anxious in unfamiliar settings;
• Better able to deal with frustration;
• Better able to gain a sense of independence and an identity outside the mother-child relationship;
• More likely to mature into compassionate adults;
• More likely to have higher self-esteem and grade point averages;
• More sociable.


Over half of Americans agree that most people have unresolved problems with their fathers. Cumulatively, 55.6% agreed with this statement, up from 54.1% in 1996. More non-whites (70.4%) than whites (56.3%) agreed. The generation who has experienced more father absence, 18- to 24-year-olds, displayed the highest level of agreement (67.2%). Income was also a differentiating factor: Of the respondents making $25,000 or less, 70.1% agreed, compared to only 48.0% among those who make more than $50,000. (National Center for Fathering. (1999) Fathering in america. Kansas City, MO: Author.)

More than half of all Americans (57.6%) believe employers do not recognize the strain fathers face when trying to balance the demands of family and the demands of work. This is up significantly from the 1996 poll, where only 27.7% gave that response. Respondents who make $50,000 are also convinced about the strain faced by working fathers (68.3%), but those making $15,000-$25,000 are significantly less concerned about it (46.2%). (National Center for Fathering. (1999) Fathering in america. Kansas City, MO: Author.)

Technology


In 1998, 78% of students in grades 1-12 used the Internet at school. White students in grades 1-12 were more likely than black or Hispanic students to use the Internet at school (83% versus 70% and 71%, respectively). In addition, students from high-income families were more likely than students from low- and middle-income families to use the Internet at school (86% versus 68% and 78%, respectively). (U.S. Department of Education. (2000). The condition of education (NCES No. 2000-062). Washington, DC: Author.)

36% of high school graduates and 12% of high school dropouts used computers at work compared to 79% of those with master’s degrees. (U.S. Department of Education. (1999). Digest of education statistics (NCES No. 2000-031). Washington, DC: Author.)
Among the most common applications for all employees using computers on the job were: bookkeeping/invoicing (66%), word processing (57%), communications (47%), analysis/spreadsheets (41%), and calendar/schedule (38%). (U.S. Department of Education. (1999). *Digest of education statistics* (NCES No. 2000-031). Washington, DC: Author.)

The share of households with Internet access soared by 58%, rising from 26.2% in December 1998 to 41.5% in August 2000. (National Telecommunications and Information Administration. (2000). *Falling through the net: Toward digital inclusion*. Washington, DC: Author.)


The gap between households in rural areas and households nationwide with access to the Internet has narrowed from 4.0% points in 1998 to 2.6% points in 2000. Rural households are much closer to the nationwide Internet penetration rate of 41.5%. In rural areas this year, 38.9% of the households had Internet access, a 75% increase from 22.2% in December 1998. (National Telecommunications and Information Administration. (2000). *Falling through the net: Toward digital inclusion*. Washington, DC: Author.)

The disparity in Internet usage between men and women has largely disappeared. In December 1998, 34.2% of men and 31.4% of women were using the Internet. By August 2000, 44.6% of men and a statistically indistinguishable 44.2% of women were Internet users. (National Telecommunications and Information Administration. (2000). *Falling through the net: Toward digital inclusion*. Washington, DC: Author.)

Individuals 50 years of age and older—while still less likely than younger Americans to use the Internet—experienced the highest rates of growth in Internet usage of all age groups: 53% from December 1998 to August 2000, compared to a 35% growth rate for individual Internet usage nationwide. (National Telecommunications and Information Administration. (2000). *Falling Through the Net: Toward Digital Inclusion*. Washington, DC: Author.)

Individuals 50 years of age and older are among the least likely to be Internet users. The Internet use rate for this group was only 29.6% in 2000. However, individuals in this age group were almost three times as likely to be Internet users if they were in the labor force than if they were not. (National Telecommunications and Information Administration. (2000). *Falling Through the Net: Toward Digital Inclusion*. Washington, DC: Author.)

