POLICY INFORMATION REPORT

AMERICA'S SMALLEST SCHOOL:

THE FAMILY

POLICY INFORMATION CENTER
Educational Testing Service
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CONTENTS

This report was written by Paul E. Barton and Richard J. Coley of the ETS Policy Information Center.

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Preface

A national commitment to create conditions that foster educational achievement would reflect a real seriousness of purpose. No less than that will be required to reach the ambitious goals set by the President and the governors for the year 2000. These conditions include, most importantly, what takes place in school rooms, but also what takes place in the community, in the neighborhood, and in the family. This report addresses the family as our smallest school, using the available research and indicators to portray its condition as an educational institution.

Paul E. Barton
Director
Policy Information Center

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Highlights

It is common knowledge that education, like charity, begins at home, and that the family is the primary institution for socialization. But when we talk about education reform and ambitious new goals for educational achievement, we frequently overlook the critical role that the family must play in order to achieve these goals.

To control for the strong effects of family and identify *other* causes of differences in educational achievement, social science has long used "socioeconomic status," a statistical representation of family background factors. The Coleman Report of 1965 found that most differences in the educational achievement of students could be attributed to these family background factors, measured by parents' education, family income, and parents' occupation. None of these factors, however, are *direct* measures of the quantity and quality of interactions between parents, the home environment, and children. Recently, though, research has attempted to penetrate these gross indicators to identify the critical interactions. Further, much more information from national studies is becoming available, providing a clearer view of the home as an education environment.

- **The Parent-Pupil Ratio**

  If parents are a critical factor in children's development, then whether children have one parent or two at home should make a difference (of course, the "ratio" depends on the number of children as well). In fact, students with two parents in the home score considerably higher on achievement tests than those with one parent; the difference narrows considerably but remains after taking account of the fact that single-parent families, on average, have lower income and less education.

  One in five children now lives in a single-parent family (17 percent of White, 54 percent of Black, and 28 percent of Hispanic children), more than *double* the proportion in 1965. The proportion varies widely among the states, and this is related to variation in achievement.

- **The Home Library**

  The number of reading materials in the home has declined over the last two decades. In the assessments of the National Assessment of Educational Progress (NAEP), achievement in school is consistently related to the number of reading materials in the home. States where homes have more reading materials generally have higher average proficiency. The U.S. ranks relatively high among 14 other countries in the percentage of students having 25 or more books in the home.

- **Reading at Home**

  Students are reading books, newspapers, and magazines a bit less in 1990 than in 1984, and they do less reading for fun as they grow older. They spend 12 times as much time watching television as they do outside reading, and the quantity of reading is associated with achievement. The amount students read per day varies considerably among the states. Thirteen-year-olds in the U.S. do less reading for fun than their peers in 11 other countries studied in 1991.

- **Watching Television**

  The Advisory Panel on the Scholastic Aptitude Test Score Decline sounded an alarm about television watching in 1977: "By age 16 most children have spent 10,000 to 15,000 hours watching television, more time than they have spent in school." By 1990, they were watching considerably more. There is a close association between the amount of television watched and academic proficiency. Among the states, the range for eighth graders in watching six or more hours each day is from 33 percent in District of Columbia to 6 percent in North Dakota; among 15 countries in 1991, the United States was second from the top in the percentage of 13-year-olds students who watch long hours of television.

- **Homework**

  The amount of homework students do has changed little since 1984, the amount students do varies considerably among the states, and the United States ranks relatively low among 15 countries in the amount of homework done.

  Increasing the amount of homework students do was an objective of the education reform movement of the 1980s, led by a recommendation of the National Commission on Excellence in Education in 1983. For 17-year-olds, proficiency rises with the amount of homework performed. However, the relationship is less clear at earlier ages; students doing less well

in school may take longer to finish homework or may be assigned more by their teachers.

- **Absence from School**

  Getting students to school is a shared responsibility of students and parents. A fifth of eighth grade students are absent three or more days a month, as are over a third of Black students and a fourth of Hispanic students. Another one in eight are tardy three or more days in a month, and almost one in 10 cut class at least sometimes. Days absent from school is the lowest in North Dakota, where student achievement is the highest.

- **Parent Involvement**

  Most parents talk to their eighth grade children about their school experiences, but much less so about their future plans. The majority have rules about TV watching and about homework, and three in four have rules about maintaining a grade average. How liberal these rules are, and how they are enforced, is unknown. Three in 10 belong to Parent Teacher Associations. One in three contact the school about their child's academic program. Researchers find parental involvement of these kinds to be related to school achievement.

- **Family Resources**

  Trends in resources available to families to raise children are not favorable to educational improvement. Family income has stagnated for the last two decades, and would have declined if more and more mothers had not gone to work. More children — one in five — are in poverty than two decades ago; one in eight are on welfare.

- **Leadership, Goals, and Achievement**

  - National educational goals for the year 2000 will be difficult to attain without educational reform in the home as well as the school.
  - State-by-state and country-by-country rankings can focus attention on the home environment, as well as on achievement and what goes on in schools.
  - To leap forward in achievement, a change must occur in the pervasive attitude of American society — and this change must begin with the family.
  - Policies that deal with family resources, welfare dependency, and poverty among children are also educational policies to the extent that they make the home a better school.

Introduction

There is an intuitive level at which most of us recognize that the basic socializing and nurturing institution is the family — America's smallest school. When we take the time to think about it, it is common sense that the love and attention babies and children receive, the security they feel, the encouragement they get to learn, the intellectual richness of their home environment, and the attention given to their health are all critical in the development of children who are able and motivated to learn. There is the old saying, "it is as plain as the nose on your face." It is also frequently the case, however, that when something is so plain and obvious, we often overlook it.

Even though public officials, PTA speakers, educators, and ministers often tell us how important a role the family plays, this message does not translate to a national resolve to improve the family as an education institution. In President Bush's education address last April he said we must "cultivate communities where children can learn... Not just in the school but in the neighborhood. Not just in the classroom, but in the home." The America 2000 plan says a lot about family and community. But the visible action and leadership is on the school front — national goals, "outcome measures" for schools, national educational standards, and national examinations of students.

Commenting on the family and community aspect of the America 2000 strategy, Harold Howe II, a former U.S. Commissioner of Education, stated: "We must consider the effects on children of their lives outside of school — which, this document recognizes, occupy 91 percent of their time; and we must do it through national and local initiatives." Recognition of the family and community role clearly exists — the question is what to do, and with what priority.

This recognition has been evolving in the education profession and in the research community, a recognition to which an increasing number of individuals have contributed and committed their energies. Social and education research made "family background" a key ingredient in explaining relationships, and in attributing results to a particular intervention or policy. It became standard decades ago to measure the "socioeconomic status" of families, based on parent income, occupation, and education (the shorthand became "SES"). This is what "family background" usually means in research reports, and educational achievement is strongly related to it; the higher the SES, the higher the achievement.

However, SES is used not to see how these "background factors" might be improved, but to control for them in order to identify what *other* factors make a difference in achievement, usually aspects of what happens in schools. This is quite legitimate and useful in research and evaluation. We do have a wide distribution of family income, occupational status, and parental education, and research has clearly established that these are closely related to the wide distribution we also have in the educational achievement of students. These effects have to be factored out if we are to identify other effects.

Yet the question remains — what are the causes behind these large effects of "family background" on student achievement. What the father or mother does at work all day is hardly the cause. And measuring the parents' level of education says nothing about how they are using it to help their children. We need to get behind these measures of convenience to determine what occurs in the home that promotes student learning. Then national and local leaders, educators, and most importantly parents themselves can work for improvement. This report looks upon the home as we would a school, and asks: How can education be improved?

In the scholarly community, James S. Coleman, a sociologist at the University of Chicago, has given this matter more systematic attention than anyone else (it was Coleman, et al., in the 1966 report, *Equality of Educational Opportunity*, who established the strong role that family background played in student achievement, relative to variations in the measures used of the quality of schools).

As we strive to reach ambitious goals in education for the year 2000, the family seems to be playing a smaller role in educational improvement. Time was when the father and the mother both worked in and around the home and productive pursuits of farming or running a grocery store were learned in the normal course of growing up in the home. But now the father works outside the home, and increasingly so does a mother. Coleman gives it historical perspective:

"Over a long period of time — almost two centuries — society has come to be transformed from a set of communities where families were the central building blocks to a social system in which the central organizations are business firms, and families are at the periphery."

According to Coleman, we need to build "social capital" the way we build financial capital or human

capital. He defines it as follows:

"Social capital in the family that is available to aid children's learning is not merely the presence of adults in the household, but the attention and involvement of adults in children's learning. . . The amount of social capital provided by adults in the household may vary widely without variation in their physical presence."

At the University of Chicago, Coleman has led a team of researchers to identify the kinds of parent involvement with their children, and with their children's schools, that make a difference. This has been carried out with an extensive analysis of a survey of a national sample of parents of eighth grade students in the National Educational Longitudinal Study of 1988, in which the academic skills of students were assessed. Some of the results from this effort are included in this report. These research efforts are the beginning of important inquiry into factors in "home education" that are related to student learning, and from which we can learn more about how parents can make a greater difference, and how they might be helped to do so.

Nothing said here about the importance of schooling in the home is meant to detract from national efforts to improve schooling in the classroom. It is the school that has the formal responsibility for education. But the schools are working with a very large handicap when they have to make up for what could happen in the family. We can view strong education in the home as a platform from which the schools can bring students to high levels of achievement; the higher this platform is raised, the higher schools can raise achievement.

This volume assembles the measures that are available of what happens outside school and within the purview of the home that is related to educational achievement. While it assembles most of what we believe is available from large scale surveys and measurement programs, it cannot be the sum total of what we should be watching or measuring in the home we are calling school. If we become serious about improving America's smallest schools, we will want to be better informed about what kind of schooling makes a difference. We wish to help provide a focus on the family as school that will encourage greater resolve to do more.

There are those things that are within the purview of the family to change, and there are also family conditions that are also dependent on public policy and programs for change, conditions that create the educational environment of the home. This report also addresses trends in family resources, poverty, dependency, and the presence of two parents in the home.

There are eight sections to this report. In each section, a set of indicators, graphs, or tables are provided on the right hand page, and a narrative is provided on the left hand page, together with the sources used. At the top of each right hand page is a brief summary of what the indicators, graphs, or tables say. A summary is provided at the end of the report. The eight sections are as follows:

- The Parent-Pupil Ratio
- The Home Library
- Reading at Home
- Watching Television
- Homework
- Absence from School
- Parent Involvement
- Family Resources

National

In schools, we ask how many teachers are available to teach, and what the ratio is of teachers to students. If children also learn from their parents, then it should matter whether they have two or one to learn from.

It is reasonably well known that, on average, students from two-parent families perform better in school than those with one parent. This can be seen in Figure 1 where students at all three grade levels who have two parents have the highest NAEP math proficiency, on average.

In Figure 1, mathematics proficiency is reported on a scale of 0-500.

It is also known that one-parent families have lower incomes, on average, than those with two parents, partially because there is just one earner and partially because they are typically headed by women who tend to have lower earnings and less education. These factors combined mean that single-parent families are more likely to be of low socioeconomic status, which is linked to lower school performance. An analysis by Seh-Ahn Lee, using the 1988 National Educational Longitudinal Survey, found that lower performance on standardized tests for children in mother-only families is largely due to the greater disadvantage of these families. And after controlling for other factors, the difference still existed, although much reduced.[1] However, parental involvement in the education affairs of the child makes a difference in these mother-only families, as it does in mother-father families.

Source for Figure 1: Ina V.S. Mullis and others, *The STATE of Mathematics Achievement: NAEP's 1990 Assessment of the Nation and the Trial Assessment of the States*. Prepared by Educational Testing Service under contract with the U.S. Department of Education, National Center for Education Statistics, June 1991.

Source for Table 1: Jerry West, Kenneth A. Rasinski, and Eric Camburn, *Parental Involvement in Education: Preliminary Findings from the NELS:88 Base Year Parent Survey*, paper presented at the annual meeting of the American Educational Research Association, April 1990.

While data are not available to measure it, the presence of other relatives in the home, such as grandparents, can also make a difference.

As shown in Table 1, about one in five children under age 18 live in single-parent families. This has doubled since 1965, and the trend is inexorably upward, as can be seen in Figure 2. More than half of Black children live in single-parent families, as do 28 percent of Hispanic children (See Table 2).

Source for Table 2 and Figure 2: U.S. Department of Education, National Center for Education Statistics, *Youth Indicators, 1991: Trends in the Well-Being of American Youth*, April 1991.

These trends in the parent-pupil ratio do not bode well for educational improvement.

Data for Figure 2 are provided in Appendix Table 1.

[1]Seh-Ahn Lee, "Family Structure Effects on Student Outcomes," in *Resources and Actions: Parents, Their Children and Schools*, NORC/ University of Chicago, August 1991, Chapter 3, p. 1.

Students Living with Both Parents Tend to Have Higher Average Math Proficiency.
The Percentage of Children Living with a Single Parent Has More Than Doubled Since 1965.
About One in Six White Children, One in Four Hispanic Children and One in Two Black Children Live with One Parent.

