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Minnesota Education Yearbook

The status of preK–12 education in Minnesota

prepared by the Office of Educational Accountability

UNIVERSITY OF MINNESOTA

2004 Minnesota Education Yearbook

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Chapter 1: Introduction

The years 2002 and 2003 brought major new legislation on educational assessment and accountability at both the federal and state levels. This past year (2003–04) saw continued implementation of changes mandated by that legislation. After approving new mathematics and reading standards in 2003, the Minnesota legislature approved new science and social studies standards in 2004. Seventh graders began taking statewide assessments in mathematics and reading. As required by the 1994 federal reauthorization of the Improviing America's Schools Act (IASA) and by the 2002 federal reauthorization of the Elementary and Secondary Education Act (a.k.a., No Child Left Behind), all public schools now receive evaluations based on their students' achievement test scores, attendance, and graduation rates, under complex and shifting federal regulations. Schools that fail to meet their performance targets may be subject to various corrective actions. Schools now receive ratings of 1 to 5 stars as evaluations of their students' achievement in mathematics and reading, school safety, and the advanced opportunities offered students.

The legislation of 2002 and 2003 has had a major impact on education and on this report. Achievement, attendance, and graduation rate data included in this report are evaluated against targets developed in 2002. In the past, we have focused primarily on student data (e.g., the percentage of students passing the high school graduation test). This year's report includes more of a focus on schools (e.g., the percentage of elementary schools that met their achievement targets). Our goal is to report on the condition of education in Minnesota as reflected in a comprehensive set of statewide indicators.

Chapter 2 briefly describes standards, assessments, and accountability measures as these have been implemented statewide in Minnesota. The focus is on aspects of the system that have changed in the past year. Special attention is also given to the requirements that schools must meet in order to satisfy federal requirements or to earn a distinguished four or five star rating in the state's evaluation system. Data are presented on the impact of these various requirements on the evaluations of various school types.

Chapter 3 covers enrollment, finance, and teacher characteristics in Minnesota public schools. In the section on enrollment, emphasis is placed on the enrollment declines that have been exacerbating districts' budget problems. While the decline is continuing and may do so for a few more years, this year's enrollment data suggest that the end of the statewide enrollment declines may be in sight. The finance section describes monetary resources and their distribution over various expenditure and revenue categories. In Chapter 3, we also report the number of teachers instructing in fields outside their areas of full licensure.

Chapter 4 examines high school coursework, student attendance, and high school graduation rates. The major coursework data come from the *ACT* college admissions testing program. In the attendance section, student data are evaluated against the state's goal of having a 90% attendance rate in every elementary school by 2014. Graduation rates are evaluated against the goal of having an 80% graduation raate in every high school by 2014.

Chapter 5, the student achievement chapter, continues to grow. This year, there are data from the new 7th grade tests *(MCAs)* in reading and mathematics. This chapter also utilizes data from Minnesota's statewide testing program *(MCAs* and *BSTs),* the *National Assessment of Educational Progress (NAEP),* and the *ACT* college admissions test program. *NAEP* data provide a comparison of student achievement in Minnesota with that of students in other

states. *NAEP* data also provide a way to independently confirm (or disconfirm) trends seen in Minnesota's own testing program. *NAEP* data address the following question: Scores on Minnesota statewide tests are increasing, but do other tests confirm these increases in achievement? *ACT* data tell us about the preparation of our college-bound students for higher education.

Chapter 6 summarizes our major recommendations and conclusions from the previous chapters. Rather than suggesting major new policy initiatives, Chapter 6 deals primarily with recommendations for implementation of the major policies enacted at the federal and state levels in 2003 and 2004.

Sources and Limitations

As with past *Yearbooks,* we have drawn heavily on an earlier report, the *Minnesota Educational Accountability and Reporting System: Feasibility and Design Study* (Bruininks et al., 1996) in selecting the variables to be included in this report. The selection of variables also follows reporting guidelines in Minnesota statute (2003 1st Special Session, Chapter 9).

To assemble data on the various indicators, we have drawn from a variety of sources. We are indebted to those who gathered the data, but we are also bound by its limits. For instance, while some previous *Yearbooks* have reported comparisons between Minnesota students and students from other countries, no new international comparisons were available this year. Therefore, none are reported in this *Yearbook.* The nature of the available data limits the kinds of questions we can address and the analyses we can perform.

Two of our achievement data sets are national: the data on college-bound students taking the *ACT* (formerly known as the *American College Test*) and data from the *National Assessment of Educational Progress (NAEP).* These studies have the advantage that they permit comparisons of Minnesota students to students from around the country. We have also drawn from two other national data sets on teacher salaries and per pupil expenditures: the American Federation of Teachers' study of salaries nationwide, and *Education Week's* comparison of per pupil expenditures in Minnesota with those from other states.

Most of our data come from Minnesota statewide reporting, rather than from national sources. Much of this data comes from the Minnesota Department of Education (MDE), and is reported to MDE either by schools and districts around the state or by the statewide testing contractors. MDE is the source for our data on statewide testing, attendance, graduation and dropout rates, teacher characteristics, and school district finances.

Tables in this report represent our analyses of the data sets. Many of the figures are simple graphical representations designed to highlight selected data in those tables. However, some of the graphs were not taken from our own data. For instance, the decade-long trends in *ACT* scores were taken from a series of annual reports by ACT, Inc.

In Chapters 3–5, the figures and text highlight what we consider to be the most important findings in the data. More detailed data can be found in the tables. Readers who do not find the answer to their question in the text or figures may find the answer in the tables. If the answer cannot be found in the tables, it may be found in some cited reference. Undoubtedly, readers will think of additional questions that, for reasons of space, we do not address in this report.

NCLB has prompted Minnesota to change the way it measures or computes some indicators (e.g., graduation rate) as compared to previous years. This raises a serious question when tracking trends over time. In displaying the trend, should the indicator be shown as now computed or as previously computed? Where possible, we have recomputed the indicator for prior years using the current year's method of computation. Where it was not possible to recompute the indicator for prior years, we have displayed the trend using the

method of computation from the prior years.

This is the seventh *Minnesota Education Yearbook*. Much of the reporting is similar to prior years, particularly where the goal is to track trends across time. Minnesota's accountability and reporting system is evolving. Because educational improvement is a continuing process, the monitoring of education results must be an ongoing effort, designed to tell us whether our educational reforms are succeeding and how they can be further improved.

Chapter 2: Accountability, Adequate Yearly Progress, and the Five-star Rating System

Starting in January 2002, Minnesota adopted a long-range plan to overhaul its system of educational standards and requirements, its system of testing and assessments, and its school accountability process. The revisions were designed to accomplish several goals. First, they had to comply with federal legislation, the No Child Left Behind (NCLB) Act of 2001. They were also designed to recognize high performing schools, not just identify underperforming schools. Finally, they included the provision of a comprehensive set of information about schools for educators, policymakers and parents. The pieces of this plan are now in various stages of planning, development, or implementation.

The legislature adopted new educational standards in reading and mathematics in 2003. Science and social studies standards were adopted in 2004. Schools are now incorporating these new standards into their curricula. Beginning in 2006, statewide tests will cover the content specified in the revised reading and mathematics standards, and in 2008, science tests will be added. There are no plans to adopt statewide tests in social studies.