Persons with a disability are only half as likely to have access to the Internet as those without a disability: 21.6% compared to 42.1%. And while just under 25% of those without a disability have never used a personal computer, close to 60% of those with a disability fall into that category. (National Telecommunications and Information Administration. (2000). *Falling Through the Net: Toward Digital Inclusion*. Washington, DC: Author.)
Large gaps also remain regarding Internet penetration rates among households of different races and ethnic origins. Asian Americans and Pacific Islanders have maintained the highest level of home Internet access at 56.8%. Blacks and Hispanics, at the other end of the spectrum, continue to experience the lowest household Internet penetration rates at 23.5% and 23.6%, respectively. (National Telecommunications and Information Administration. (2000). *Falling Through the Net: Toward Digital Inclusion.* Washington, DC: Author.)

Large gaps for Blacks and Hispanics remain when measured against the national average Internet penetration rate:

- The divide between Internet access rates for black households and the national average rate was 18.0 percentage points in August 2000 (a 23.5% penetration rate for Black households, compared to 41.5% for households nationally). That gap is 3.0 percentage points wider than the 15.0 percentage point gap that existed in December 1998.
- The Internet divide between Hispanic households and the national average rate was 17.9 percentage points in August 2000 (a 23.6% penetration rate for Hispanic households, compared to 41.5% for households nationally). That gap is 4.3 percentage points wider than the 13.6 percentage point gap that existed in December 1998.
- With respect to individuals, while about a third of the U.S. population uses the Internet at home, only 16.1% of Hispanics and 18.9% of Blacks use the Internet at home.

Differences in income and education do not fully account for this facet of the digital divide. Estimates of what Internet access rates for black and Hispanic households would have been if they had incomes and education levels as high as the nation as a whole show that these two factors account for about one-half of the differences. (National Telecommunications and Information Administration. (2000). *Falling Through the Net: Toward Digital Inclusion.* Washington, DC: Author.)

With regard to computer ownership, the divide appears to have stabilized, although it remains large:

- The August 2000 divide between black households and the national average rate with regard to computer ownership was 18.4 percentage points (a 32.6% penetration rate for black households, compared to 51.0% for households nationally). That gap is statistically no different from the gap that existed in December 1998.
- Similarly, the 17.3 percentage point difference between the share of Hispanic households with a computer (33.7%) and the national average (51.%) did not register a statistically significant change from the December 1998 computer divide. (National Telecommunications and Information Administration. (2000). *Falling Through the Net: Toward Digital Inclusion.* Washington, DC: Author.)

Two-parent households are nearly twice as likely to have Internet access as single-parent households (60.6% for dual-parent, compared to 35.7% for male-headed households and 30.0% for female-headed households). In central cities, only 22.8% of female-headed households have Internet access. (National Telecommunications and Information Administration. (2000). *Falling Through the Net: Toward Digital Inclusion.* Washington, DC: Author.)

Even with broadband services, a relatively new technology used by only 10.7% of online households, there are disparities. Rural areas, for example, are now lagging behind central cities and urban areas in broadband penetration at 7.3%, compared to 12.2% and 11.8%,

Americans are using the Internet in the following ways:

- E-mail remains the Internet’s primary application: 84.8% of Internet users reported using e-mail.
- Online shopping and bill paying are seeing the fastest growth.
- Low-income users were the most likely to report using the Internet to look for jobs.

The August 2000 data show that schools, libraries, and other public access points continue to serve those groups that do not have access at home. For example, certain groups are far more likely to use public libraries to access the Internet, such as the unemployed, blacks, and Asian Americans and Pacific Islanders. (National Telecommunications and Information Administration. (2000). *Falling Through the Net: Toward Digital Inclusion.* Washington, DC: Author.)

36% of all African-American adults, about 7.5 million people, now have Internet access; 23% of African-Americans were online in 1998. (Spooner, T., & Rainie, L. (2000, October). *African Americans and the Internet.* Washington, DC: Pew Internet & American Life Project.)

50% of Hispanics who were 18 and older have used the internet. Overall, 11 million Hispanic adults have internet access. (Spooner, T., & Rainie, L. (2001, July). *Hispanics and the Internet.* Washington, DC: Pew Internet & American Life Project.)

Some 44% of Hispanic Internet users go online only from their homes; 14% do so only from their workplace; and 33% have access at both home and work. (Spooner, T., & Rainie, L. (2001, July). *Hispanics and the Internet.* Washington, DC: Pew Internet & American Life Project.)