Figure 1: Number of Parents Living in the Home and Math Proficiency, 1990

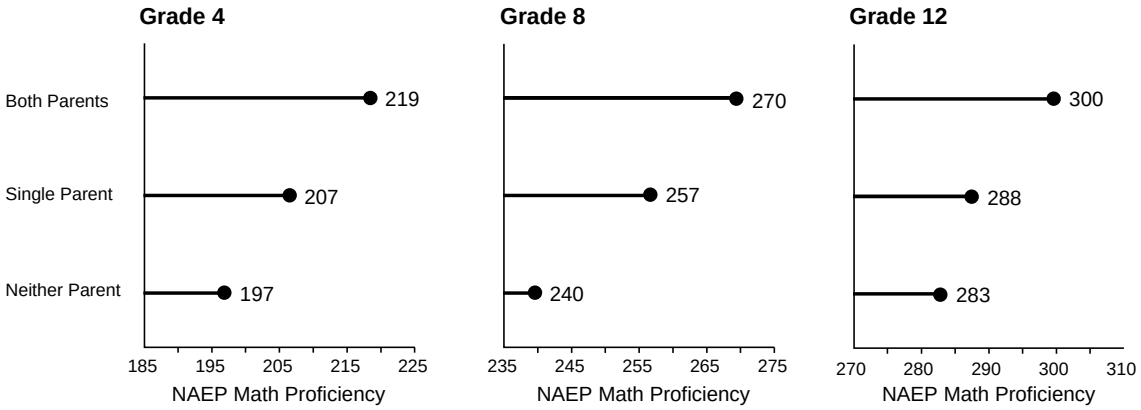


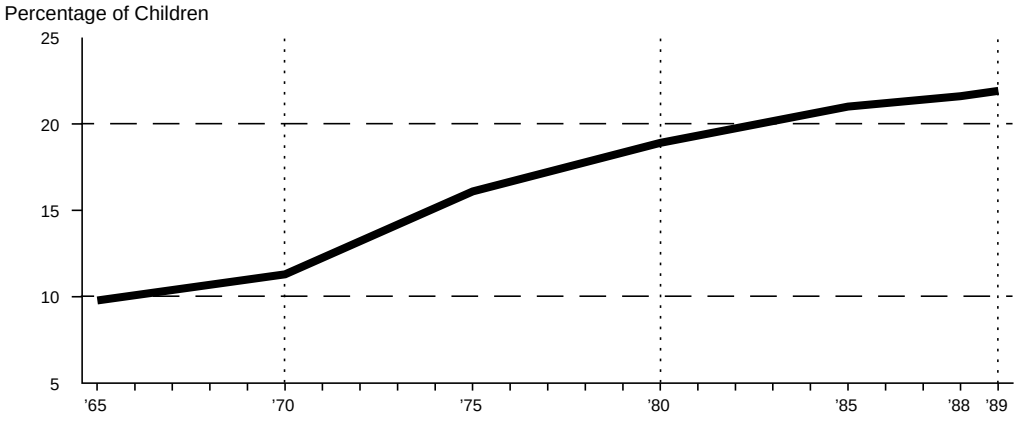
Table 1: Family Composition of Eighth Grade Students, 1988

Mother/Father	*65%*	*81%*
Mother/Male Guardian	*12%*	
Father/Female Guardian	*3%*	
Other Two Adult Family	*1%*	
Single Mother/Female Guardian	*17%*	*19%*
Single Father/Male Guardian	*2%*	

Table 2: Children in Single-Parent Families, by Race/Ethnicity, 1989

White	*17%*
Black	*54%*
Hispanic	*28%*

Figure 2: Trends in Children under Age 18 Living in Single-Parent Families



State-by-State

In Wyoming, North Dakota, and Nebraska, 85 percent of eighth grade students live in two-parent families. In the District of Columbia, less than half do so. Among the states, Louisiana and Georgia are at the bottom with 73 percent of children living in two-parent families (See Figure 3).

As can be seen in Figure 3, there is a fairly close relationship between the percentage of eighth graders in two-parent families and average mathematics proficiency. In statistical terms, the correlation is .74. It is .76 when standardized for parent education and is .79 when weighted also to reflect the number of students in the state.

In Figure 3, mathematics proficiency is reported on a scale of 0-500.

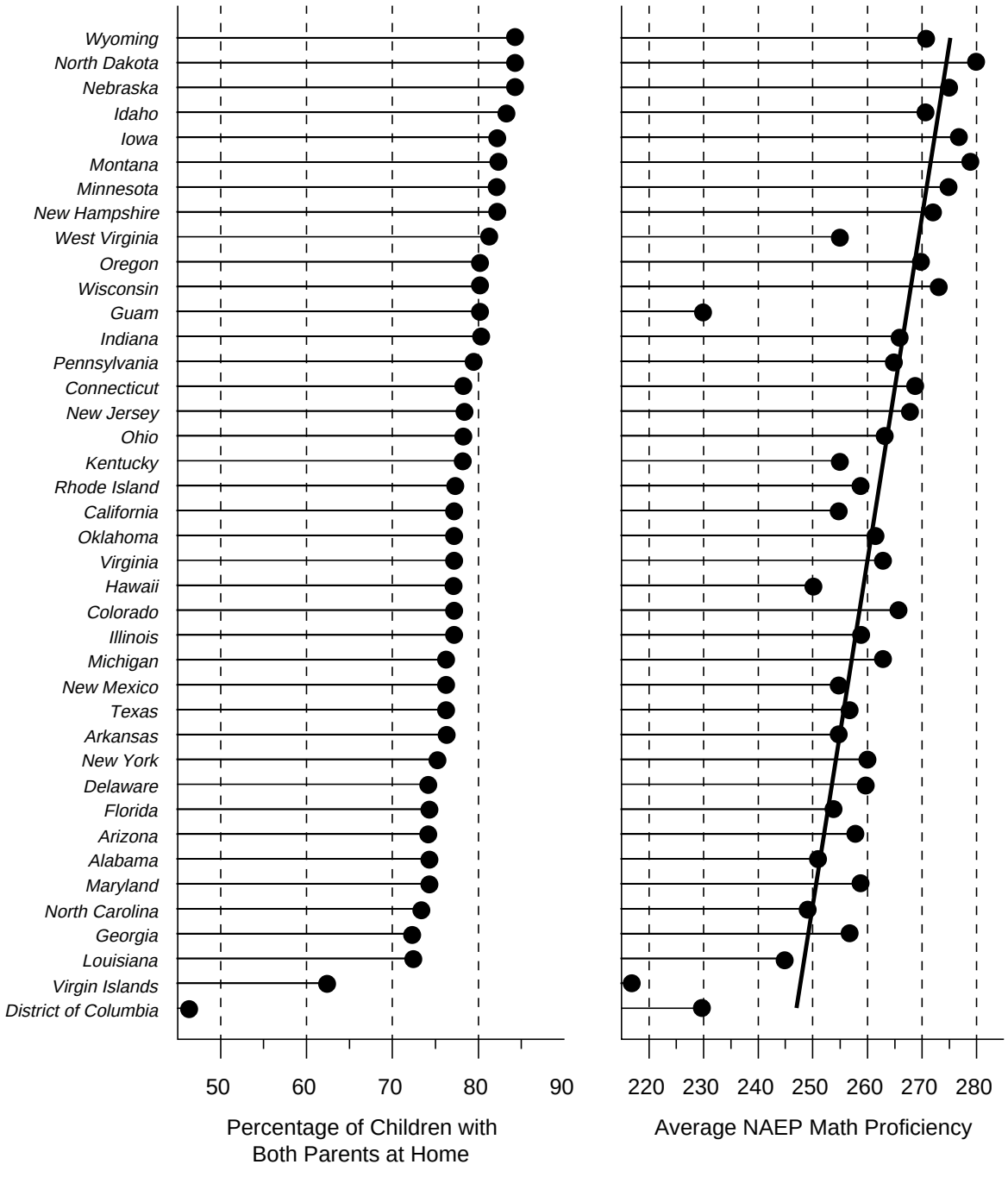
Figure 3, like several others in this report, is presented for two reasons. The first is to display state variation in education conditions in the home that is displayed on the left side of the chart. The second purpose is to see the relationship of these conditions to NAEP math proficiency (the variable displayed on the right side of the chart). These variables are related to one another to the extent that states high on one variable are high on the other. The line drawn on the graph on the right side of the chart is intended to help see this relationship. The placement of the line is derived from ordinary least squares regression of the ranking of the states on the variable on the left hand side of the chart (1,2,3,...40) on the average NAEP math proficiency.

Source for Figure 3: Ina V.S. Mullis and others, *The STATE of Mathematics Achievement: NAEP's 1990 Assessment of the Nation and the Trial Assessment of the States*. Prepared by Educational Testing Service under contract with the U.S. Department of Education, National Center for Education Statistics, June 1991.

Data for Figure 3 are provided in Appendix Table 2.

The Percentage of Eighth Graders with Both Parents Living at Home Ranges from 85 Percent in Wyoming, North Dakota, and Nebraska to 47 Percent in the District of Columbia.
States Having a Larger Percentage of Students with Both Parents Living at Home Tend to Have Higher Average NAEP Math Proficiencies.

Figure 3: Percentage of Eighth Graders with Both Parents Living at Home and NAEP Math Proficiency, 1990



National

The presence of books, encyclopedias, magazines, and newspapers in the home is both an indication of what a young person has available to read and of the importance assigned to reading by the parents. Beyond the value attached to having these materials, the availability of the resources to purchase them is also a factor.

For two decades the National Assessment of Educational Progress (NAEP) has asked students whether they have access to newspapers, magazines, books, and encyclopedias at home. Having a "home library" and proficiency in school subjects has been consistently related. This can be seen in Figure 4; at all three ages, the more types of reading materials in the home, the higher the proficiency in reading.

Unfortunately, the trends in the availability of these reading materials in the home have not been in education's favor. Between 1971 and 1990 there was a substantial decline in the average number of types of reading materials, as can be seen in Figure 5. Additionally, among 9-year-old students, the percentage reporting all four types of reading materials declined from 39 percent to 29 percent, among 13-year-olds from 58 percent to 47 percent, and among 17-year-olds from 67 percent to 55 percent.

In Figure 4, reading proficiency is reported on a scale of 0-500.

Source for Figure 4 and Figure 5: Ina V.S. Mullis and others, *Trends in Academic Progress.* Prepared by Educational Testing Service under contract with the U.S. Department of Education, National Center for Education Statistics, November 1991.

Source for Table 3: Archie E. Lapointe, Nancy A. Mead, and Janice M. Askew, *Learning Mathematics.* International Assessment of Educational Progress, Educational Testing Service, February 1992.

Data for Figure 5 are provided in Appendix Table 3.

International

On an international basis, the American home is relatively well supplied with books. Among 15 countries, the United States ranked sixth in the percentage of 13-year-old students with 25 or more books in the home (See Table 3).

The international data that are provided here and throughout this report are for comprehensive populations—those countries that included in the assessment virtually all age-eligible children within a defined group, even if the group was limited to a specific geographic area or certain language groups. These limitations include the following. Participants included only Hebrew-speaking schools in Israel, only the province of Emilia-Romagna in Italy, only Russian-speaking schools in 14 out of 15 republics in the Soviet Union, only Spanish-speaking schools in all regions except Cataluna in Spain, and 15 out of 26 cantons in Switzerland.

The More Types of Reading Materials in the Home, the Higher Students Score in Reading.
The Number of Reading Materials in the Home Has Declined in the Last Two Decades .
Among 15 Countries, the U.S. Family Has More Books in the Home Than Families of 13-Year-Olds in Nine Countries.

Figure 4: The Home Library and Reading Proficiency, 1990

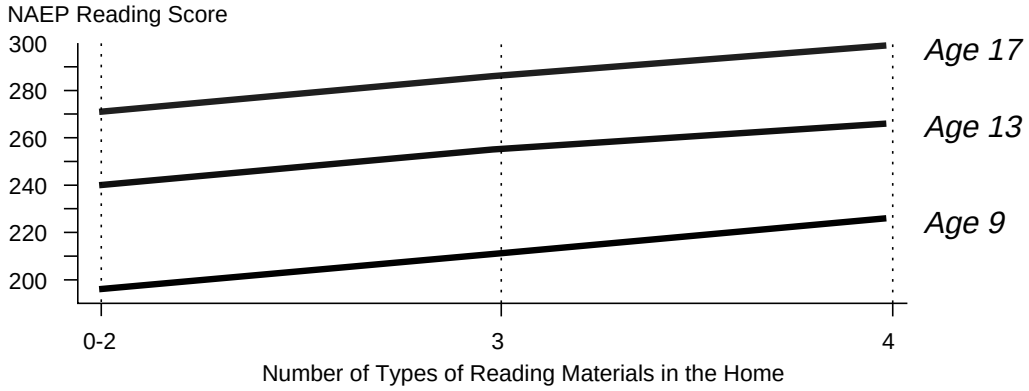


Figure 5: Trends in the Number of Types of Reading Materials in the Home

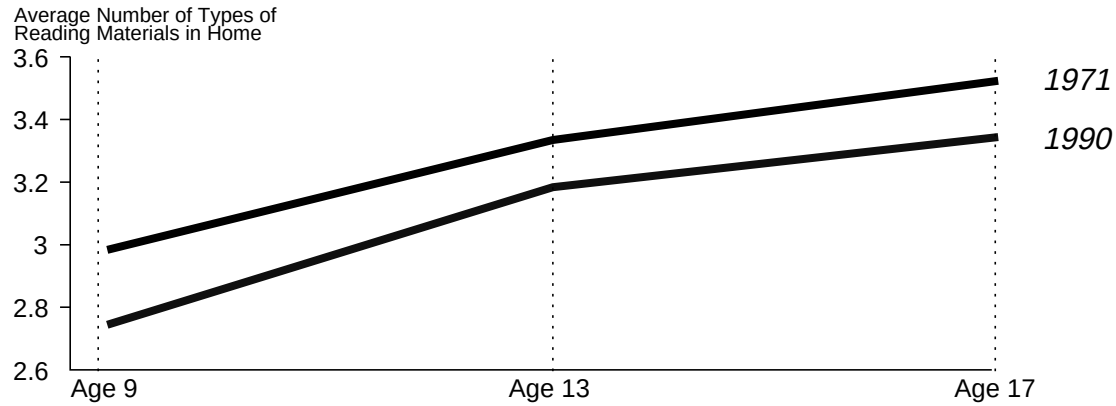


Table 3: Percentage of 13-Year-Olds with 25 or More Books in the Home, 1991

90	*Hungary, Israel, Soviet Union*
85-89	*Canada*
80-84	*Slovenia, Spain, Switzerland,* **United States**
75-79	*Emilia-Romagna (Italy), France, Ireland, Korea*
70-74	*Scotland*
65-69	*Taiwan*
60-64	
55-59	
50-54	
45-49	*Jordan*

State-by-State

In North Dakota, in 1990, among families of eighth grade students, 90 percent had three or more types of reading materials in the home. North Dakota students also had the highest average proficiency in mathematics on the 1990 NAEP. Guam was at the bottom with 64 percent and was also among the lowest in average achievement (See Figure 6).