Beginning with students entering 9th grade during or after the 2004–05 school year, high school students will be required to meet the high school course requirements discussed in Chapter 4 of this report (pp. 39–46).

The plan also includes major changes in statewide assessments. As stated above, the content of existing tests in reading and mathematics will be revised to align with the new standards beginning in spring 2006. In the spring of 2004, 7th graders began taking *MCA* tests in reading and mathematics (see Chapter 5, pp. 53–68). Starting in 2006, students in 4th, 6th, and 8th grades will take new tests in reading and math, and in 2008, there will be science tests in grades 5, 8, and high school. Once all of these tests have been implemented, and assuming the U.S. Department of Education approves them, Minnesota will be in full compliance with the testing provisions of the federal NCLB legislation.

The revised accountability system includes a school report card for every school and district. Report cards for 2004 are at http://education.state.mn.us/ReportCard2004. They contain information about staff characteristics, finances, open enrollment, student demographic characteristics, advanced academic opportunities (e.g., gifted and talented programs, advanced placement), and school safety, as well as elements required by NCLB's Adequate Yearly Progress (AYP) evaluation (test participation, test proficiency, attendance, and graduation). The school report cards present information in a concise format accessible to the citizens of Minnesota. In addition, they provide a framework for recognizing high performing schools, rather than a vehicle that only identifies low performing schools.

STANDARDS AND ASSESSMENTS

In academic year 2003–04, students in Minnesota took the *Minnesota Comprehensive Assessments (MCAs)* in reading (grades 3, 5, 7, 10), mathematics (grades 3, 5, 7, 11), and writing (grades 5, 10). Chapter 5 reports results from these various assessments.

The assessments that will be administered in the 2004–05 school year cover the same topic areas and are aligned with the same standards as those administered in 2003–04; 3rd grade reading and mathematics; 5th grade reading, mathematics, and writing; 7th grade reading and mathematics; 10th grade reading and writing; and 11th grade math.

In 2006, the *Minnesota Comprehensive Assessments'* second generation *(MCA II)* will become operational, expanding testing in reading and mathematics to include grades 4, 6, and 8. These tests, along with the tests in grades 3, 5, and 7, will all be aligned to the new standards that have been adopted. In 2008, science tests will be added at grades 5, 8, and in one high school grade.

ACCOUNTABILITY SYSTEM

Statewide, the five performance goals outlined in the accountability system (2004, Minnesota Department of Education) are:

1. By 2013–14, all students will reach high standards, at a minimum attaining proficiency or better in reading/language arts and mathematics.
2. All limited English proficient (LEP) students will become proficient in English and reach high academic standards, at a minimum attaining proficiency or better in reading/language arts and mathematics.
3. By 2005–06, all students will be taught by highly qualified teachers.
4. All students will be educated in learning environments that are safe, drug-free and conducive to learning.
5. All students will graduate from high school.

The school report cards of Minnesota's accountability system both describe and evaluate schools and districts. In 2003–04, the statewide accountability system evaluated statewide test results, but also described attendance, graduation rate, staff characteristics, finances, extracurricular opportunities, and student demographics. Using a "five-star" system, report cards evaluated academic achievement, advanced academic opportunities, and school safety. Minnesota's five-star evaluation of academic achievement incorporates the federally required evaluation of adequate yearly progress with state performance expectations (see http://education.state.mn.us/ReportCard2004).

In describing the evaluation of academic achievement for Minnesota's schools and districts, we will first describe the federal adequate yearly progress (AYP) evaluation and then the Minnesota five-star evaluation into which AYP is incorporated.

Federal Adequate Yearly Progress Evaluation

The Adequate Yearly Progress (AYP) evaluation includes testing participation, academic achievement, attendance, and graduation rates. Each school designated as making adequate yearly progress must have shown satisfactory results in five areas. For Minnesota elementary schools, the five areas include: 1) student participation in reading assessments; 2) student participation in mathematics assessments; 3) student achievement in reading; 4) student achievement in mathematics; and 5) attendance. For high schools, the first four areas are the same, but the fifth is the school's graduation rate. For a school to make adequate yearly progress, every subgroup with a minimum number of students enrolled (the "minimum cell size") must show satisfactory results in the first four areas. If a single subgroup fails to show satisfactory results in any area, the school fails to make adequate yearly progress. Evaluation of the fifth indicator (graduation or attendance) is based solely on the total student population. Below is a rather simplistic rendering of the evaluative indicators detailed in the *NCLB Adequate Yearly Progress System Requirements/Business Rules* (2004), developed by the Minnesota Department of Education.

- **Participation in Reading and Mathematics Assessments:** The first two areas relate to student participation in reading and mathematics assessments. Schools and districts are required to have 95% of all students in the tested grades participating in the assessments. Note that the participation rate is aggregated for

the entire school rather than for individual grades that are tested. Participation is evaluated separately for up to nine groups in the tested grades for the mathematics and reading assessments. The nine groups include: 1) All (everyone); 2) Whites; 3) Blacks; 4) Hispanics; 5) Asian/Pacific Islanders; 6) American Indians; 7) Special Education students; 8) LEP students; and 9) students eligible for free or reduced- price lunch (F/R Lunch). To make adequate yearly progress, the school must have at least 95% test participation in every subgroup containing 40 or more enrolled students. Within each group, the 95% threshold must be met in both reading and mathematics separately. If just one subgroup containing 40 or more enrolled students fails to meet the 95% threshold in a single subject area, the school fails to make adequate yearly progress.

If any group makes the minimum cell size and fails to meet the 95% participation target, uniform averaging may be employed. In uniform averaging, the school is said to meet the participation requirement if the participation rate of students over the past two years is at least 95%. If the target is still not met, the school or district may combine data from one more year for a three-year average. A school will therefore not be penalized if the current year is an aberration and its participation rates in general are sufficient to pass AYP.

- **Academic Proficiency:** NCLB requires states to increase the proportion of proficient students in their schools at a rate that will have all students (100%) performing at the proficient level by 2013–14. In order to monitor progress toward this goal, Minnesota has adopted a proficiency index. The sidebar describes computation of the index. Based on the target proficiency threshold for each grade and the number of students in each grade, every school is assigned an annual target for its reading proficiency index and a target for its mathematics proficiency index (again, the AYP targets must be met by each school, not by each grade). To make adequate yearly progress, the school must meet its proficiency index target in reading and in mathematics for the school overall (All Students), and for each of the eight subgroups listed previously. Here, the number of students necessary before a subgroup is eligible for inclusion in the AYP evaluation is 20 for all groups except special education, where the minimum cell size is larger, 40.[1]

How proficiency indexes are calculated

Based on the student's *MCA* Level, each student is assigned a score. The student gets a score of 0 (no credit) if they score in Level 1. The student receives a score of .5 (half credit) if they score in Level 2. The student receives a score of 1 (full credit) if they score in Level 3 or higher. The proficiency index for a school is the mean of these student scores. Technically, a proficiency index is a proportion between 0 and 1, but they are often written without decimals: e.g., 72 instead of .72 or 30 instead of .30. A school's proficiency index will equal 1.00 (or 100 if written without decimals) only if all students score at or above Level 3, the state's achievement target for all children. Under NCLB, every school must keep raising its proficiency index, and by academic year 2013–14, the proficiency index must reach 100.