54% of those not online believe the Internet is a dangerous thing. (Lenhart, A. (2000, September). *Who’s not online: 57% of those without internet access say they do not plan to log on.* Washington, DC: Pew Internet & American Life Project.)


In 2001, the ratio of students to instructional computers with internet access in public schools was 5.4 to 1, an improvement from the 12.1 to 1 ratio in 1998, when it was first measured. (Kleiner, A., & Farris, E. (2002). *Internet access in U.S. public schools and classrooms: 1994-2001* (NCES No. 2002-018). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

The ratio of students to instructional computers with internet access was higher in schools with the highest poverty concentration (6.8 to 1 compared to 4.9 or 5.6 to 1 in other schools). (Kleiner, A., & Farris, E. (2002). *Internet access in U.S. public schools and classrooms: 1994-2001* (NCES No. 2002-018). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

In 2001, 79% of instructional rooms had Internet access in schools with high concentrations of poverty (75% or more students eligible for free or reduced-price lunches), compared with 90% of instructional rooms in schools with the lowest concentrations of poverty. (Kleiner, A., & Farris, E. (2002). *Internet access in U.S. public schools and classrooms: 1994-2001* (NCES No. 2002-018). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

In 2001, 55% of the nation’s public schools were connected to the Internet by T1/DS1 lines, 5% used dial-up connections, and 40% of schools used other connection types, which included ISDN, wireless connections, and cable modems. (Kleiner, A., & Farris, E. (2002). *Internet access in U.S. public schools and classrooms: 1994-2001* (NCES No. 2002-018). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

In 2001, 85 percent of public schools used broadband connections to access the internet. This is an increase from 2000, when 80 percent of the schools were using this type of connection. (Kleiner, A., & Farris, E. (2002). *Internet access in U.S. public schools and classrooms: 1997-2001* (NCES No. 2002-018). Washington, DC: U.S. Department of Education, National Center for Education Statistics.)

According to a September 2001 study by the Pew Internet and American Life Project:

- Nearly every online teen (94% of 12 to 17 year olds who report using the internet) has used the internet for school research;
- 71% used the Internet as the major source for their most recent school project;
- 58% have used a site set up by school or a class;
- 34% have downloaded a study aid; and
- 17% have created a Web page for a school project.


16% of children living in poor households did not have a phone in 2000 compared to 4% in households above the poverty line. (Annie E. Casey Foundation. (2001, September). *Kids count snapshot.* Baltimore, MD: Author.)

**Kentucky: Indicators and Rankings**


In Kentucky, child care for a four-year-old in a child care center in an urban area averages $4368 per year, more than the cost of public college tuition in the state — $2,516.
965,528 children live in Kentucky. In 1997, 229,043 (23.1%) were poor. The 1997 poverty level for a family of three was $12,802 a year ($1,067 a month). In the United States, 14,113,067 children (19.9%) were poor. (Children’s Defense Fund. (2001). State of Kentucky’s children: Children in the states, 2001. Washington, DC: Author.)


NCFL’s Research on Family Literacy

The Toyota Families in Schools (TFS) project was designed to assess the effectiveness of family literacy programming in the elementary school setting. One of the primary goals of TFS is to increase the long-term academic achievement of those children. NCFL research staff designed the Teacher Report on Student Performance to gather teachers’ judgments on both participating TFS children as well as a matched comparison group of classmates not participating in family literacy. To reduce potential teacher bias, school principals were given...
instructions for the random selection of comparison children and distribution of the surveys. Teachers were asked to assess students, using a five point Likert-type scale, on these nine domains:

- Overall academic performance
- Motivation to learn
- Support from family
- Relationships with other students
- Attendance
- Classroom behavior
- Self-confidence
- Involvement in class activities
- Likelihood of future school success

Teachers were also asked to report current reading levels, any identified special needs, and grade repetition. A total of 1,026 surveys were collected—521 TFS and 505 non-TFS students over two program years (2000-01 and 2001-02):

- On seven of the nine domains, the TFS children were rated significantly higher by their current teacher than the randomly-selected comparison children: overall academic performance, motivation to learn, support from family, relationship with other students, attendance, classroom behavior, and likelihood of future success in school.
- No difference was detected between the TFS (39.1% below grade level) and non-TFS (38.3% below grade level) students on current reading level (combined average of 38.7% for both groups).
- No significant differences were found between the two groups in grade repetition: 9.3% of the non-TFS students had repeated a grade in school compared to 8.6% of the TFS students. There was also no significant difference between the groups in regard to participation in special needs programs. (Tucker, J., & Hill, H. (2002). *Research brief: Teacher report on student performance*. Louisville, KY: National Center for Family Literacy.)