There is a high correlation between the amount of reading materials in the home and average NAEP math proficiency, as can be seen in Figure 6. In statistical terms it is .75, and drops slightly to .71 when math scores are standardized by level of parents' education. When population size of each state is also accounted for, the correlation drops slightly to .68.

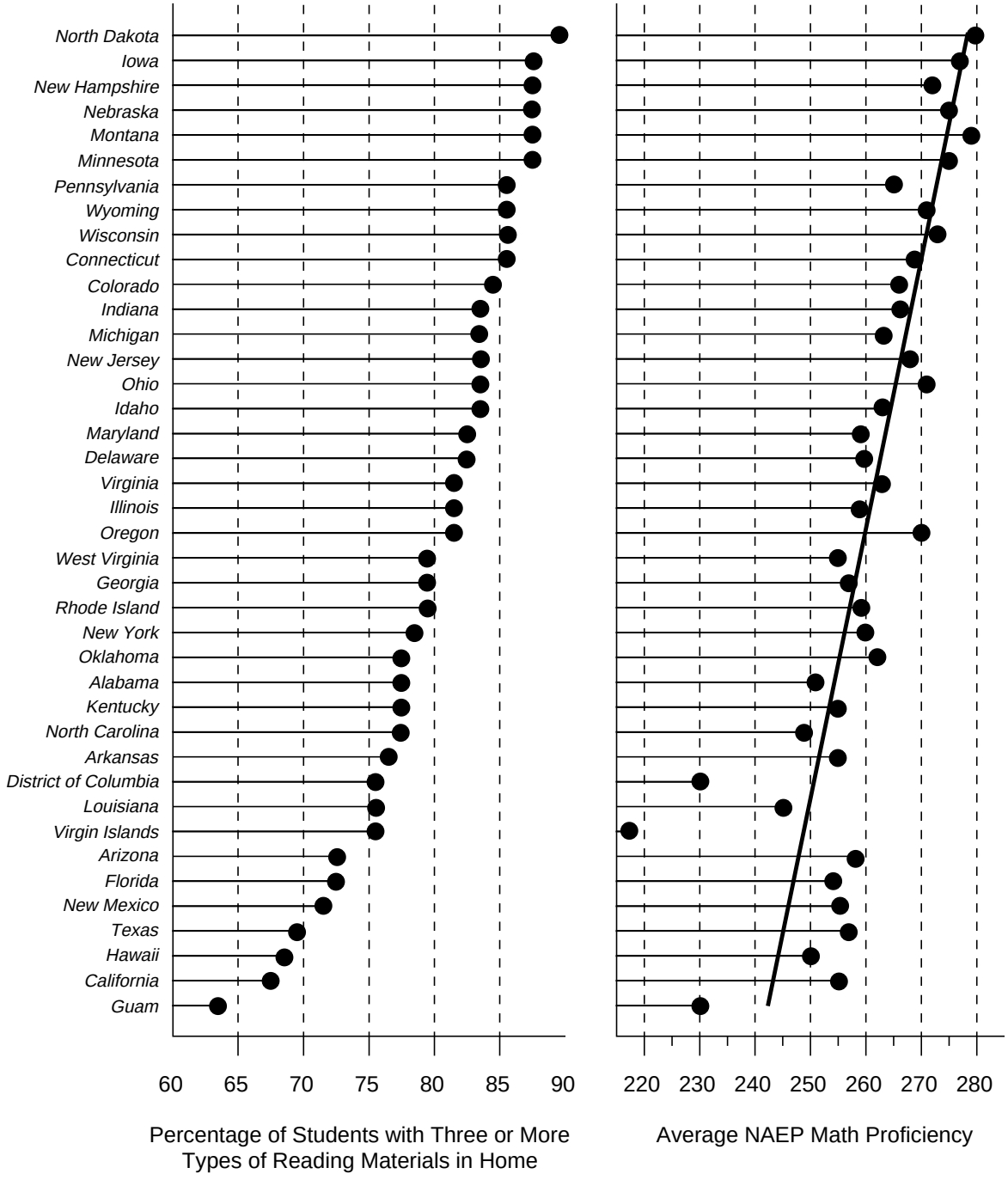
In Figure 6, mathematics proficiency is reported on a scale of 0-500.

Source for Figure 6: Ina V.S. Mullis and others, *The STATE of Mathematics Achievement: NAEP's 1990 Assessment of the Nation and the Trial Assessment of the States*. Prepared by Educational Testing Service under contract with the U.S. Department of Education, National Center for Education Statistics, June 1991.

Data for Figure 6 are provided in Appendix Table 2.

The Percentage of Eighth Graders with Three or More Types of Reading Materials in the Home Ranges from 90 Percent in North Dakota to 64 Percent in Guam. States Whose Students Have More Reading Materials Tend to Have Higher Average NAEP Math Proficiencies.

Figure 6: Percentage of Eighth Graders with Three or More Types of Reading Materials in the Home and NAEP Math Proficiency



National

The National Assessment of Educational Progress (NAEP) has established in its assessments that students who read a lot also score higher in reading. Beyond what students read at school, NAEP has, since 1984, measured what students read at home — the frequency of reading books, newspapers, and magazines, and the frequency of reading for fun.

In Figure 7, reading proficiency is reported on a scale of 0-500.

In the 1990 assessment of reading, 13-year-old students who read at home daily scored higher than those who did so weekly, who, in turn, scored higher than those reading less frequently. The same was true at age 17 (See Figure 7). However, just 9 percent of 9-year-olds, 18 percent of 13-year-olds, and 24 percent of 17-year-olds read books, newspapers, or magazines on a daily basis. At age 17, one in four read only on a monthly or yearly basis (See Figure 8).

The frequency of reading slipped a bit from 1984 to 1990, as can be seen in Figure 8.

The extent of "reading for fun" declines as students get older. At age 9, 54 percent did so on a daily basis; by age 13, 35 percent did so, declining to 31 percent at age 17 (See Figure 9). As schools attempt to open up the world of reading, students turn to it less as a leisure pursuit. This presents a significant obstacle to their continuing development.

Encouraging outside reading is in the purview of the family school-house as well as in the school and is a pursuit that can make a substantial contribution to reading proficiency. As is seen on page 16, students who read a lot tend to score higher in other academic subjects as well.

The National Education Longitudinal Study (NELS) of 1988 also measured the amount of outside reading of eighth-graders, and makes a striking comparison to TV watching:

	Average Hours Per Week	
	Outside Reading	**TV Watching**
Total	1.8	21.4
Sex		
Male	1.5	22.3
Female	2.1	21.2
Race/Ethnicity		
Asian & Pacific Islander	1.9	21.4
Hispanic	1.6	22.6
Black	1.6	27.6
White	1.9	20.8
Native American	1.7	23.3

The Profile of the American Eighth Grader, National Center for Education Statistics, June, 1990.

These students spend, on average, 12 times as many hours watching TV as they do reading (Black students spend 17 times; White students, 11 times).

Source for Figure 7, 8, and 9: Ina V.S. Mullis and others, *Trends in Academic Progress.* Prepared by Educational Testing Service under contract with the U.S. Department of Education, National Center for Education Statistics, November 1991.

Students Who Do More Reading in the Home Are Better Readers. However, They Do Less Reading for Fun As They Get Older, and They Read Fewer Books, Newspapers, and Magazines in 1990 Than in 1984.

Figure 7: Frequency of Reading in the Home and NAEP Reading Proficiency, 1990

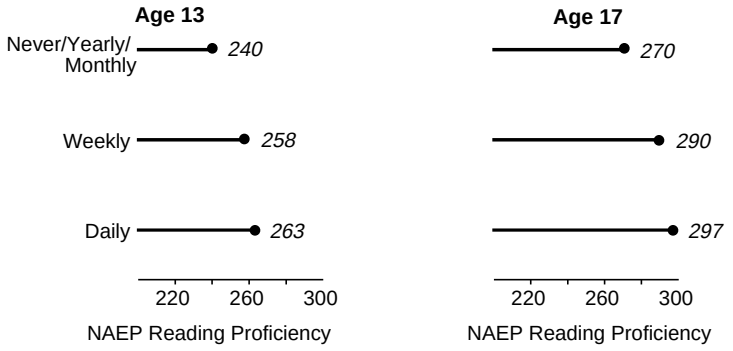


Figure 8: Trends in the Frequency of Reading Books, Newspapers, and Magazines

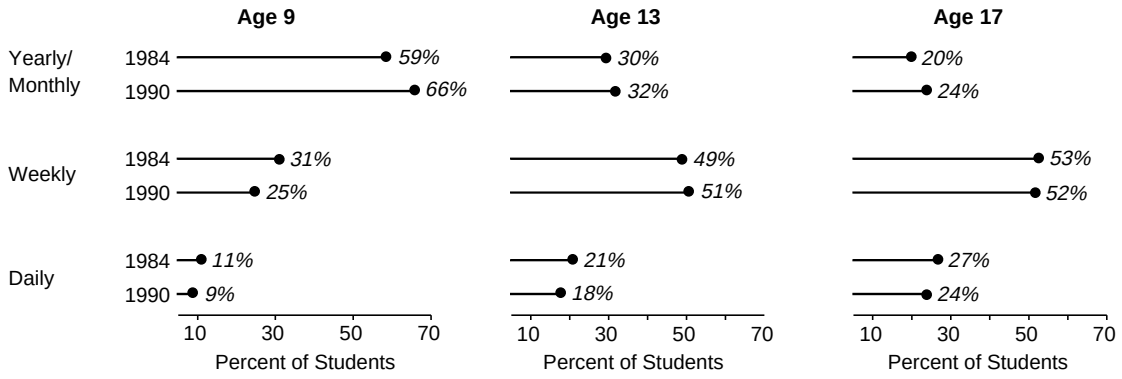
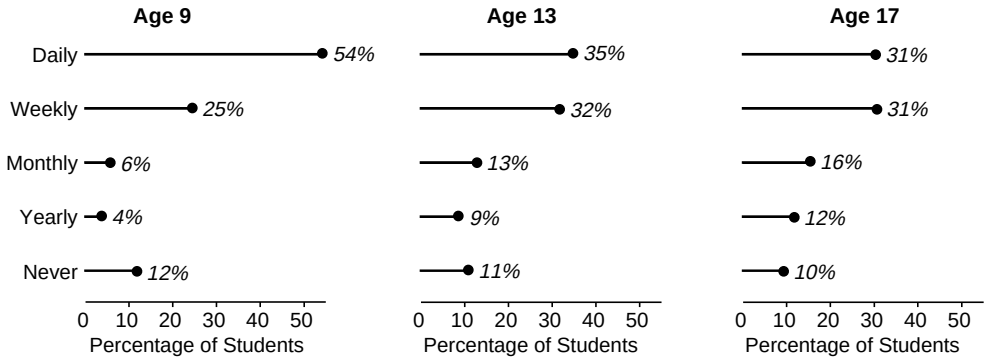


Figure 9: Frequency of Reading for Fun, 1990



Percentage of Students Percentage of Students Percentage of Students

State-by-State

The number of pages students read each day for school and homework varies considerably among the states. This question was asked of eighth grade students in the 1990 state-by-state assessment of mathematics by NAEP. In Idaho, 48 percent of the students questionned read 10 or more pages a day, ranging down to 28 percent in Arkansas, 24 percent in the District of Columbia, and 23 percent in the Virgin Islands (See Figure 10).

Figure 10 also shows the average proficiency in mathematics for each state. In general, proficiency tends to be higher in states where students do more reading, although there are some states that do not follow this pattern. In statistical terms, the correlation is .72 and is virtually unchanged after standardizing proficiency scores for parent education. After adjusting for population size too, however, the correlation drops to .23.

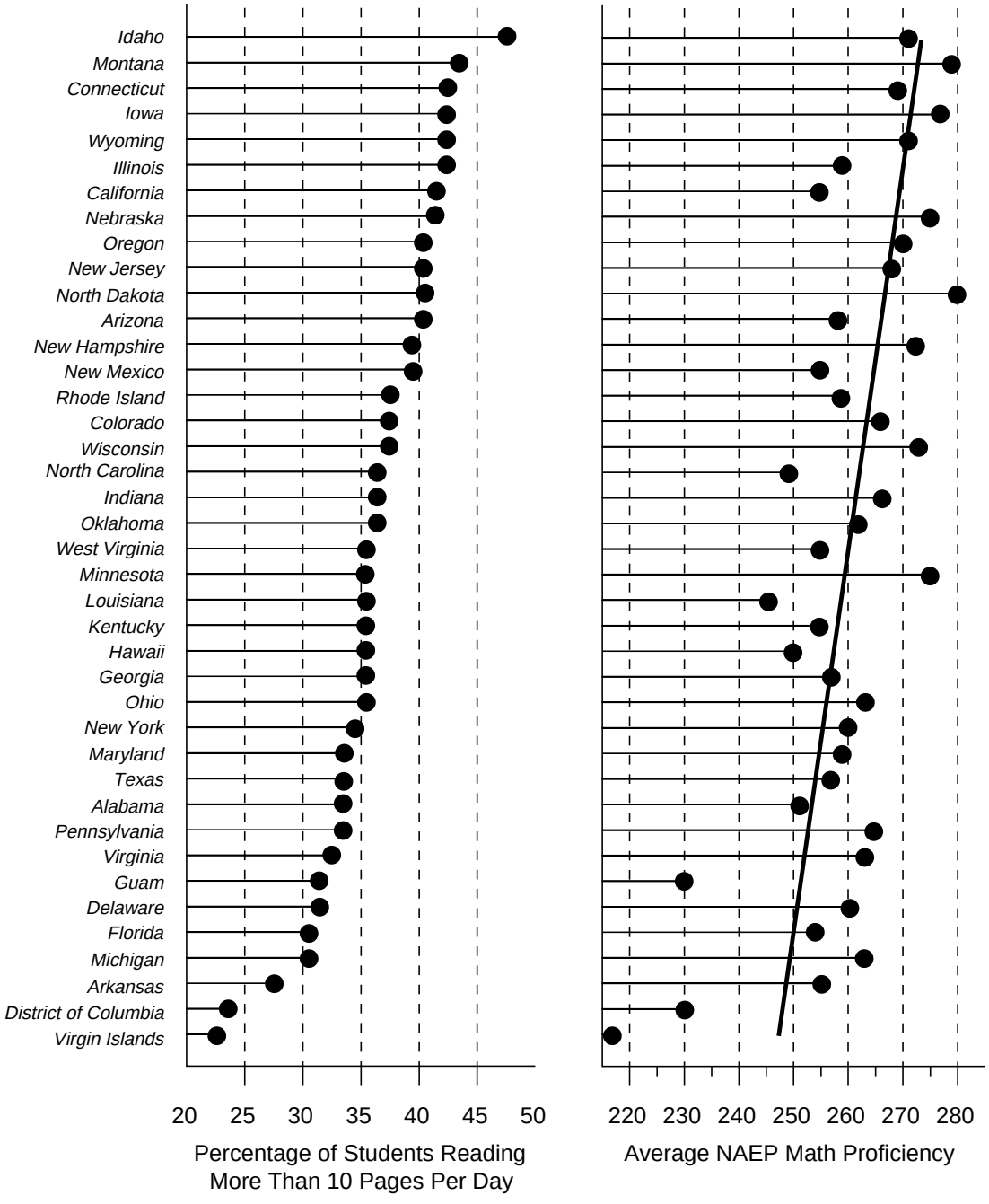
In Figure 10, mathematics proficiency is reported on a scale of 0-500.