If an entire school has less than the 20-student limit, this limit is removed and the proficiency index is calculated. If the school does not meet the target with the minimum removed, data for two years can be combined. If a school fails to make AYP and the determination was based on less than 20 students, the school may appeal the decision using the small number of students as a grounds for appeal.

Special education students may be assessed with an alternate test, and the results from the alternate assessment can be used in the AYP evaluation process. However, the number of students counted as proficient based on these alternative assessment results was limited to 1% of the district's students in 2004. Any students over the 1% limit who took an alternate assessment were counted as not proficient.

- **Attendance:** For all schools that do not have graduates (e.g., elementary, middle, junior high, and some high schools), the fifth area is attendance. The AYP target for attendance is 90%, based on the average daily attendance of all students attending that school or district. Here again, the minimum cell size for inclusion in

NOTES

[1] Under NCLB, minimum cell sizes are set by states in their assessment plans. Starting in 2005, the minimum cell size for LEP students will rise from 20 to 40. This change, proposed by the Minnesota Department of Education, has recently been approved for Minnesota by the U.S. Department of Education.

the AYP process is 40. This fifth indicator is calculated only for the entire school or district (All). However, schools and districts not making the 90% target will be labeled as making "acceptable improvement" if their current attendance rate is at least 1/10 of one percent (0.1%) above the rate for the previous year. (Kindergarteners are not included in the calculation of attendance rates because their attendance at school is not compulsory.)

- **Graduation rate:** For schools that graduate seniors, the fifth area is graduation rate. Schools and districts must have a graduation rate of at least 80% or, as with attendance, show acceptable improvement of at least .1% above the previous year. Here too, the minimum cell size is 40, and graduation rate is calculated only for the entire school (not for the separate subgroups).

If any of the nine groups do not reach their proficiency index target, the school or district has one other opportunity to avoid sanctions—safe harbor. In order to qualify for safe harbor, a school or district must reduce the number of students in the subgroup who are not scoring at the proficient level by 10% compared to the previous year. Additionally, the subgroup in question must also reach the AYP target for attendance or graduation, as appropriate. When used as primary indicators, the attendance/graduation targets are applied only to the All group, but when used as a secondary indicator (for reaching safe harbor), attendance/graduation targets are applied to subgroups as well. There are no minimum cell size restrictions when calculating attendance/graduation rates as a secondary indicator (2004, Minnesota Department of Education).

2004 AYP RESULTS

Reading and Mathematics Participation

In order to make adequate yearly progress under NCLB, schools must meet a number of requirements for participation in testing, attendance, and graduation. In this section, we examine the impact of those various separate requirements on the determination of whether or not schools are labeled as making adequate yearly progress. To make AYP, a school must meet every requirement for which it meets the minimum cell size. Therefore, the number of schools failing to make AYP is larger than the number failing to meet any one of the requirements below.

Tables 2.1 and 2.2 (p. 9) show the number of schools failing to meet the 95% test participation requirement in reading and mathematics. In the "All Schools" column, the tables show results for schools in the state as a whole. The "Title I Schools" column shows results for Title I schools, the subset of schools subject to sanctions under NCLB. (Title I schools have poverty rates of 40% or more.) The number of schools failing to meet the participation requirement for a given subgroup is a function of two factors: the number of schools meeting the minimum cell size for each subgroup, and the probability that a school meeting the minimum cell size would fail to have 95% participation for that subgroup.

The number of schools with the minimum cell size sets an upper limit on the number of schools that could fail to meet the participation requirement, and on the potential impact of a subgroup participation requirement. This upper limit, however, is only one of two factors that affect the number of schools that do not meet the participation requirement. The second factor is the probability that a school meeting the minimum cell size will actually fail to meet the participation requirement. In the tables, this probability is shown as the percentage of schools that met the minimum cell size, but failed to meet the target ("% Below Target").

Reading Participation. For example, in Table 2.1, the column titled "Number Below Target" shows that the participation requirement for American Indian students had very

little impact; only three schools had too little participation to meet the requirement. The small impact occurred despite the fact that the probability of failing, given the minimum cell size, is higher (16.7%) than for any other ethnic subgroup. Largely, the small impact reflects the fact that very few schools (18) met the minimum cell size.

As a second example from Table 2.1, the largest number of schools (19) failed to make AYP because of low participation among low income students (those eligible for free or reduced-price lunch). The number of schools meeting the minimum cell size is fairly large (660), and therefore this participation requirement had a big potential impact on schools. However, the probability of failing, given enough students for the minimum cell size, was very small (2.9%).

	All Schools			Title I Schools		
Subgroup	# Schools Meeting Cell Size (40)	# Below 95% Target	% Below 95%Target	# Schools Meeting Cell Size (40)	# Below 95% Target	% Below 95%Target
All Students	1397	14	1.0%	750	8	1.1%
Am. Ind	18	3	16.7%	12	2	16.7%
Asian	85	0	0.0%	45	0	0.0%
Hispanic	41	3	7.3%	24	0	0.0%
Black	145	8	5.5%	90	1	1.1%
White	1249	7	0.6%	617	2	0.3%
LEP	138	7	5.1%	90	1	1.1%
Special Ed.	184	18	9.8%	50	1	2.0%
F/R Lunch	660	19	2.9%	402	5	1.2%

Note: Target is set according to NCLB requirements and increases each year.

Table 2.1 Percentage of Schools Meeting the Cell Size Requirement but Below the Participation Requirement: Reading, by Subgroup, for All Schools and Title I Schools

To some extent, in Tables 2.1 and 2.2, the third statistic, % Below Target, reflects attendance in that subgroup. That is, subgroups with low participation in school generally (i.e., low attendance) may also have lower participation on the days of testing. While no careful analysis of attendance and testing participation is possible here, a casual inspection of attendance data in Chapter 4 and testing participation data in Tables 2.1 and 2.2 does suggest that the percentage of schools failing to meet the participation requirement is higher in subgroups with lower attendance rates.

Mathematics Participation. The pattern of Table 2.2 is similar to what we see in Table 2.1. The potential effects of the participation requirement for White students,

	All Schools			Title I Schools		
Subgroup	# Schools Meeting Cell Size (40)	# Below 95% Target	% Below 95%Target	# Schools Meeting Cell Size (40)	# Below 95% Target	% Below 95%Target
All Students	1421	36	2.5%	752	7	0.9%
Am. Ind	17	2	11.8%	12	1	8.3%
Asian	79	0	0.0%	45	0	0.0%
Hispanic	35	1	2.9%	23	0	0.0%
Black	142	9	6.3%	88	1	1.1%
White	1260	20	1.6%	619	3	0.5%
LEP	131	6	4.6%	88	1	1.1%
Special Ed.	170	21	12.4%	47	2	4.3%
F/R Lunch	637	22	3.5%	400	4	1.0%

Note: Target is set according to NCLB requirements and increases each year.

Table 2.2 Percentage of Schools Meeting the Cell Size Requirement but Below the Participation Requirement: Mathematics, by Subgroup, for All Schools and Title I Schools

students in Special Education, and students eligible for free or reduced-price lunch are the largest of the demographic subgroups. The probability that a school would fail to meet the participation target, however, is highest for the American Indian, Black, and Special Education subgroups. While schools with the minimum cell size for White students are most common (1260 total), there is only a 1.6% chance that a school would fail to meet the target because of non-participation on the part of this subgroup.