For the 1999-2000 and 2000-2001 program years, NCFL collected data from 17 partnership family literacy sites that were also Even Start programs. Analysis of the data shows significant gains on several pre-post measures:

- Children taking the Peabody Picture Vocabulary Test (PPVT) showed a gain from the 3rd percentile rank at entry to the 42nd percentile rank at exit.
- 40% of the adults earned their GED at time of exit, compared to 28% at entry.
- The number of parents reading to their children daily increased from 49% at entry to 57% at exit. (National Center for Family Literacy. (2002). [Analysis of 1999-2001 NCFL Even Start data]. Unpublished raw data.)

The primary NCFL database now contains data on over 9,200 families from 205 programs in 22 states plus the District of Columbia. These programs have served populations rural and urban; white, African American, Hispanic, Asian and Native American; and both young and old alike. For all their diversity, however, almost all families exhibit two significant characteristics:

- The parent lacks the necessary education and skills to find and keep a job, which keeps the family in poverty. Adults in NCFL family literacy programs have typically completed the 10th grade. However, test results indicate that the actual reading and quantitative skills of these students is between the sixth and seventh grade levels. Even so, adult students typically increase their basic academic skills by 1.5 to 2.0 grade levels during the program year.
Their children are at high risk of academic failure (the mean percentile rank on the PPVT of all children in the database equals the 4th percentile, n = 1800), which means this cycle of undereducation and poverty will most likely continue. While in family literacy programs, however, children make gains in developmental areas such as creativity, social relations, language and literacy, and initiative that are three times greater than expected as a result of normal maturation. (National Center for Family Literacy. (2002). [Analysis of NCFL database, 1991-2001]. Unpublished raw data.)


- Talk to their school-age children’s teacher
- Talk to their children about their day
- Read or look at books with children
- Children see the parent reading or writing
- Take their children to the library
- Volunteer at school
- Help children with homework
- Attend school activities

Retention rates are greater for family literacy programs than for stand-alone programs: 73% of the parents complete the program year, enroll in another educational or training program, or get a job. (National Center for Family Literacy. (1997). [Analysis of NCFL primary database]. Unpublished raw data.)

The percentage of children in the Even Start program rated “average or above” by their current classroom teacher (grades K-5):
- 67% on overall academic performance
- 78% on motivation to learn
- 83% on support from parents
- 89% on relations with other students
- 91% on attendance
- 84% on classroom behavior
- 73% on self-confidence
- 75% on probable success in school
- 80% on all factors by their teachers
- 90% showed satisfactory grades in reading, language and mathematics.
(National Center for Family Literacy. (1997). *Even Start: An effective literacy program helps families grow toward independence.* Louisville, KY: Author.)

NCFL documented the results of high quality, federally funded Even Start programs to show what can be expected of programs when implemented according to the Even Start mandate. Data was collected from thirty sites across the country in 1997. Adults made significant changes in their lives:
- 54% seeking educational credentials received the GED or its equivalent.
- 45% of those on public assistance reduced the amount they received or ceased to receive aid altogether.
- 40% were enrolled in some higher education or training program.
• 50% of those not currently enrolled in an education or training program are employed.  
(National Center for Family Literacy. (1997). *Even Start: An effective literacy program helps families grow toward independence.* Louisville, KY: Author.)

A follow-up study of former family literacy children in Rochester, NY showed that while only 11% scored above the 20th percentile rank on the PPVT as 3 and 4-year-olds in the family literacy program, 87% scored above the 20th percentile rank on a standardized reading test as first and second graders (n=23). (National Center for Family Literacy. (1996). [Analysis of NCFL follow-up database]. Unpublished raw data.)