Source for Figure 10: Ina V.S. Mullis and others, *The STATE of Mathematics Achievement: NAEP's 1990 Assessment of the Nation and the Trial Assessment of the States*. Prepared by Educational Testing Service under contract with the U.S. Department of Education, National Center for Education Statistics, June 1991.

Data for Figure 10 are provided in Appendix Table 2.

The Percentage of Eighth Graders Who Read More Than 10 Pages per Day Ranges from 48 Percent in Idaho to 23 Percent in the Virgin Islands. States Whose Students Report More Reading Tend to Have Higher Average NAEP Math Proficiencies.

Figure 10: Percentage of Eighth Graders Who Read More than 10 Pages per Day and NAEP Math Proficiency, 1990



International

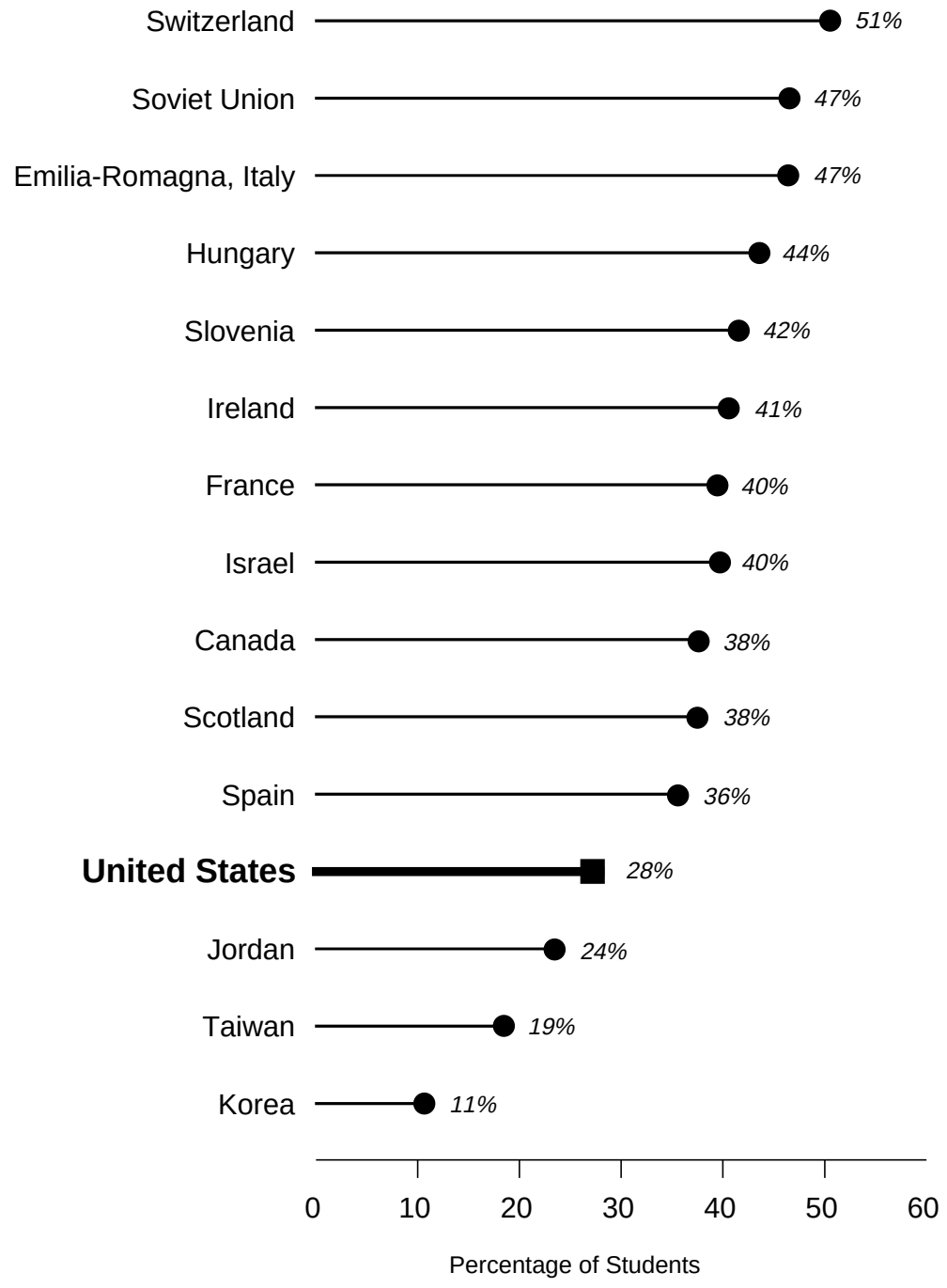
In 1990-91, Educational Testing Service conducted an international assessment of proficiency in science and mathematics of 13-year-old students. Among 15 "comprehensive populations" assessed, the percentage of students who said they read for fun almost every day ranged from 51 percent in Switzerland to 11 percent in Korea (See Figure 11). The United States was twelfth from the top, at 28 percent.

In 12 of the 15 countries, the amount of leisure reading was positively related to proficiency. It was not in Switzerland, Israel, and Jordan.

Source for Figure 11: Archie E. Lapointe, Nancy A. Mead, and Janice M. Askew, *Learning Mathematics*. International Assessment of Educational Progress, Educational Testing Service, February 1992.

Among 15 Countries, the United States Was Twelfth in the Percentage of 13-Year-Olds Who Read for Fun Almost Every Day. The Highest Was Switzerland (51 Percent); the Lowest Was Korea (11 Percent).

Figure 11: Percentage of Students Who Read for Fun Almost Every Day, 1991



National

In 1938, E.B. White said, "I believe television is going to be the test of the modern world and that in this new opportunity to see beyond the range of our vision, we shall discover either a new and unbearable disturbance of the general peace or a saving radiance in the sky." As far as students are concerned, there is yet no sign of a saving radiance. Television does, however, radiate in the American home. The Advisory Panel on the Scholastic Aptitude Test Score Decline reported in 1977:

> *By age 16 most children have spent 10,000 to 15,000 hours watching television, more time than they have spent in school. When they reach 1st grade, their watching time is between 20 and 35 hours a week; this usually peaks at about age 12. The average time per child per day increased by about an hour between 1960 and 1970.*

Since then, time before the tube has continued to increase, as can be seen in Figure 12. The percentage of 13-year-old students watching three or more hours each day jumped from 55 to 70 from 1982 to 1990, and for 17-year-olds, from 31 percent to 50 percent from 1978 to 1990. In 1990, almost one in four 9-year-olds were watching six hours or more each day.

NAEP consistently finds that students who watch long hours of television have lower proficiencies in school, although such assessments do not establish a causal relationship. For example, Figure 13 shows the results of the NAEP assessment of mathematics proficiency among 17-year-old students in 1990. The highest average proficiencies were for those students who watch the fewest hours of television.

About six in 10 parents of eighth grade students say they have rules about how much television they allow their children to watch, and this does not vary much by socioeconomic status (See Figure 14). However, 17-year-old students watch widely varying amounts of television, with half watching two hours or less each day, two out of five watching from three to five hours, and one in 10 watching six hours or more.

In Figure 13, mathematics proficiency is reported on a scale of 0-500.

Source for Figures 12 and 13: Ina V.S. Mullis and others, *Trends in Academic Progress.* Prepared by Educational Testing Service under contract with the U.S. Department of Education, National Center for Education Statistics, November 1991.

Source for Figure 14: Jerry West, Kenneth A. Rasinski, and Eric Camburn, *Parental Involvement in Education: Preliminary Findings from the NELS:88 Base Year Parent Survey*, paper presented at the annual meeting of the American Educational Research Association, April 1990.

While the Majority of Families Have Rules for Watching Television, the Amount Students Watch Varies Greatly. Those Who Watch a Lot Tend to Have Lower NAEP Math Proficiency, and Television Watching Is Increasing.

Figure 12: Trends in the Percentage of Students Watching Three or More Hours of TV per Day

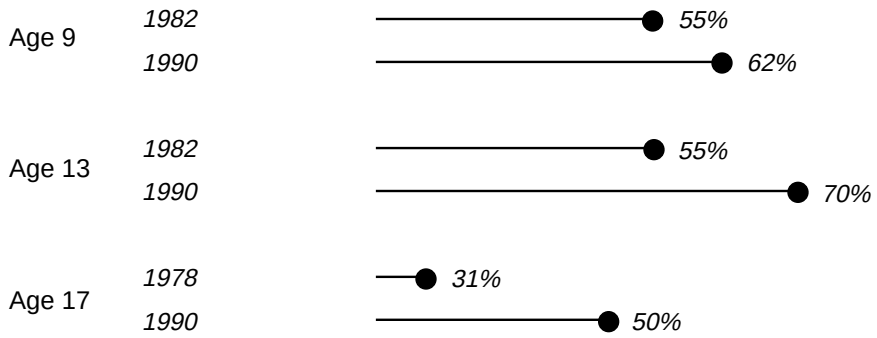


Figure 13: Amount of TV Watched per Day by 17-Year-Olds and NAEP Math Proficiency, 1990

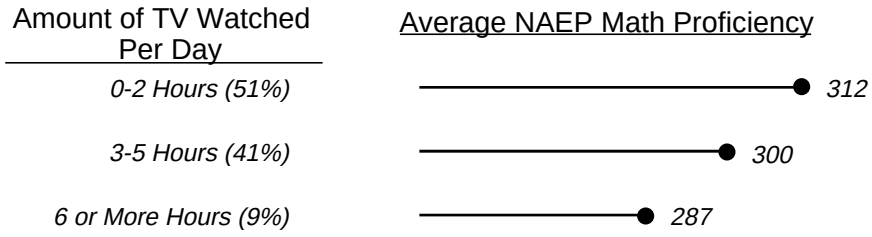
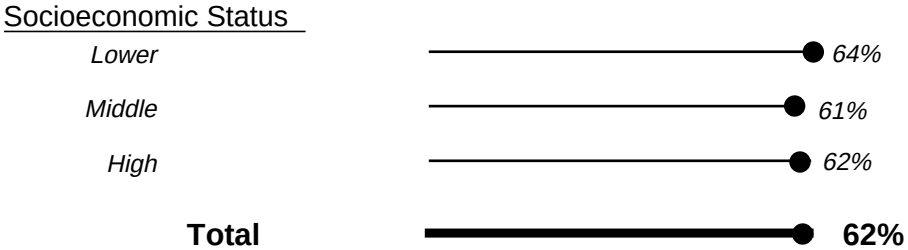


Figure 14: Percentage of Families of Eighth Graders Who Have Rules about TV Watching on School Days, 1988



State-by-State

Excessive watching of television varies considerably among the states. The 1990 NAEP state-by-state assessment of mathematics proficiency among eighth grade students asked how much television students watched. In Montana and North Dakota, just 6 percent of students watched television six hours or more each day. In the District of Columbia, one out of three did so (See Figure 15).

Figure 15 also shows the average mathematics proficiency for eighth grade students in each state. In general, although not always, the higher the percentage of students watching long hours of television, the lower the math proficiency. In statistical terms, the correlation is .87. When we control for parent education, the correlation remains virtually unchanged. Further weighting the data by population size reduces the correlation to .75.