Reading Proficiency. In Table 2.3, the largest potential impact of the proficiency requirement was in schools with minimum cell sizes for the White and F/R Lunch subgroups, followed by the LEP and Black subgroups. However, the probability that a school would fail because of low reading proficiency in a subgroup was much higher for non-Asian minority students and students in special education or with LEP. The impact of the reading proficiency requirement was somewhat minimized by the fact that few schools met the minimum cell size in some subgroups for which schools had a high probability of not meeting the target.

Table 2.3 Percentage of Schools Meeting the Cell Size Requirement but Below the Proficiency Requirement: Reading, by Subgroup, for All Schools and Title I Schools

	All Schools			Title I Schools		
Subgroup	# Schools Meeting Cell Size (20*)	# Below Proficiency Target	% Below Proficiency Target	# Schools Meeting Cell Size (20*)	# Below Proficiency Target	% Below Proficiency Target
All Students	1714	130	7.6%	904	81	9.0%
Am. Ind	40	7	17.5%	29	5	17.2%
Asian	172	46	26.7%	84	29	34.5%
Hispanic	111	59	53.2%	69	34	49.3%
Black	252	96	38.1%	157	55	35.0%
White	1406	10	0.7%	744	5	0.7%
LEP	261	125	47.9%	171	72	42.1%
Special Ed.	154	111	72.1%	39	26	66.7%
F/R Lunch	1125	169	15.0%	658	97	14.7%

*Note: Minimum cell size for special education students is 40. Proficiency Index target is set for each school, according to NCLB requirements for 100% proficiency by 2013–14, and increases each year.

Mathematics Proficiency. The picture for mathematics proficiency is much like that for reading proficiency. In Table 2.4, the largest potential impact of math proficiency requirements was in schools with minimum cell sizes for White, Black, and low income students, and students with limited English proficiency. Only 1.2% of schools with minimum numbers of White students, and only 12.0% of schools with minimum cell size populations of low income students, fell below the mathematics proficiency target. Much higher per-

Table 2.4 Percentage of Schools Meeting the Cell Size Requirement but Below the Proficiency Requirement: Mathematics, by Subgroup, for All Schools and Title I Schools

	All Schools			Title I Schools		
Subgroup	# Schools Meeting Cell Size (20*)	# Below Proficiency Target	% Below Proficiency Target	# Schools Meeting Cell Size (20*)	# Below Proficiency Target	% Below Proficiency Target
All Students	1733	147	8.5%	904	79	8.7%
Am. Ind	37	8	21.6%	28	5	17.9%
Asian	166	12	7.2%	84	11	13.1%
Hispanic	105	40	38.1%	70	26	37.1%
Black	246	106	43.1%	153	60	39.2%
White	1409	17	1.2%	742	7	0.9%
LEP	259	90	34.7%	170	50	29.4%
Special Ed.	139	81	58.3%	37	17	45.9%
F/R Lunch	1096	131	12.0%	656	74	11.3%

*Note: Minimum cell size for special education students is 40. Proficiency Index target is set for each school, according to NCLB requirements for 100% proficiency by 2013–14, and increases each year.

centages of schools failed to meet the target on the basis of the American Indian, Hispanic, Black, special education, and LEP subgroups' performance, but again the impact of this requirement statewide was somewhat blunted, because few schools met the minimum cell size for subgroups that had a high probability of falling below the targets.

Tables 2.3 and 2.4 highlight the fact that the numbers of schools failing to meet reading and mathematics proficiency targets are higher than for schools failing to meet their participation targets (compare Tables 2.1 and 2.1 to Tables 2.3 and 2.4). Also, the probability that a subgroup would fail to meet either participation or proficiency requirements was much the same, whether we looked at Title I Schools or All Schools.

Table 2.5 Percentage of Schools Meeting the Cell Size Requirement but Below the Attendance Requirement, by Subgroup, for All Schools and Title I Schools

	All Schools			Title I Schools		
Subgroup	# Schools Meeting Cell Size (40)	# Below 90% Target	% Below 90%Target	# Schools Meeting Cell Size (40)	# Below 90% Target	% Below 90%Target
All Students	1799	106	5.9%	914	30	3.3%
Am. Ind	108	31	28.7%	55	14	25.5%
Asian	313	11	3.5%	137	0	0.0%
Hispanic	276	27	9.8%	153	3	2.0%
Black	440	46	10.5%	242	16	6.6%
White	1688	71	4.2%	836	15	1.8%
LEP	463	29	6.3%	262	3	1.1%
Special Ed.	1116	67	6.0%	544	22	4.0%
F/R Lunch	1508	93	6.2%	836	30	3.6%

Note: Target is set according to NCLB requirements and increases each year.

Attendance: Table 2.5 shows the effects of the attendance requirement on elementary schools statewide and Title I elementary schools in Minnesota. Attendance effects are shown by subgroup even though schools must meet the attendance requirement only for all students in the school, not for subgroups (except for purposes of determining safe harbor). Here, in general, the number of schools meeting cell size requirements for the various subgroups is larger, with even the smallest group (American Indians) having 108 schools that met the cell size requirements. This is because the cell size is computed for all grades, not just the grades in which tests are given. Schools most often meet cell size requirements for the All, White, F/R lunch, and special education subgroups. The probability that a school might fail was highest for the American Indian, Black, and Hispanic subgroups. Failure rates for Whites and Asians are the lowest of any of the subgroups. More schools missed their target among All and low income students, not because the probability of failing was high in these two groups, but because a large number of schools met the minimum cell size and hence were subject to this requirement.

Table 2.6 Percentage of Schools Meeting the Cell Size Requirement but Below the Graduation Requirement, by Subgroup, for All Schools and Title I Schools

	All Schools			Title I Schools		
Subgroup	# Schools Meeting Cell Size (40)	# Below 80% Target	% Below 80%Target	# Schools Meeting Cell Size (40)	# Below 80% Target	% Below 80%Target
All Students	379	40	10.6%	45	6	13.3%
Am. Ind	1	1	100.0%	1	1	100.0%
Asian	15	3	20.0%	2	0	0.0%
Hispanic	4	2	50.0%	1	0	0.0%
Black	27	12	44.4%	8	3	37.5%
White	337	27	8.0%	30	0	0.0%
LEP	19	10	52.6%	3	3	100.0%
Special Ed.	24	2	8.3%	1	0	0.0%
F/R Lunch	60	12	20.0%	9	3	33.3%

Note: Target is set according to NCLB requirements and increases each year.

Graduation: Table 2.6 shows results for graduation. Because only high schools are subject to the graduation rate requirement, there are considerably fewer schools with enough students in most subgroup categories to be counted for AYP purposes. This is especially true for Title 1 high schools, where the results for Whites and the All category are the only ones based on ten or more schools. In other words, the potential for failing to meet AYP targets is greatest for the All and White student subgroups. The probability of failing was greatest among American Indian and special education students. The small number of schools failing to meet their graduation rate requirements for many of the subgroups largely reflects the small number of schools that met the minimum cell size and were therefore subject to the requirement.

FIVE-STAR RATING OF ACADEMIC ACHIEVEMENT

The AYP evaluation described above is required by the federal No Child Left Behind legislation. While the AYP system provides procedures to identify underperforming schools, there are no provisions in that system for identifying and distinguishing outstanding schools. Minnesota's Department of Education therefore developed the "Five Star Rating System" to recognize high performance and flag low performance. The system incorporates results from the AYP evaluation while distinguishing both underperforming schools and schools performing at or above the AYP targets. Here we present those results for reading and mathematics achievement only.