The Kenan Model was expanded nationally in 1991 with the *Toyota for Families Learning Program*. The findings from families (n = 500) in 32 sites in 10 cities demonstrated the effectiveness of addressing these problems from the comprehensive perspective of the Kenan model:

- Adults participating in family literacy programs showed greater gains in literacy than adults in adult-focused programs.
- Participants in family literacy programs were less likely to drop out of the program than were participants in adult focused programs.
- Children participating in family literacy programs demonstrated greater gains than children in child-focused programs.


Parental involvement is one of the most important indicators of the success of family literacy programs. Ideally, adults and children both improve in literacy ability, and lifestyle changes should be occurring in parent/child interactions so that learning gains can be maintained and extended independently by families. Mikulecky and Lloyd, in a study of NCFL programs in Atlanta, Rochester, Fort Wayne, Nashville, and Richmond (n = 133) demonstrated that:

1) Parents provided a wider range of reading and writing materials at home for their children:
   - Parents took their children to the library twice as often, about every 3 weeks.
   - Parents bought or borrowed books for their children 40% more often, every one to two weeks.

2) Parents engaged in a wider range of reading and writing activities with their children at home, drawing and writing with their children and using educational materials and games:
   - Parents read or looked at books with their children 40% more often, almost every day.
   - Children asked parents to read to them 20% more often, almost every day.
   - Children’s book and magazine reading increased by nearly 40%, to more than once a day.

3) Parent-child talk involved more explaining and less direct instruction about manners and hygiene.

4) Parents and children played together with toys or games about 30% more often.

5) Parents displayed children’s drawings and writings at home 20% more often, every 4 to 5 days.
6) Children saw their parents engage in a wider range of reading and writing activities at home.
7) Parents became increasingly aware that children can learn through play and do not need to be taught or controlled by adults:
   - Parents thought that children learned to read and write well in school because their parents spent quality time with them rather than because of the child’s ability or effort.
   - Parents believed taking children to the library or educational programs would help children learn to read and write well.


Using well-established, statistically reliable psychological self-assessments, NCFL research shows that parents demonstrate significant gains in:


(These data were collected in 1995-96 from NCFL programs in Akron, Ft. Wayne, Chicago, Dallas, Denver, Ft. Lauderdale, Pittsburgh, and Rochester. Parenting responsibility (the amount of responsibility the parent feels for the actions and behaviors of the child) was also measured: No significant gain was observed.)

In a follow-up study, 53 adults and 98 children were evaluated after leaving the program:

- One year after leaving the program, 66% of adults were either in some form of higher or continuing education program, had definite plans for enrolling, or were employed.
- 35% were employed, while fewer than 10% were employed at the time they enrolled in the program.
- After two years, none of the children had been held back in school.
- Over three-fourths of these children were rated by their current kindergarten or grade-school teacher as average or above average on academic performance, motivation to learn, support from parents, relations with other students, attendance, classroom behavior, self confidence, and probable success in school. (National Center for Family Literacy. (1991). *Follow-up study of the impact of the Kenan trust model for family literacy*. Louisville, KY: Author.)

Family literacy works better than traditional approaches to adult education, early childhood education, or stand-alone parent programs for the most vulnerable adults and children. From the beginning of the Kenan program in 1989, NCFL has utilized standardized and teacher-made tests, case studies, anecdotal records, parent surveys and interviews, and staff observations to evaluate all aspects of the program. The early findings indicated that both adults and their children made important gains as a result of attending family literacy programs:
• Parents who made a commitment to attend regularly made significant improvements in academic performance, in their relationships with their children and with other adults, and in their view of themselves. 14% received GED certification during the program year, and another 16% passed parts of the exam or had scheduled the exam after the program year had ended.

• By the end of the program year, more than 90% of formerly at risk children were judged by their teacher as ready for entry into kindergarten with no expected academic or social difficulties. These children demonstrated significant growth in behavior, use of language, and development of pre-academic skills. (National Center for Family Literacy. (1989). *Breaking the cycle of illiteracy: The Kenan family literacy model program.* Louisville, KY: Author.)