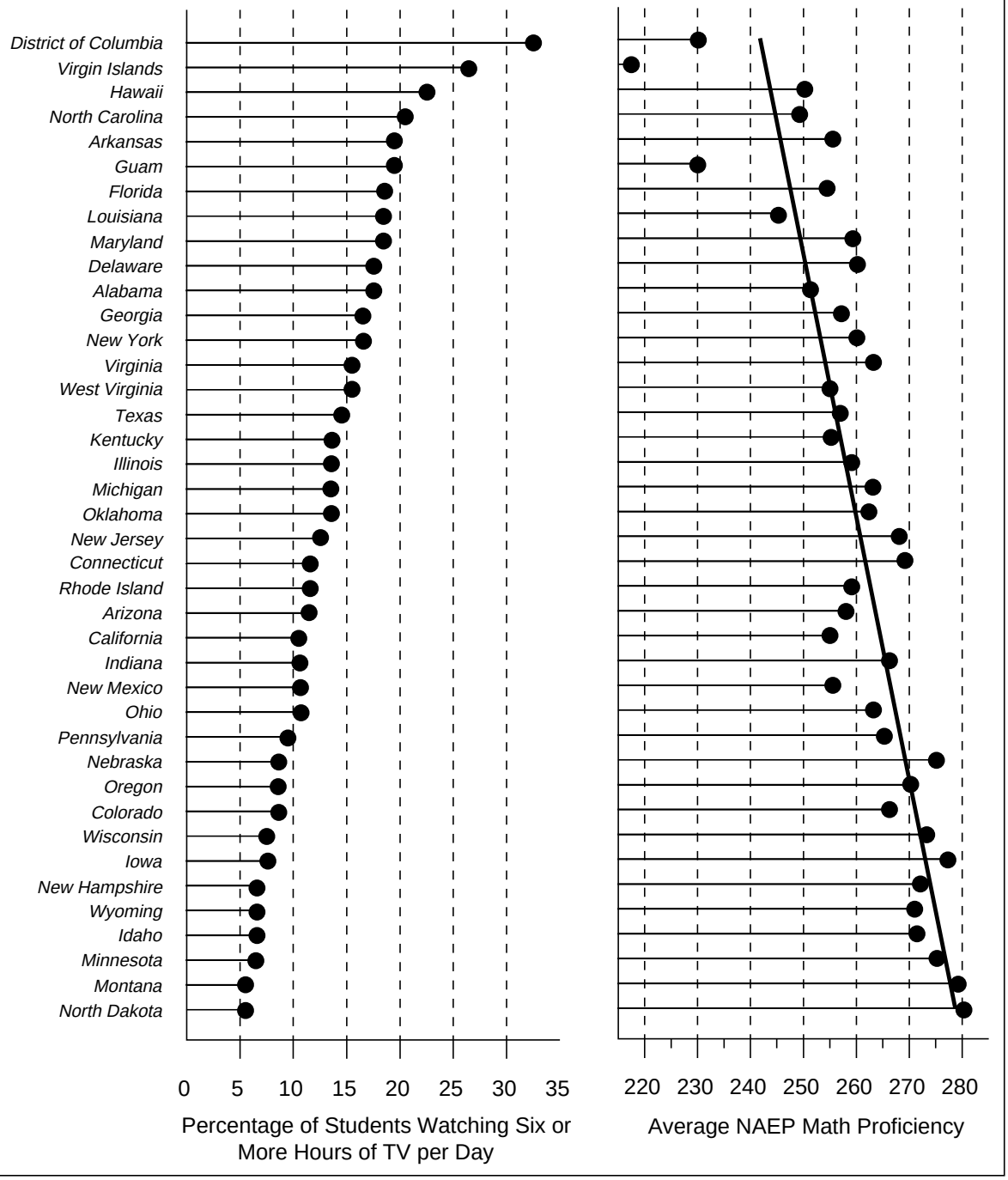
In Figure 15, mathematics proficiency is reported on a scale of 0-500.

Source for Figure 15: Ina V.S. Mullis and others, *The STATE of Mathematics Achievement: NAEP's 1990 Assessment of the Nation and the Trial Assessment of the States*. Prepared by Educational Testing Service under contract with the U.S. Department of Education, National Center for Education Statistics, June 1991.

Data for Figure 15 are provided in Appendix Table 2.

The Percentage of Eighth Graders Who Watch Six Hours of More of TV per Day Ranges from 33 Percent in the District of Columbia to Six Percent in Montana and North Dakota.
States with Lower Percentages of Students Who Watch a Lot of TV Tend to Have Higher Average NAEP Math Proficiencies.

Figure 15: Percentage of Eighth Graders Watching Six Hours or More of TV per Day and NAEP Math Proficiency, 1990



International

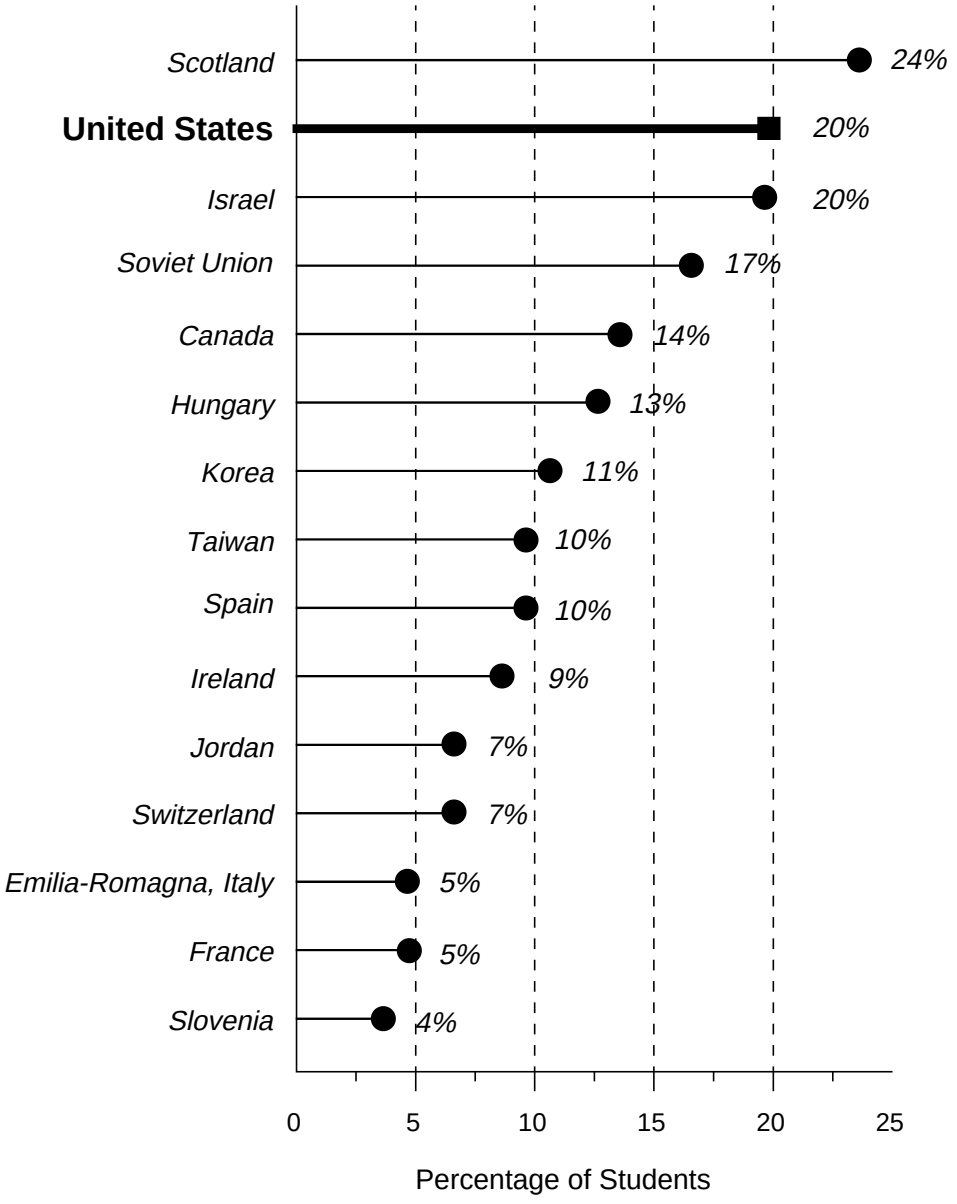
In 1990-91, Educational Testing Service conducted an international assessment of proficiency in science and mathematics of 13-year-old students. Among 15 "comprehensive populations" assessed, Scotland had the highest percentage of students—25 percent—who watched five hours or more of television every day. The United States and Israel were next, at 20 percent. The percentage ranged down to a low of 4 percent for Slovenia (See Figure 16).

Among the 15 countries, the United States was second from the bottom in mathematics proficiency. Television watching was found to be negatively related to mathematics proficiency in nine of the 15 countries, including the United States.

Source for Figure 16: Archie E. Lapointe, Nancy A. Mead, and Janice M. Askew, *Learning Mathematics*. International Assessment of Educational Progress, Educational Testing Service, February 1992.

Among 15 Countries, the United States Was Second in the Percentage of 13-Year-Old Students Who Watched Five Hours or More of TV Every Day. The Highest Was Scotland (24 Percent); the Lowest Was Slovenia (4 Percent).

Figure 16: Percentage of 13-Year-Old Students Who Watch Five Hours or More of TV Every Day, International Assessment of Educational Progress, 1991.



National

One of the recommendations of "A Nation At Risk" was that homework requirements be increased as a way of increasing student achievement. While some do question whether increasing the demands on students' time outside the classroom will have any real effects on learning, others point to nearly a century of research, much of which concludes that homework helps students learn. Figure 17 provides some 1990 NAEP data for 17-year-olds that show this relationship. These data show that larger amounts of time spent on homework are associated with higher reading proficiency. The average reading proficiency for students reporting more than two hours of homework each day was 307; students reporting less than one hour each day had an average score of 291.[2]

In Figure 17, reading proficiency is reported on a scale of 0-500.

Given the importance of this variable, it is useful to look at differences in time spent on homework across groups of students. As seen in Figure 18, eighth grade boys do about as much homework as eighth grade girls — between five and six hours a week. At the same grade level, on average, Asian and Pacific Islander students report the most homework; Hispanic and American Indian/ Native Alaskan students report the least.

Source for Figure 17: Ina V.S. Mullis and others, *Trends in Academic Progress*. Prepared by Educational Testing Service under contract with the U.S. Department of Education, National Center for Education Statistics, November 1991.

Source for Figure 18: U.S. Department of Education, National Center for Education Statistics, *A Profile of the American Eighth Grader: Student Descriptive Summary*. National Educational Longitudinal Study of 1988, June 1990.

According to data from NAEP, nearly one-third of 9-year-olds and about one-fifth of 13- and 17-year-olds were not assigned any homework in 1990, showing very little change since 1984. Most of the students that are assigned homework do it. Among 9- and 13-year-olds, only about one in 20 don't do their assigned homework; for 17-year-olds, the percentage increases to 13 (this was the only statistically significant increase over 1984). In 1990, 46 percent of 9-year-olds reported doing less than an hour of homework a day, 12 percent reported doing between one and two hours, and 6 percent reported more than two hours of homework a day. The 13- and 17-year-olds reported doing more. About one-quarter did between one and two hours, and about 10 percent reported doing more than two hours a day.

[2]Other large data sets that corroborate the positive relationship between homework and achievement at the national level include *High School and Beyond* and the *National Education Longitudinal Study of 1988*. However, one of the difficulties with assessing the impact of homework based on averages is the possibility that less proficient students are given more homework as a way of remediation or that less proficient students may take longer to complete an assignment than more proficient students.

The Amount of Homework Done by Students Has Been Shown to Be Positively Related to Achievement.
On Average, Students Do between Five and Six Hours of Homework Each Week.
Asian Students Do the Most; Hispanic and American Indian Students Do the Least.

Figure 17: Relationship between Homework and NAEP Reading Proficiency, 17-Year-Olds, 1990

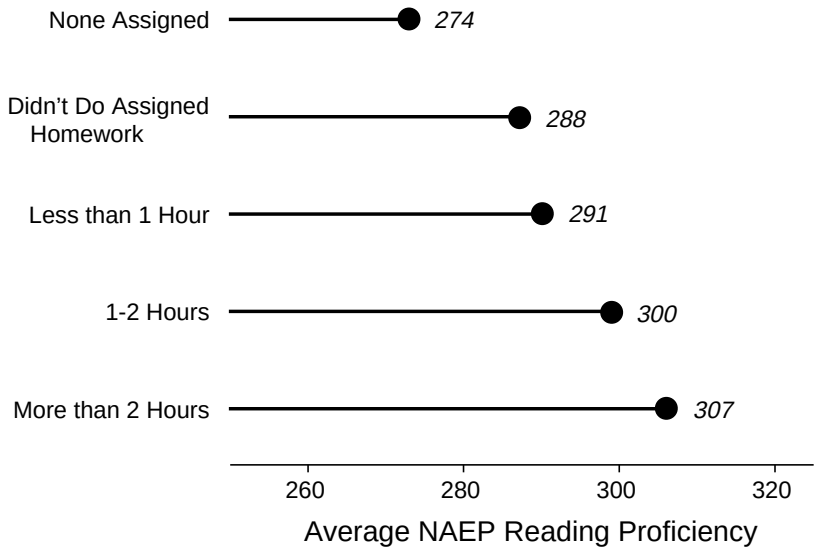
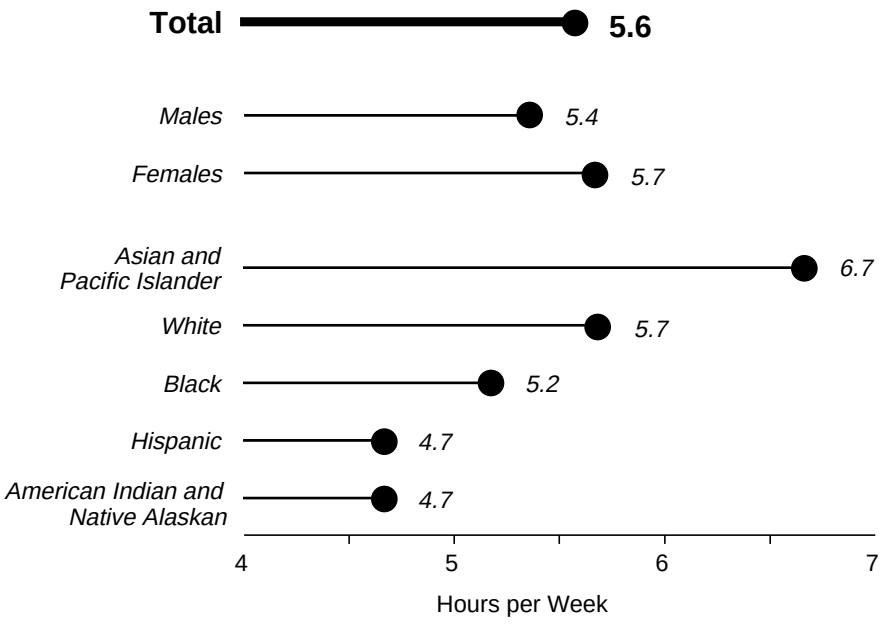


Figure 18: Average Hours of Homework per Week, Eighth Graders, 1988



State-by-State

In NAEP's 1990 state-by-state mathematics assessment, eighth grade students were asked to indicate the amount of time they spent daily on homework for all subjects. The largest percentage of students in each state reported spending one hour per day on homework. Figure 19 shows the variation across states in the percent of students who do an hour or more of homework per day. The national average is 66 percent. In New Hampshire and Connecticut, more than three quarters of the eighth graders do at least an hour of homework; in Florida and Guam only 59 percent of the students report doing that much homework.