The five-star evaluation begins by considering whether the school has met its Adequate Yearly Progress (AYP) goals for the year. Separate five star ratings are assigned in reading and mathematics and are determined in the following manner:

- If, for a given subject (reading or mathematics), a school failed to make AYP in both 2003 and 2004, it received one star in that subject area.
- If, for a given subject, a school failed to make AYP only for the 2004 school year, it received two stars in that subject area.
- If, for a given subject area, a school made AYP for the 2004 school year, it was assigned a minimum of three stars for that subject.
- Schools that made AYP were eligible for up to two additional stars based on achieving any the following four criteria. Note that one star was added per measure achieved up to two additional stars:

  1) Schools are eligible for an additional star if no more than 10% of all students tested scored in the bottom two levels of achievement (e.g., Levels 1 and 2 for the 2004 *MCA),* or in other words, if 90% or more of the students scored at or above grade level proficiency.

  2) Schools are eligible for an additional star if the school performs in the top 25% of all schools with a similar socioeconomic makeup (based on the percentage of tested students eligible for free or reduced-price meals). For an elementary school to receive a star for being in the top 25%, all 3rd and 5th grade students tested must have an average scale score in the top 25% of their statewide group.

  3) Schools are eligible for an additional star if the school performs in the top 10% of all schools with a similar enrollment (based on schools having similar numbers of students tested in each grade). For an elementary school to receive a star for being in the top 10%, all 3rd and 5th grade students tested must have an average scale score in the top 10% of their statewide group.

  4) Schools are eligible for an additional star if 30% or more of all students tested scored in the highest level of achievement (Level 4 for the 2004 *MCA).*

MDE's system distinguishes between schools not making AYP for just the current year (two stars) and those not making AYP for the past two years (one star). Thus, it permits distinctions between schools on the lower end of the range. The five-star rating scheme also marks differences between schools on the upper end. All schools that make AYP are awarded a minimum of three stars. However, for schools to achieve ratings of four or five stars, they have to go beyond simply meeting AYP requirements.

Five Star Rating Results

The following results are based on the Five Star rating scheme used by the Minnesota Department of Education (MDE) in their annual school Report Cards. Tables 2.7–2.12 (pp. 13–16) and the figures in the appendix to Chapter 2 (Figures 2.1–2.24, pp. 18–25) show the results of this five star rating system based on several school demographics. The demographic categories include:

- **Poverty Concentration** (defined as the percentage of students eligible for free/reduced-price lunch)
- **Attendance** (the average attendance rate)
- **LEP Concentration** (the percentage of students with limited English proficiency)
- **Mobility** (the percentage of students moving in and out of schools each year)
- **Special Education Concentration** (the percentage of students in Special Education)
- **Strata** (schools categorized by location and/or size: Minneapolis/St. Paul, Twin Cities Suburbs, Outstate areas with at least 2000 students in the school population, and Outstate areas with less than 2000 students in the school population)

Five Star Rating System results appear in the figures and tables by demographic category, grade (3, 5, 7, and high school), and subject (mathematics and reading). Note that grades 3, 5, and 7 have both mathematics and reading results. The High School category consists of reading tests at grade 10 and a mathematics test at grade 11 (the *BSTs* are not included in the Five Star Rating System calculations). The tables show the percentage of schools receiving the number of stars shown, for a given school demographic composition. The final table in this series, Table 2.13, shows the average number of stars earned by grade and subject over all of the school demographic categories.

Poverty. In general, there is an inverse relationship between the number of stars and a school's poverty concentration (Table 2.7, below, and Figures 2.1–2.4, pp. 18–19). For all

Table 2.7 Results of the Five-Star Rating System, by Poverty Concentration

Grade Level	Poverty Concentration	Mathematics						Reading					
		1 Star	2 Star	3 Star	4 Star	5 Star	Avg.	1 Star	2 Star	3 Star	4 Star	5 Star	Avg.
Grade 3	0–19 %	0.0	0.4	73.5	11.2	14.8	3.40	0.0	4.0	28.7	45.3	22.0	3.85
	20– 29 %	0.0	2.1	87.0	5.5	5.5	3.14	0.0	3.4	63.7	25.3	7.5	3.37
	30–49 %	0.7	4.2	76.7	13.2	5.2	3.18	0.3	6.6	64.6	19.8	8.7	3.30
	50–100 %	4.3	20.0	64.8	8.6	2.4	2.85	4.8	27.1	55.7	7.6	4.8	2.81
Grade 5	0–19 %	0.0	0.5	75.4	10.0	14.2	3.38	0.0	4.3	29.9	45.5	20.4	3.82
	20– 29 %	0.0	4.1	86.4	5.4	4.1	3.10	0.0	5.4	58.5	27.2	8.8	3.39
	30–49 %	0.7	5.1	78.3	11.2	4.7	3.14	0.7	9.0	62.1	18.1	10.1	3.28
	50–100 %	4.7	20.8	64.6	8.3	1.6	2.81	5.2	27.6	56.3	7.3	3.6	2.77
Grade 7	0–19 %	0.0	21.0	58.1	6.5	14.5	3.14	0.0	19.4	61.3	7.3	12.1	3.12
	20– 29 %	0.0	16.4	71.3	8.2	4.1	3.00	0.0	23.0	63.1	9.0	4.9	2.96
	30–49 %	0.0	22.6	66.0	8.8	2.5	2.91	0.6	23.8	63.8	9.4	2.5	2.89
	50–100 %	7.5	50.0	31.3	10.0	1.3	2.48	6.3	52.5	31.3	8.8	1.3	2.46
High School	0–19 %	0.0	26.1	54.8	8.3	10.8	3.04	0.0	24.8	57.3	5.7	12.1	3.05
	20– 29 %	0.0	13.2	66.7	17.5	2.6	3.10	0.0	17.0	65.2	13.4	4.5	3.05
	30–49 %	0.0	22.1	64.0	9.6	4.4	2.96	0.0	20.6	64.1	9.9	5.3	3.00
	50–100 %	0.0	54.0	34.0	12.0	0.0	2.58	0.0	58.8	33.3	7.8	0.0	2.49

Tabled values are the percentage of schools in each cell. "Poverty Concentration" = percentage of students in the school who are eligible for free or reduced-price lunch. Also see Figures 2.1–2.4, pp. 18–19.

grades, and for both mathematics and reading, the highest proportion of schools with five stars are those with the lowest percentage of students eligible for free or reduced-price lunch. In contrast, schools with the highest concentrations of low income students (50–100%) rarely receive five-star ratings. All schools with only one star are in the highest two poverty categories (30–49% and 50–100%). For each grade, the average number of stars awarded decreases as the poverty concentration increases; there are only three exceptions, all for mathematics.