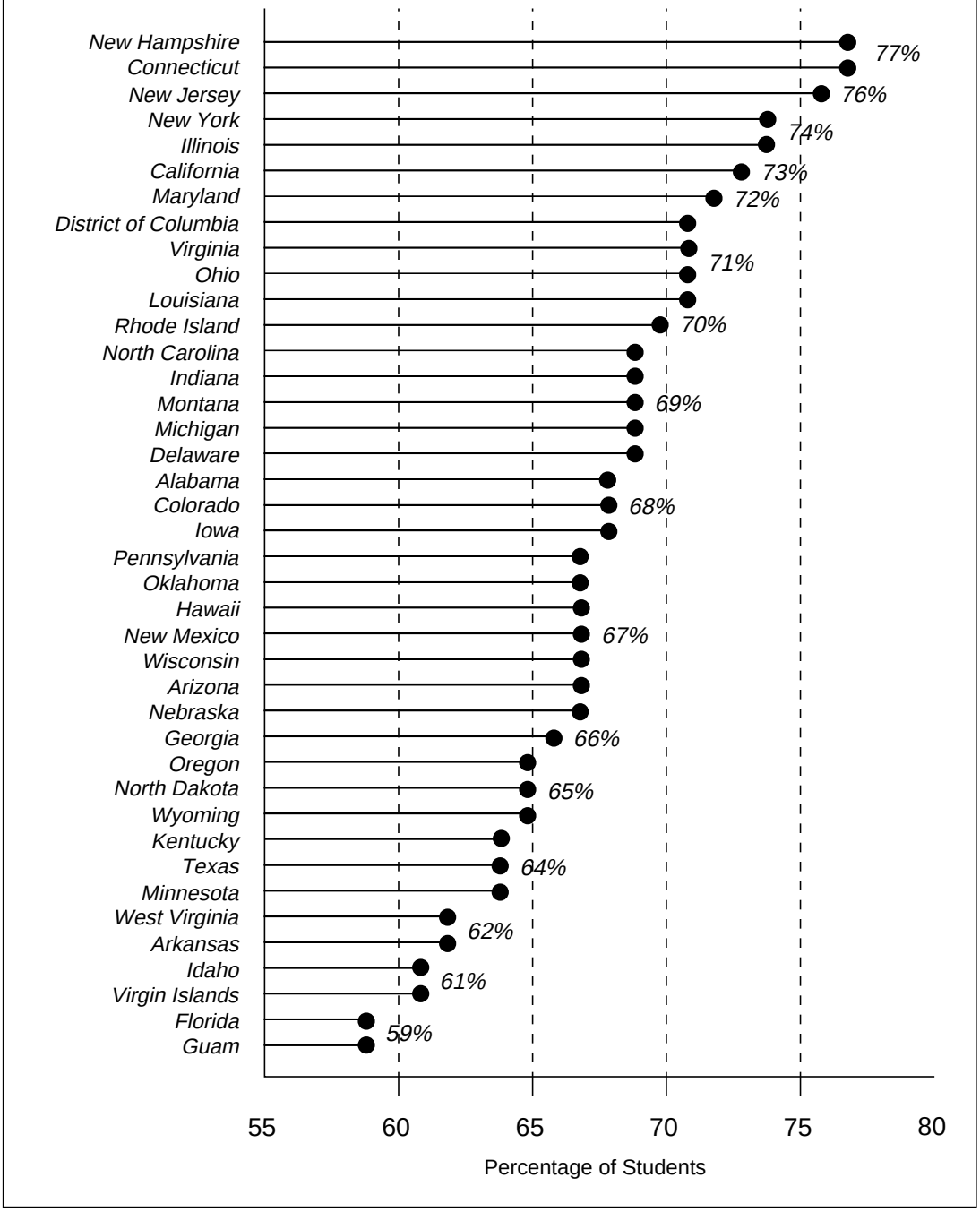
Although homework and proficiency are related in the national data previously reported, the differences in hours of homework performed among the states was only moderately related to differences in proficiency (the correlation is .24, and remains basically unchanged when parent education is taken into account. When further adjusted for population, the correlation drops to .06. Within states there is little relationship between student proficiency and the hours of homework performed.

The picture of the relationship between homework and proficiency is less than clear. While there is considerable agreement on the value of homework (although not all educators agree), differing situations of individual students get combined in averages. Some students excel because they are diligent in doing their homework, resulting in higher attainment. Some excellent students can do their homework quickly, while poorer students may be given more homework to enable them to catch up or may simply take more time to do their homework.

Source for Figure 19: Ina V.S. Mullis and others, *The STATE of Mathematics Achievement: NAEP's 1990 Assessment of the Nation and the Trial Assessment of the States*. Prepared by Educational Testing Service under contract with the U.S. Department of Education, National Center for Education Statistics, June 1991.

The Percentage of Eighth Graders Who Do at Least One Hour of Homework a Day Ranges from 77 Percent in New Hampshire and Connecticut to 59 Percent in Florida and Guam. Nationally, Two-Thirds of Our Students Do at Least One Hour of Homework a Day.

Figure 19: Percentage of Eighth Graders Who Do One Hour of Homework a Day or More, 1990



International

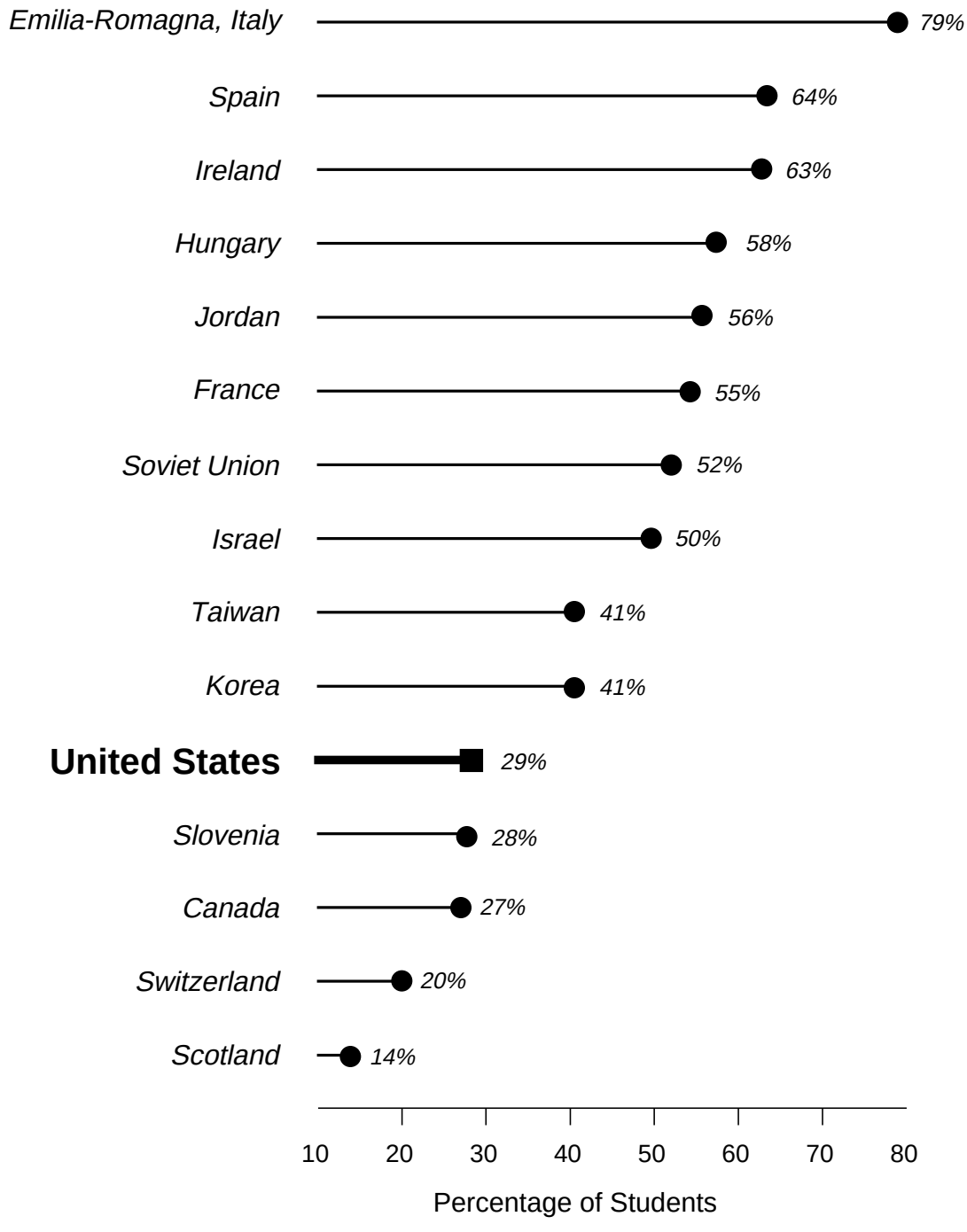
International homework comparisons are also available from the recent international assessment conducted by ETS. The most common response to the question of how much time is spent doing homework across all school subjects each day was "one hour or less." As is shown in Figure 20, in eight of 15 comprehensive populations, one-half or more of the students reported doing two or more hours of homework each day. For United States youngsters, that percentage was 29.

In 10 of the 15 countries assessed, the amount of time spent on homework was positively related to mathematics proficiency.

Source for Figure 20: Archie E. Lapointe, Nancy A. Mead, and Janice M. Askew, *Learning Mathematics*. International Assessment of Educational Progress, Educational Testing Service, February 1992.

The United States, with 29 Percent of its Students Doing Two or More Hours of Homework Every Day, Ranks 11th out of 15 Countries. The Range Is from 79 Percent in Emilia-Romagna, Italy to 14 Percent in Scotland.

Figure 20: Percentage of Students Doing Two or More Hours of Homework Daily, International Assessment of Educational Progress, 1991



National

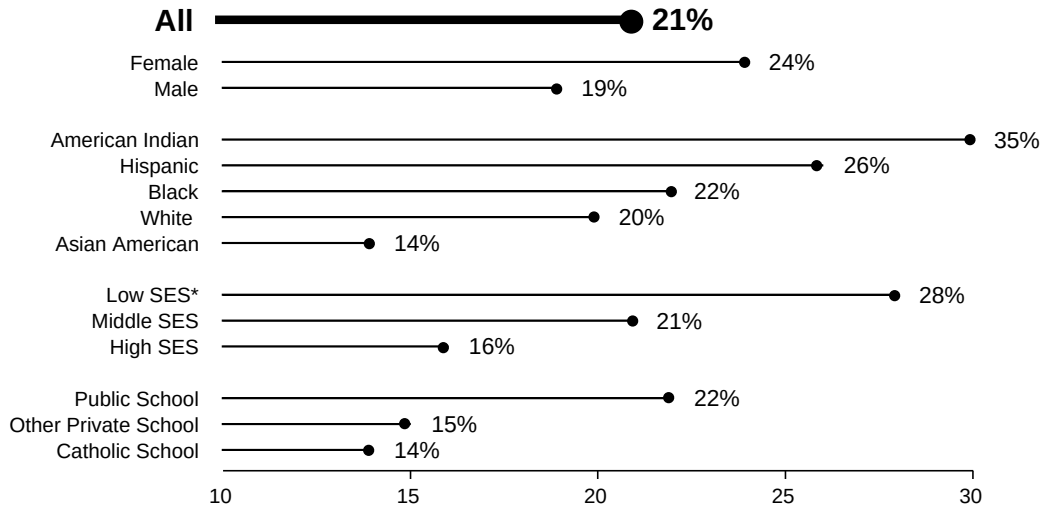
Aside from the students themselves, it is the parents' responsibility to make sure students attend school. And as described on page 34, school attendance is related to proficiency. However, in 1988, one in five eighth grade students was absent three or more days in the prior month, rising to 35 percent of American Indian students. The lowest percentages were Asian American students, 14 percent; high socioeconomic status students, 16 percent; and students in Catholic schools, 14 percent (See Figure 21).

Twelve percent of eighth graders were late three or more days in the prior month (See Figure 22). And 9 percent cut class "at least sometimes" (See Figure 23). Low socioeconomic status students were most likely to be late for school and to cut class sometimes.

Source for Figures 21, 22 and 23: U.S. Department of Education, National Center for Education Statistics, "National Education Longitudinal Study of 1988," survey. Reported in *Digest of Education Statistics, 1990*, p. 138.

One in Five Eighth Graders Are Absent Three or More Days a Month.
Female, American Indian, Low SES, and Public School Students Are Absent Most.

Figure 21: Percentage of Eighth Grade Students Absent Three or More Days in the Prior Four Weeks, 1988



**Socioeconomic Status*

Twelve Percent of Eighth Graders Are Late for School at Least Three Days a Month and 9 Percent Cut Class "At Least Sometimes."
Low SES Students Have Poorer Attendance Than Other Students.

Figure 22: Percentage of Eighth Graders Late Three or More Days in the Last Four Weeks, 1988

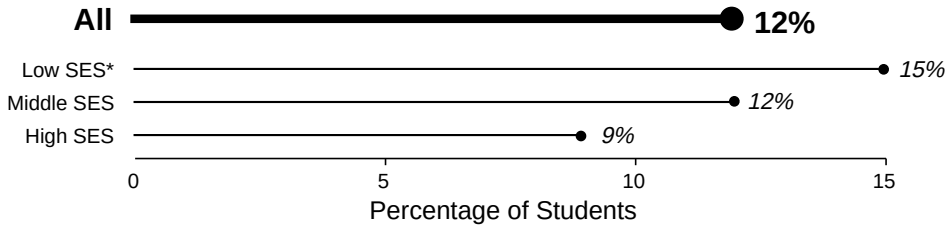
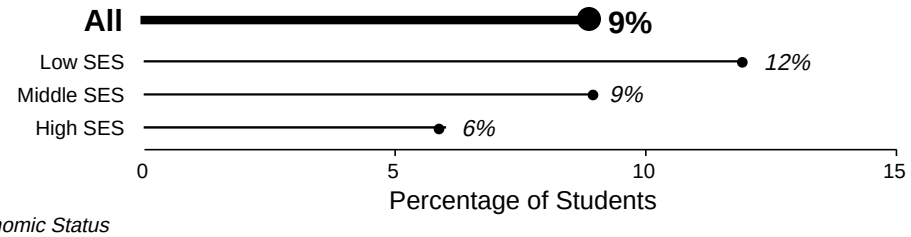


Figure 23: Percentage of Eighth Graders Who Cut Class "At Least Sometimes," 1988



**Socioeconomic Status*

State-by-State

In North Dakota, 86 percent of eighth graders are absent from school less than three times per month; North Dakota also has the highest average achievement in mathematics. In the District of Columbia, only 63 percent are absent less than three days a month, and D.C. is near the bottom in scoring (See Figure 24).

In general (but by no means always), the less students are absent, the higher is the state's average math score, as can be seen in Figure 24. In statistical terms, the correlation is .48, and it is virtually unchanged when math scores are standardized for the level of parent education. When the analysis is also weighted by student population size, the correlation drops to .34

Within every state assessed, the proficiency of students with three or more absences per month was, on average, lower than for those absent less frequently.

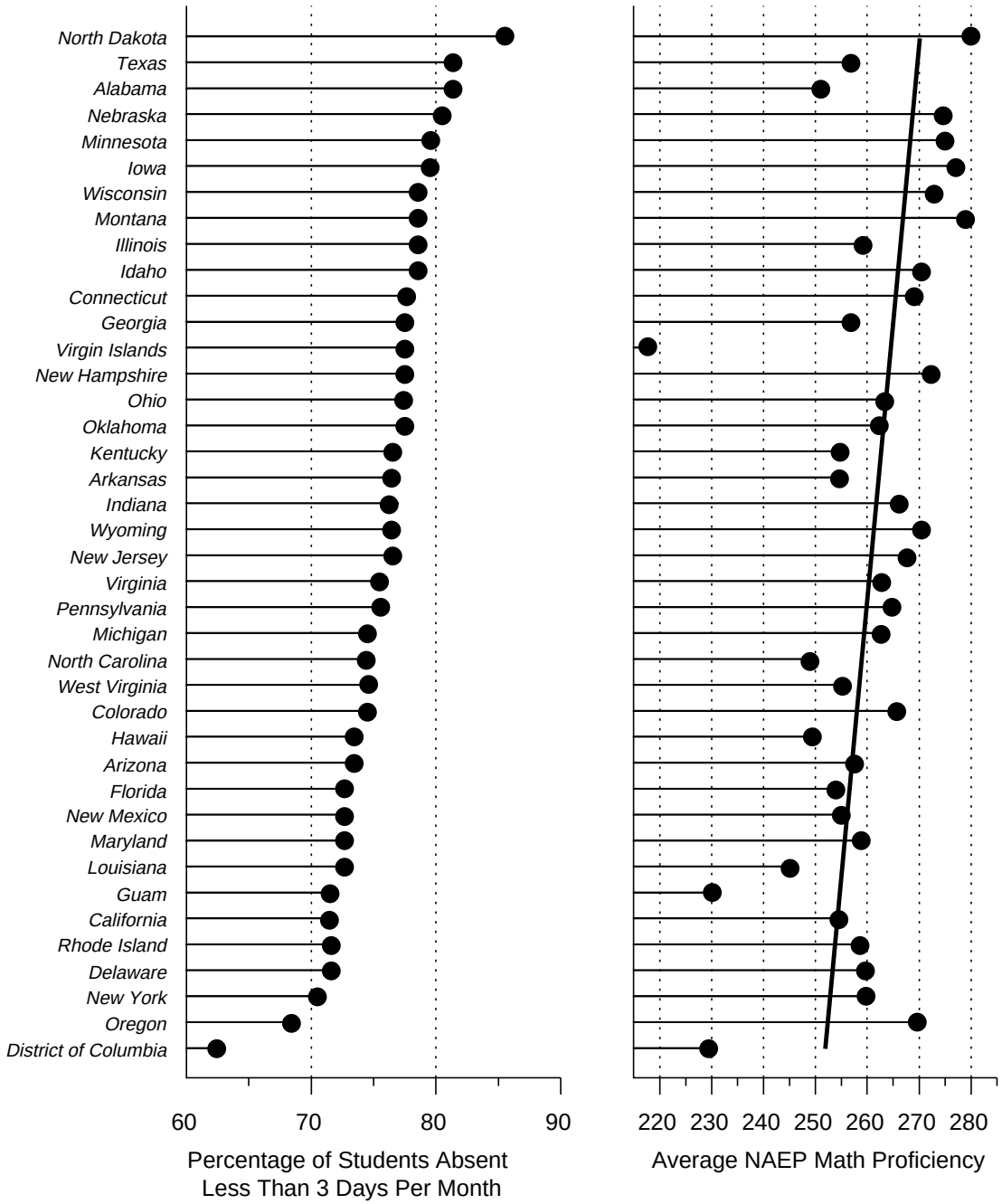
In Figure 24, mathematics proficiency is reported on a scale of 0-500.

Source for Figure 24: Ina V.S. Mullis and others, *The STATE of Mathematics Achievement: NAEP's 1990 Assessment of the Nation and the Trial Assessment of the States*. Prepared by Educational Testing Service under contract with the U.S. Department of Education, National Center for Education Statistics, June 1991.

Data for Figure 24 are provided in Appendix Table 2.

The Percentage of Eighth Graders Who Are Absent Less Than Three Days per Month Varies from 86 Percent in North Dakota to 63 Percent in the District of Columbia. On Average, States Whose Students Are Absent Less Tend to Have Higher Average NAEP Math Proficiencies.

Figure 24: Percentage of Eighth Graders Absent Less Than Three Days per Month and NAEP Math Proficiency, 1991



PARENT INVOLVEMENT

Eight in 10 parents of eighth grade students say they talk to their children regularly about their current school experiences. Variations by SES are considerable (See Figure 25). However, just half of the parents talk with their children regularly about high school plans, and only under four in 10 about post high school.

Six in 10 families have rules about watching TV, nine in 10 about doing homework, and three in four about maintaining a certain grade average (See Figure 26). There is little variation by SES.

Just three in 10 parents belong to parent-teacher organizations; just over one in 10 parents of lower SES compared to three in 10 for middle SES, and over one in two for high SES parents (See Figure 27). However, only 29 percent of the low SES parents and 44 percent of the high actually attend the meetings. Over half of the parents have contacted the school about their child's academic performance and over one in three about the academic program (See Figure 27).

A comprehensive study led by James Coleman extensively analyzed the parent involvement data collected from the National Educational Longitudinal Study of 1988. Chandra Muller found the following to be significant for predicting test scores:[3]

- Talking regularly about current school experiences (highly significant)
- Restriction of television watching on weekdays
- Adequate after school supervision
- Parents knowing the parents of their children's friends

Parent contact with the schools was not associated with higher scores; the authors see this as occurring more when there is an academic problem. However, talking to the school about its academic program was positively related.

The contrast with the U.S. and Japan on parent-school involvement is stark. In Japan: "During the first two weeks of school every year, teachers visit the home of each of their pupils to understand the family situation and study environment. Parents visit and observe the classroom and consult with teachers on specific days that are scheduled for such meetings."[4]

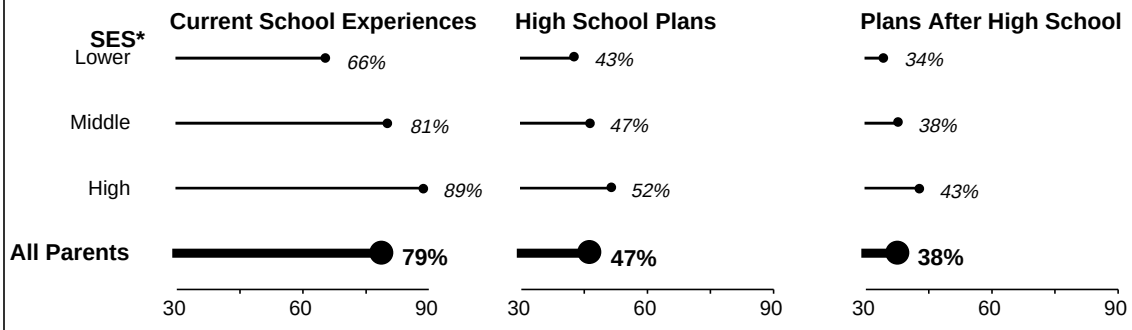
Source for Figures 25, 26, 27: Jerry West, Kenneth A. Rasinski, and Eric Camburn, *Parental Involvement in Education: Preliminary Findings from the NELS:88 Base Year Parent Survey*, paper presented at the annual meeting of the American Educational Research Association, April 1990.

[3]Chandra Muller, "Maternal Employment, Parent Involvement, and Academic Achievement, An Analysis of Family Resources Available to the Child," in *Resources and Actions: Parents, Their Children and Schools*, NORC/University of Chicago, August, 1991, p. 22-23.

[4]*Japanese Education Today*, U.S. Department of Education, January, 1987, p.32.

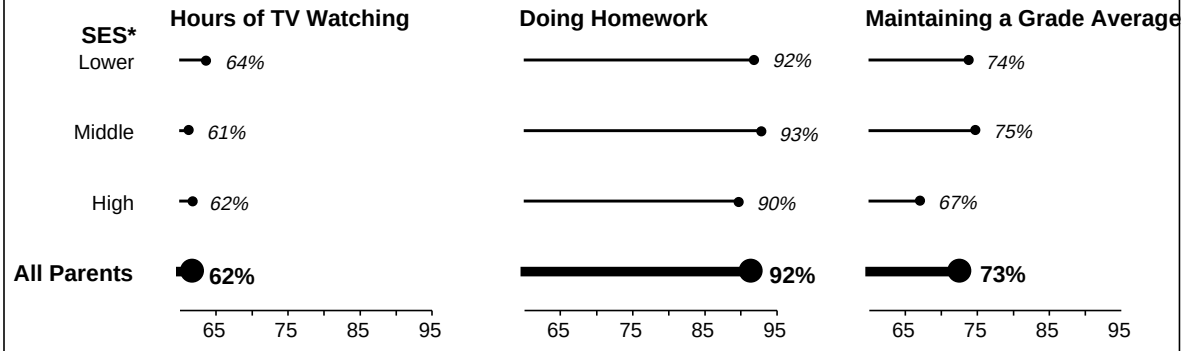
While Eight in Ten Parents of Eighth Graders Talk with Their Children Regularly about Current Experiences in School, Fewer Than Half Talk about Future Educational Plans. Low SES Parents Are Less Likely to Talk with Their Children and to Be Involved with the School. Rules about Certain Behaviors Are Common Among Most Families.

Figure 25: Percentage of Parents of Eighth Graders Who Talk with Them Regularly about..., 1988



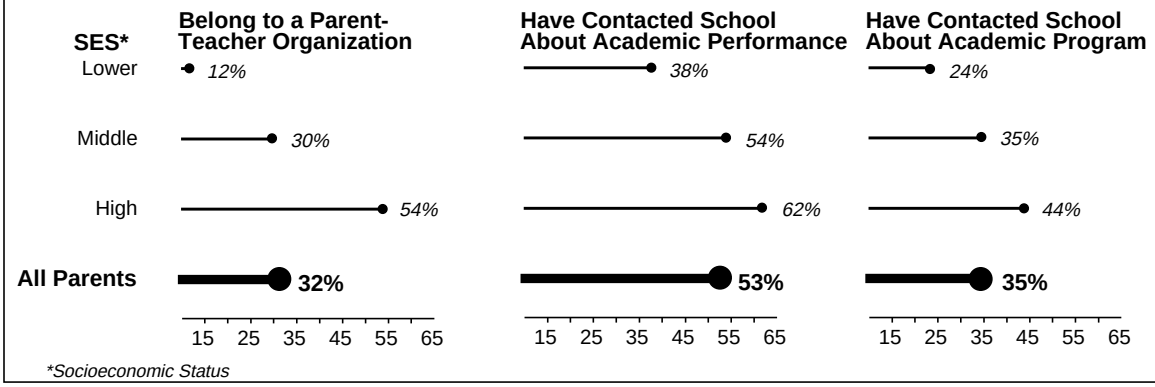
*Socioeconomic Status

Figure 26: Percentage of Parents of Eighth Graders Who Report Having Family Rules about..., 1988



*Socioeconomic Status

Figure 27: Percentage of Parents of Eighth Graders Who..., 1988



*Socioeconomic Status

Maintaining a Grade Average

FAMILY RESOURCES

American families differ widely in their incomes and therefore in the resources that they have to support the development of children. To the extent that resources in the home account substantially for children's success in school, the unequal funding of the family school is a source of inequality in student achievement.

Average family income, in constant dollars, rose steadily from 1950 to 1970, but has risen little since then (See Figure 28). At the same time, the percentage of mothers in the labor force continued upward, rising from half in 1970 to almost three in four in 1990 (See Figure 29). It took more mothers working to keep family income stable, or slightly rising.

Between 1960 and 1970, poverty among children declined sharply. But it rose during the 1970s and has stabilized at about one child in five in the 1980s (See Figure 30). The percentage of children participating in the AFDC (welfare) program increased steadily from 1960 until around 1975, and has been relatively steady since, at about one child in eight (See Figure 31).

The trends of the last two decades in family resources have not been supportive of educational improvement.

Source for Figures 28, 29, 30, and 31: U.S. Department of Education, National Center for Education Statistics, *Youth Indicators, 1991: Trends in the Well-Being of American Youth*, April 1991.

Data for Figures 28, 29, 30, and 31 are provided in Appendix Table 4.

Family Income Rose until about 1970, Held Up by Working Mothers.
Poverty among Children Declined During the 1960s,
Rose During the 1970s, and Stabilized at One Child in Five During the 1980s.
The Percent of Children on Welfare Has Been Relatively Steady Since 1975.