Table 2.8 Results of the Five Star-Rating System, by Attendance Rate

Grade Level	Attendance Rate	Mathematics						Reading					
		1 Star	2 Star	3 Star	4 Star	5 Star	Avg	1 Star	2 Star	3 Star	4 Star	5 Star	Avg
Grade 3	95–100 %	0.5	4.7	76.0	10.7	8.0	3.21	0.7	8.0	52.0	26.8	12.5	3.42
	90–94 %	5.9	18.6	66.9	7.6	0.8	2.79	5.1	23.7	60.2	9.3	1.7	2.79
	0–89 %	0.0	33.3	66.7	0.0	0.0	2.67	0.0	66.7	33.3	0.0	0.0	2.33
Grade 5	95–100 %	0.6	5.1	77.2	9.8	7.3	3.18	0.7	8.8	51.1	27.1	12.3	3.42
	90–94 %	5.8	19.2	68.3	5.8	0.8	2.77	5.8	25.8	55.8	8.3	4.2	2.79
	0–89 %	0.0	40.0	60.0	0.0	0.0	2.60	0.0	40.0	60.0	0.0	0.0	2.60
Grade 7	95–100 %	0.0	17.9	63.7	9.8	8.5	3.09	0.0	22.2	61.1	9.0	7.7	3.02
	90–94 %	2.6	30.7	56.1	7.0	3.5	2.78	2.6	29.8	55.3	8.8	3.5	2.81
	0–89 %	0.0	43.5	52.2	4.3	0.0	2.61	0.0	50.0	45.8	4.2	0.0	2.54
High School	95–100 %	0.0	12.4	67.3	13.3	7.1	3.15	0.0	16.2	66.7	8.1	9.0	3.01
	90–94 %	0.0	23.4	57.3	12.6	6.5	3.02	0.0	26.2	55.8	10.8	7.3	2.99
	0–89 %	0.0	45.8	48.2	4.8	1.2	2.61	0.0	36.3	56.3	5.0	2.5	2.74

Tabled values are the percentage of schools in each cell. Also see Figures 2.5–2.8, pp. 19–20.

Attendance Rate. Table 2.8, above, and Figures 2.5–2.8, pp.19–20, show results grouped by average attendance rate. Schools with higher attendance rates have higher ratings. Again, the most common number of stars awarded is three. There is a relationship between the percentage of students attending a school and that school's average rating. For all grades and for both content areas, as the attendance rate increases, the average star rating also increases.

Table 2.9 Results of the Five Star-Rating System, by LEP Concentration

Grade Level	LEP Concentration	Mathematics						Reading					
		1 Star	2 Star	3 Star	4 Star	5 Star	Avg	1 Star	2 Star	3 Star	4 Star	5 Star	Avg
Grade 3	0 %	0.0	0.7	78.6	13.6	7.1	3.27	0.0	1.7	61.4	25.1	11.9	3.47
	1–9 %	0.3	2.3	77.8	10.3	9.4	3.26	0.3	4.6	48.4	32.2	14.5	3.56
	10–100 %	4.5	21.7	64.7	5.9	3.2	2.82	4.5	31.2	49.3	10.9	4.1	2.79
Grade 5	0 %	0.0	1.7	79.4	12.2	6.6	3.24	0.3	2.4	61.2	24.5	11.5	3.45
	1–9 %	0.3	3.3	79.3	8.9	8.3	3.22	0.3	6.2	47.6	31.4	14.5	3.54
	10–100 %	4.9	22.2	65.0	5.4	2.5	2.78	4.9	33.0	45.8	11.8	4.4	2.78
Grade 7	0 %	0.0	14.2	71.6	8.7	5.5	3.06	0.5	14.2	70.8	9.6	5.0	3.04
	1–9 %	0.0	24.7	57.1	10.1	8.1	3.02	0.0	26.8	56.1	10.1	7.1	2.98
	10–100 %	8.7	60.9	29.0	1.4	0.0	2.23	7.2	69.6	20.3	1.4	1.4	2.20
High School	0 %	0.0	20.2	64.5	10.7	4.5	2.99	0.0	17.1	68.8	8.3	5.8	3.03
	1–9 %	0.0	23.4	54.9	13.6	8.2	3.07	0.0	27.1	52.5	11.0	9.4	3.03
	10–100 %	0.0	67.7	29.0	3.2	0.0	2.35	0.0	83.3	13.3	3.3	0.0	2.20

Tabled values are the percentage of schools in each cell. Also see Figures 2.9–2.12, pp. 20–21.

LEP Concentration. The results of the five-star rating system based on the percentage of limited English proficient (LEP) students in the school are shown in Table 2.9, above, and Figures 2.9–2.12, pp. 20–21. These results echo those for poverty—there is an inverse relationship between the number of stars awarded to a school and its LEP rate. Schools with the highest percentages of LEP (10–100%) seldom had ratings of five stars. In fact, in three of eight instances, no schools with the highest percentages of LEP students received five stars (7th grade mathematics; high school reading and mathematics).

Table 2.10 Results of the Five-Star Rating System, by Mobility

Grade Level	Mobility Rate	Mathematics						Reading					
		1 Star	2 Star	3 Star	4 Star	5 Star	Avg	1 Star	2 Star	3 Star	4 Star	5 Star	Avg
Grade 3	0–9%	0.0	1.7	73.3	12.2	12.8	3.36	0.0	1.2	49.4	29.1	20.3	3.69
	10–19 %	0.0	3.1	78.0	11.6	7.2	3.23	0.3	6.2	52.5	30.2	10.9	3.45
	20–100 %	3.6	14.0	71.4	7.5	3.6	2.94	3.2	20.8	55.8	14.3	5.8	2.99
Grade 5	0–9%	0.0	1.8	74.3	12.0	12.0	3.34	0.0	2.4	47.9	29.3	20.4	3.68
	10–19 %	0.0	3.7	80.5	9.5	6.3	3.18	0.5	7.1	51.5	29.8	11.1	3.44
	20–100 %	3.9	15.8	70.3	7.2	2.9	2.89	3.6	22.6	54.8	13.6	5.4	2.95
Grade 7	0–9%	0.0	4.9	73.8	9.7	11.7	3.28	0.0	5.8	68.0	15.5	10.7	3.31
	10–19 %	0.0	23.5	61.8	8.4	6.3	2.98	0.8	24.8	60.9	8.0	5.5	2.93
	20–100 %	4.2	42.7	45.5	7.0	0.7	2.57	2.8	45.8	45.1	4.9	1.4	2.56
High School	0–9%	0.0	7.0	64.8	15.5	12.7	3.34	0.0	7.0	63.4	19.7	9.9	3.33
	10–19 %	0.0	18.6	60.9	13.6	6.8	3.09	0.0	22.3	60.0	8.2	9.5	3.05
	20–100 %	0.0	41.0	51.3	6.4	1.3	2.68	0.0	38.7	54.0	5.3	2.0	2.71

Tabled values are the percentage of schools in each cell. Also see Figures 2.13–2.16, pp. 22–23.

Mobility. The results for schools categorized according to student mobility (see Table 2.10, above, and Figures 2.13–2.16, pp. 22–23) also mirror the other results reported above. Again, there is an inverse relationship between the number of stars awarded to a school and its mobility rate. In fact, mobility is the best exemplar of this inverse relationship. The lowest proportions of schools with five stars are in the categories with the highest mobility rates, and the highest proportions of schools with five stars are those with the lowest levels of student mobility except in two instances. As with attendance, there is a relationship between the percentage of mobile students and average star rating. For all grades and for both content areas, as mobility rates increase, the mean star rating decreases.

Special Education. Table 2.11, below, and Figures 2.17–2.20, pp. 23–24, show the inverse relationship between the percentage of special education students in a school and the number of stars awarded the school. For the special education category, as for poverty and LEP, there is a relationship between the percentage of special education students in the school and the average star rating awarded to the school. For all grades and for both content areas, as the percentage of special education students increased, the average star rating decreased.