Figure 28: Trends in Median Family Income (in Constant 1989 Dollars)

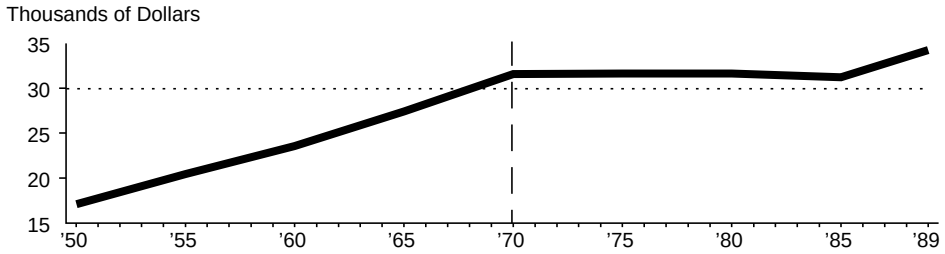


Figure 29: Trends in Labor Force Participation for Married Women with Children Aged 6 to 17

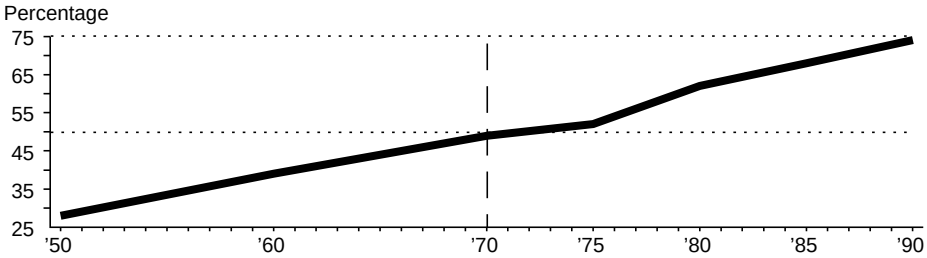


Figure 30: Trends in the Percentage of Children Under Age 18 in Poverty

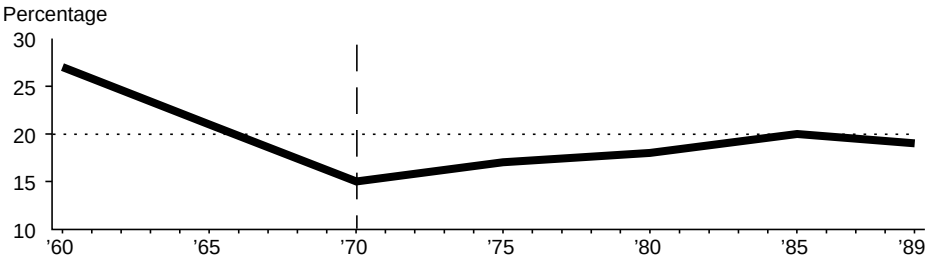
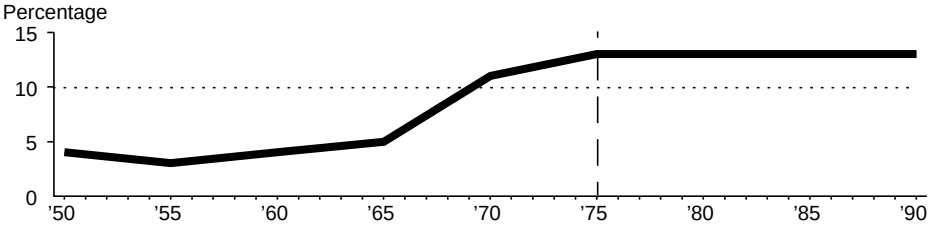


Figure 31: Trends in the Percentage of Children Under Age 18 Receiving AFDC Payments



**Aid to Families with Dependent Children*

SUMMARY

The Parent-Pupil Ratio

- Students living with both parents have higher proficiency in school, even after controlling for other key differences between two- and one-parent families (See Figure 1 and page 6).
- The percentage of children under age 18 living with a single parent has more than doubled since 1965 (See Figure 2 and page 6).
- About one in six White children, one in four Hispanic children, and one in two Black children, live with one parent (See Table 2 and page 6).
- The percentage of eighth grade students with both parents at home ranges from 85 percent in Wyoming, North Dakota, and Nebraska to 47 percent in the District of Columbia (See Figure 3 and page 8).
- States having a larger proportion of students with both parents at home tend to have higher average math scores (See Figure 3 and page 8).

The Home Library

- The more types of reading materials there are in the home, the higher students are in reading proficiency (See Figure 4 and page 10).
- The quantity of reading materials in the home has declined substantially in the last two decades (See Figure 5 and page 10).
- Among 15 countries, the U.S. family has more reading materials in the home than families of 13-year-olds in nine countries (See Table 3 and page 10).
- The percentage of eighth grade students with three or more types of reading materials in the home ranges from 90 percent in North Dakota to 64 percent in Guam (See Figure 6 and page 12).
- On average, states whose students report more types of reading materials in the home have higher mathematics scores (See Figure 6 and page 12).

Reading at Home

- Students who do more reading at home are better readers (See Figure 7 and page 14).
- Students do less reading for fun as they get older (See Figure 9 and page 14).
- Students are reading fewer books, newspapers and magazines in 1990 than in 1984 (See Figure 8 and page 14).
- The percentage of eighth grade students who read more than 10 pages per day ranges from 48 percent in Idaho to 23 percent in the Virgin Islands (See Figure 10 and page 16).
- On average, states whose students report more reading have higher mathematics scores (See Figure 10 and page 16).
- 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 percent); the lowest was Korea (11 percent) (See Figure 11 and page 18).

Watching Television

- While the majority of families have rules for viewing television (See Figure 14), the amount students watch varies greatly. At age 13, seven in 10 watch 3 or more hours each day (See Figure 12 and page 20).
- Students who watch a lot of television have lower academic proficiency (See Figure 13 and page 20).
- Television watching is increasing; in 1978, among 17-year-olds, three in 10 watched three or more hours each day; this jumped

to one in two by 1990 (See Figure 12 and page 20).

- The percentage of eighth grade students who watch six hours or more of television per day ranges from 33 percent in the District of Columbia down to 6 percent in Montana and North Dakota (See Figure 15 and page 22).
- States with a lower proportion of students who watch a lot of television have, on average, higher math scores (See Figure 15 and page 22).
- Among 15 countries, the U.S. was second in the percentage of 13-year-old students who watched five hours or more of television everyday. The highest was Scotland (24 percent); the lowest, Slovenia (4 percent) (See Figure 16 and page 24).

Homework

- The amount of homework done by students has been shown to be positively related to achievement (For example, see Figure 17 and page 26).
- Eighth grade students do an average of five to six hours per week of homework. Asian students do the most; Hispanic and American Indian students the least (See Figure 18 and page 26).
- Overall, the amount of homework students do has not changed much from 1984 to 1990 (See page 26).
- The percentage of eighth grade students who do at least one hour of homework a day ranges from 77 percent in New Hampshire and Connecticut to 59 percent in Florida and Guam. For the nation as a whole, two-thirds of our students do at least an hour a day (See Figure 19 and page 28).
- The U.S., with 29 percent of its 13-year-old students doing two or more hours of homework every day, ranks 11th out of 15 countries. The range is from 79 percent in Emilia-Romagna, Italy to 14 percent in Scotland (See Figure 20 and page 30).

Absence From School

- One in five eighth graders are absent three or more days a month, with females absent more than males, Asian students least, and American Indian students most. Students from low socioeconomic status families are absent more than others, and Catholic school students are absent less than public school students (See Figure 21 and page 32).
- The percentage of eighth grade students who are absent less than three days per month varies from 86 percent in North Dakota to 63 percent in the District of Columbia (See Figure 24 and page 34).
- On average, states whose students are absent less tend to have higher math scores (See Figure 24 and page 34).

Parent Involvement

- Eight in 10 parents talk with their eighth grade children about their current school experience and half talk about high school plans (See Figure 25 and page 36).
- Six in 10 parents have rules about watching television, nine in 10 about doing homework, and three in four about making a certain grade average (See Figure 26 and page 36).
- A third of parents of eighth grade students belong to a PTA and have contacted the school about their child's academic program. Parents with higher socioeconomic status are more likely to do both (See Figure 27 and page 36).

Family Resources

- Family income rose until 1970 and has basically stagnated since then (See Figure 28 and page 38).
- Family income has been held up by more mothers working (See Figure 29 and page 38).
- The percentage of children in poverty declined until 1970, then rose, and has continued at about one in five children (See Figure 30 and page 38).
- The percentage of children receiving AFDC payments also rose, and has leveled off at about one child in eight (See Figure 31 and page 38).

CONCLUSION

As long as the focus of attention remains *solely* on how we can make the schools do a better job, it is quite unlikely that the nation can reach such ambitious goals as being first in the world in science and mathematics achievement by the year 2000. The efforts of schools are launched from the platform of readiness and support for learning, which are products of the home. A clear-eyed assessment of the family as school dictates a sobering conclusion that a large proportion of homes are not providing very high platforms for the schools to build on.

Should we have national educational goals for families, as we do for schools? Would this focus attention on the family rules for doing homework, watching television, reading at home, and getting to school? And on parents' involvement with their children's learning and with the schools they attend?

Should we use the new NAEP state-by-state assessment system to watch the variation among the states in what occurs in the home, as well as how states rank in their academic proficiency, and how they rank in things like the time spent in school? Can it become news that students in North Dakota watch the least amount of television and have the highest math scores? And that students in North Carolina watch the most and tie for last place in math scores (among participating states, within the continental U.S.)?

And should the focus of reporting the results of international assessments be on the indicators of commitment that societies make to education, as well as how countries compare on test scores? The just released study of the International Assessment of Educational Progress, published by Educational Testing Service, presents measures of home activities along with scores and measures of school conditions.

The resolve of American society to achieve the national education goals set for the year 2000 will be tested both by the changed priorities and behaviors of American families as well as by progress in restructuring education. And for homes ill equipped, and lacking resources to provide the supports for learning, policies that strengthen the family are also policies to raise the platform from which schools provide better education.

APPENDIX

Appendix Table 1: Percent of Children under 18-years-old in Single-Parent Families	
1965	9.8%
1970	11.3
1975	16.1
1980	18.9
1985	21.0
1988	21.6
1989	21.9

Appendix Table 2:
Mathematics Proficiency and Home Resources, 1990 NAEP Trial State Assessment

State	Average NAEP Math Proficiency	Percentage of Students with Both Parents Living at Home	Percentage of Students with at Least Three Types of Reading Materials in the Home	Percentage of Students Reading More Than 10 Pages Each Day for School and Homework	Percentage of Students Watching Six Hours or More of Television Each Day	Percentage of Students Absent Three Days or More from School During the Last Month
Alabama	252	75	78	34	18	18
Arizona	259	75	73	41	12	26
Arkansas	256	77	77	28	20	23
California	256	78	68	42	11	28
Colorado	267	78	85	38	9	25
Connecticut	270	79	86	43	12	22
Delaware	261	75	83	32	18	28
District of Columbia	231	47	76	24	33	37
Florida	255	75	73	31	19	27
Georgia	258	73	80	36	17	22
Guam	231	81	64	32	20	28
Hawaii	251	78	69	36	23	26
Idaho	272	84	84	48	7	21
Illinois	260	78	82	43	14	21
Indiana	267	81	84	37	11	23
Iowa	278	83	88	43	8	20
Kentucky	256	79	78	36	14	23
Louisiana	246	73	76	36	19	27
Maryland	260	75	83	34	19	27
Michigan	264	77	84	31	14	25
Minnesota	276	83	88	36	7	20
Montana	280	83	88	44	6	21
Nebraska	276	85	88	42	9	19
New Hampshire	273	83	88	40	7	22
New Jersey	269	79	84	41	13	23
New Mexico	256	77	72	40	11	27
New York	261	76	79	35	17	29
North Carolina	250	74	78	37	21	25
North Dakota	281	85	90	41	6	14
Ohio	264	79	84	36	11	22
Oklahoma	263	78	78	37	14	22
Oregon	271	81	82	41	9	31
Pennsylvania	266	80	86	34	10	24
Rhode Island	260	78	80	38	12	28
Texas	258	77	70	34	15	18
Virgin Islands	218	63	76	23	27	22
Virginia	264	78	82	33	16	24
West Virginia	256	82	80	36	16	25
Wisconsin	274	81	86	38	8	21
Wyoming	272	85	86	43	7	23

Note: Standard errors can be found in the source document, "The State of Mathematics Achievement: NAEP's 1990 Assessment of the Nation and the Trial Assessment of the States." Prepared by Educational Testing Service under contract with the U.S. Department of Education, National Center for Education Statistics, June 1991.

Appendix Table 3: Trends in the Number of Types of Reading Materials in the Home		
	Average Number of Types of Reading Materials in the Home	
	1971	1990
Age 9	2.98	2.74
Age 13	3.33	3.18
Age 17	3.52	3.34
Note: These averages were computed by the authors with unpublished NAEP data.		

Appendix Table 4: Trends in the Economic Status of Children				
Year	Median Family Income (1989 dollars)	Percentage of Married Women in the Labor Force with Children Age 6 to 17	Percentage of Children Under Age 18 in Poverty	Percentage of Children Under Age 18 Receiving Aid to Families with Dependent Children (AFDC) Payments
1950	$17,077	28.3%	—	3.9%
1955	20,441	—	—	3.0
1960	23,543	39.0	26.5%	3.7
1965	27,386	—	20.7	5.0
1970	31,534	49.2	14.9	10.5
1975	31,620	52.3	16.8	12.9
1980	31,637	61.7	17.9	13.2
1981	30,540	—	—	12.1
1982	30,111	—	—	12.0
1983	30,719	63.8	—	12.4
1984	31,547	65.4	—	12.4
1985	31,962	67.8	20.1	12.6
1986	33,328	68.4	—	12.7
1987	33,805	70.6	19.7	12.6
1988	33,742	72.5	19.0	12.7
1989	34,213	—	19.0	12.5
1990	—	73.6	—	13.2

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