Table 2.11 Results of the Five-Star Rating System, by Special Education

Grade Level	Sp Ed Concentration	Mathematics						Reading					
		1 Star	2 Star	3 Star	4 Star	5 Star	Avg	1 Star	2 Star	3 Star	4 Star	5 Star	Avg
Grade 3	0–9%	1.6	7.4	67.4	13.6	10.1	3.23	0.8	10.5	45.0	26.4	17.4	3.49
	10–19 %	1.0	6.4	77.3	9.3	6.0	3.13	1.5	10.2	55.8	23.9	8.6	3.28
	20–100 %	3.6	7.1	89.3	0.0	0.0	2.86	0.0	14.3	71.4	14.3	0.0	3.00
Grade 5	0–9%	1.8	7.9	66.2	13.2	11.0	3.24	0.9	11.4	42.1	26.8	18.9	3.51
	10–19 %	1.1	7.2	78.9	8.1	4.8	3.08	1.8	11.1	54.8	23.9	8.5	3.26
	20–100 %	3.2	6.5	90.3	0.0	0.0	2.87	0.0	19.4	71.0	9.7	0.0	2.90
Grade 7	0–9%	2.5	13.3	63.3	9.2	11.7	3.14	1.7	15.0	62.5	9.2	11.7	3.14
	10–19 %	0.9	26.4	60.5	8.2	4.0	2.88	1.2	28.5	58.2	8.8	3.3	2.85
	20–100 %	0.0	52.8	38.9	5.6	2.8	2.58	0.0	55.6	36.1	5.6	2.8	2.56
High School	0–9%	0.0	18.5	63.0	9.6	8.9	3.09	0.0	18.5	60.8	7.7	13.1	3.15
	10–19 %	0.0	22.8	59.1	13.2	5.0	3.00	0.0	26.9	57.6	10.6	4.9	2.94
	20–100 %	0.0	58.5	36.6	4.9	0.0	2.46	0.0	39.5	57.9	2.6	0.0	2.63

Tabled values are the percentage of schools in each cell. Also see Figures 2.17–2.20, pp. 23–24.

Strata. The strata results shown in Table 2.12, below, and Figures 2.21–2.24, pp. 24–25, show that Minneapolis and St. Paul schools received the fewest stars. With the exception of high school mathematics proficiency (where 5.9% of Minneapolis/St. Paul schools received three stars), all of the high schools in Minneapolis and St. Paul have a two-star rating. This also means that most of the high schools in Minneapolis and St. Paul failed AYP in both mathematics and reading during the current year. High schools were not evaluated on performance before 2003–04, so none could have failed for two consecutive years; a one-star rating was therefore impossible. In contrast to the inner city, the suburbs surrounding Minneapolis and St. Paul received the highest rating (five stars) more often than schools in any other strata. However, they also had the next highest percentages of schools, after Minneapolis and St. Paul, with the two-star rating. Schools from the suburbs were also better distributed across the full five-star rating scale. A look at the average number of stars awarded in each strata for math and reading shows that the Twin Cities suburbs had the highest average for the two lowest grades (Grades 3 and 5). Small outstate schools (Outstate 2000–) received the best average star ratings for the two higher grades (grade 7 and high school).

Table 2.13 and Figure 2.25 (p. 26) show the average star ratings by grade and content area. The lower grades (3 and 5) have higher average ratings than the higher grades.

Table 2.12 Results of the Five-Star Rating System, by Strata

		Mathematics						Reading					
		1 Star	2 Star	3 Star	4 Star	5 Star	Avg	1 Star	2 Star	3 Star	4 Star	5 Star	Avg
Grade 3	Mpls / St. Paul	6.6	27.4	61.3	1.9	2.8	2.67	8.5	37.7	43.4	7.5	2.8	2.58
	TC Suburbs	0.7	3.0	74.3	10.0	11.9	3.29	0.0	5.9	42.0	35.7	16.4	3.63
	Outstate 2000+	1.2	2.4	82.1	8.3	6.0	3.16	1.2	7.7	57.1	23.2	10.7	3.35
	Outstate 2000-	0.0	1.7	77.3	15.4	5.6	3.25	0.0	3.8	63.6	22.0	10.5	3.39
Grade 5	Mpls / St. Paul	6.7	26.9	61.5	1.9	2.9	2.67	8.7	38.5	42.3	7.7	2.9	2.58
	TC Suburbs	0.8	4.3	74.2	9.8	10.9	3.26	0.0	7.4	39.8	37.1	15.6	3.61
	Outstate 2000+	1.3	2.6	81.9	7.7	6.5	3.16	1.3	9.0	53.5	23.2	12.9	3.37
	Outstate 2000-	0.0	2.5	80.8	12.7	4.0	3.18	0.4	5.1	64.1	20.3	10.1	3.35
Grade 7	Mpls / St. Paul	15.0	60.0	20.0	2.5	2.5	2.18	12.5	70.0	12.5	2.5	2.5	2.13
	TC Suburbs	0.0	42.2	34.4	7.8	15.6	2.97	0.0	42.2	35.6	7.8	14.4	2.94
	Outstate 2000+	0.0	30.8	62.8	5.1	1.3	2.77	0.0	34.6	53.8	9.0	2.6	2.80
	Outstate 2000-	0.0	10.2	75.2	10.6	4.1	3.09	0.4	11.8	74.4	10.2	3.3	3.04
High School	Mpls / St. Paul	0.0	94.1	5.9	0.0	0.0	2.06	0.0	100.0	0.0	0.0	0.0	2.00
	TC Suburbs	0.0	44.7	34.2	6.6	14.5	2.91	0.0	46.6	35.6	2.7	15.1	2.86
	Outstate 2000+	0.0	27.8	58.2	13.9	0.0	2.86	0.0	35.4	50.6	10.1	3.8	2.82
	Outstate 2000-	0.0	10.7	70.2	13.5	5.6	3.14	0.0	10.4	72.0	11.6	6.0	3.13

Tabled values are the percentage of schools in each cell. Also see Figures 2.21–2.24, pp. 24–25.

Table 2.13 Mean Star Rating, by Grade and Content Area

		Math	Reading	All
Grade 3	Mean	3.14	3.32	3.23
	N	888	888	1776
Grade 5	Mean	3.11	3.31	3.21
	N	850	850	1700
Grade 7	Mean	2.90	2.90	2.90
	N	524	524	1048
HS	Mean	2.95	2.92	2.93
	N	554	572	1126
All	Mean	3.05	3.16	3.10
	N	2816	2834	5650

Note: Also see Figure 2.25, p. 26.

CONCLUSIONS AND RECOMMENDATIONS

Under the current system of assessing Adequate Yearly Progress, schools must meet targets in test participation, reading and mathematics proficiency, and attendance or graduation. Schools are having more difficulty reaching their reading and mathematics proficiency targets than in meeting their test participation and attendance or graduation rate

targets. In the area of reading and mathematics participation, among schools that meet the minimum cell size, the percentage of schools failing to meet the requirement is highest for the Hispanic, Black, and LEP subgroups. However, because the number of schools meeting the minimum cell size for these groups is comparatively small, none of these three is the subgroup for which schools most commonly fail to reach their achievement targets. For both Title I schools subject to sanctions and for all schools, the low income subgroup is the one in which more schools fail to reach their target.

Next year the achievement targets for schools will begin to rise until they reach 100 in 2013–14. This rise will make it more difficult for schools to meet their targets. The impact of rising achievement targets may be decreased by a recent decision from the U.S. Department of Education that will allow Minnesota to raise its minimum cell size for LEP students to 40. As a result, fewer schools will meet the minimum cell size for the LEP subgroup next year, and hence fewer schools will need their LEP students to meet an achievement target. This may help schools with large LEP populations to make AYP, since anywhere from 30–60% of schools meeting the LEP minimum cell size did not meet their targets this year. However, few schools met the minimum cell size for the LEP students and hence only a limited number of schools can potentially benefit from the increased cell size for LEP students. All schools are potentially affected by the rising achievement targets.

In Minnesota's five-star rating system for achievement, which incorporates AYP results, schools most commonly achieve the middle rating, three stars. This means that they made their AYP target but did not reach any of the four criteria used to award additional stars. The highest rating, five stars, proved difficult to attain. While in some subcategories of schools (e.g., low poverty schools in 5th grade reading, or low mobility schools in 5th grade reading) approximately one-fifth of the schools earned five stars, typically 10% or less of schools earned this highest rating. A five-star rating is truly a mark of distinction and four-star ratings should be a source of pride.

However, high star ratings were more commonly attained in schools with large percentages of students from advantaged backgrounds; that is, in schools with fewer low income students, fewer students with limited English proficiency, fewer special education students, fewer mobile students who entered the school midyear, and fewer students from the inner cities of Minneapolis and St. Paul. This can lead to the perception that the five star rating system is not equally fair to all schools; or that high ratings are more easily obtained in some schools than others, for reasons that have to do with the backgrounds of the children entering the school (over which staff have no control), rather than for reasons having to do with the quality of the school. Or, as some have said, the playing field is not level for all schools.

By adjusting for the prior achievement and/or student background factors, one can make the playing field more nearly level for all schools. However, these methods typically level the playing field by implicitly or explicitly setting lower achievement expectations for students who enter with low prior achievement or from disadvantaged backgrounds. Setting lower expectations for such students runs contrary to the goals of closing achievement gaps, setting high expectations for all students, and promoting high levels of academic achievement among all students irrespective of background. We have not yet found an ideal way to set achievement targets for schools that both promote high achievement for all students and do not place some schools at a disadvantage in attaining those targets.

Chapter 2 Appendix

Figure 2.1 Grade 3: Percentage of Schools Receiving Four-star and Five-star Ratings, by Poverty Concentration

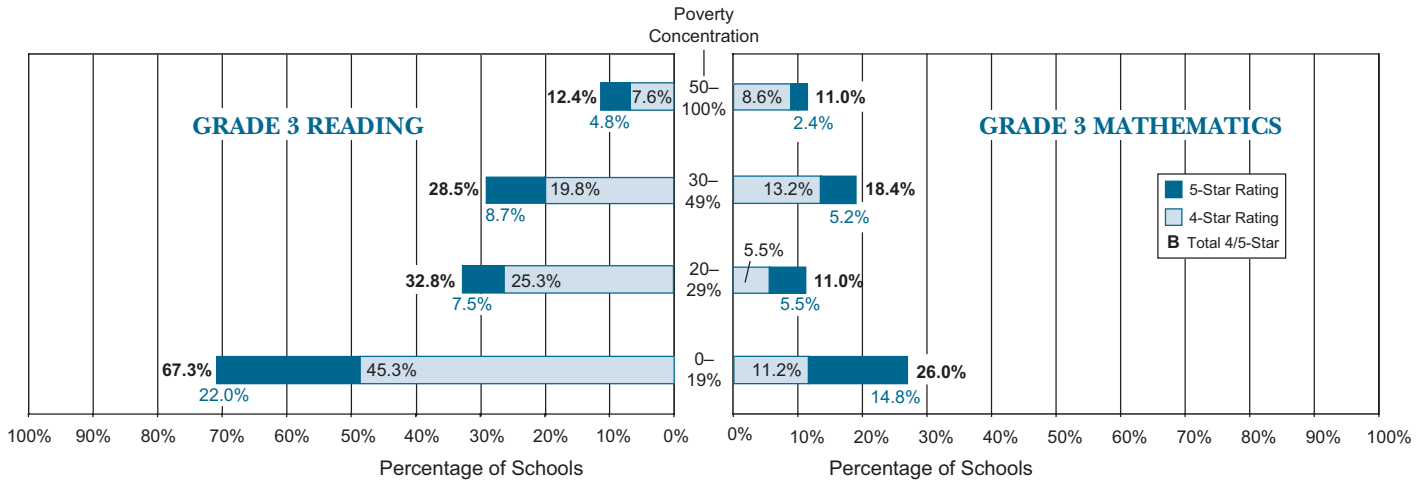


Figure 2.2 Grade 5: Percentage of Schools Receiving 4-Star and 5-Star Ratings, by Poverty Concentration

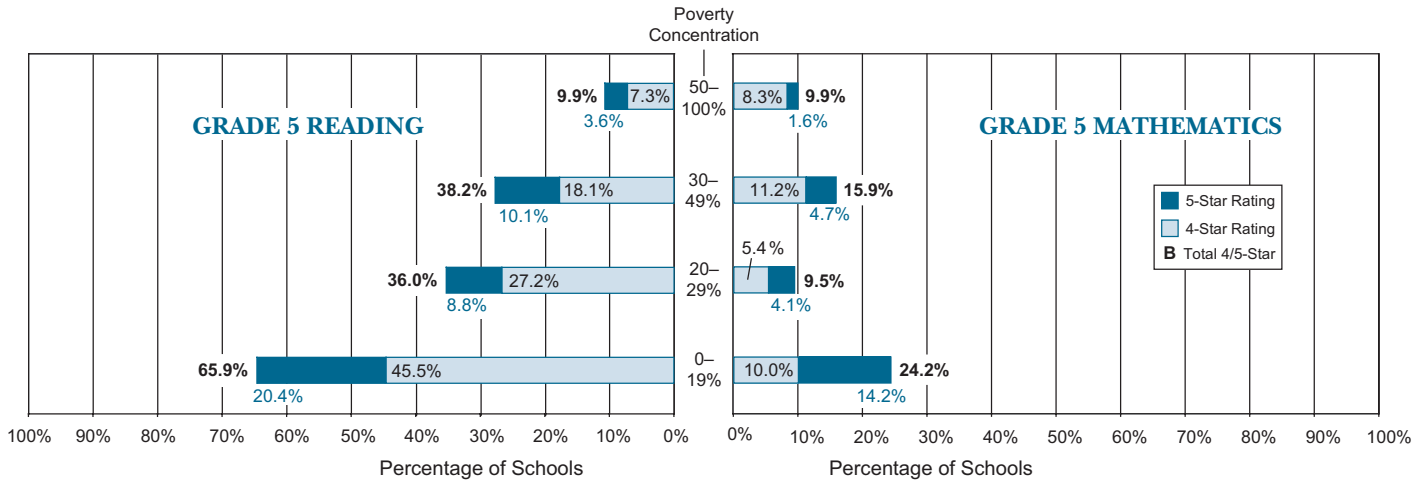


Figure 2.3 Grade 7: Percentage of Schools Receiving Four-star and Five-star Ratings, by Poverty Concentration

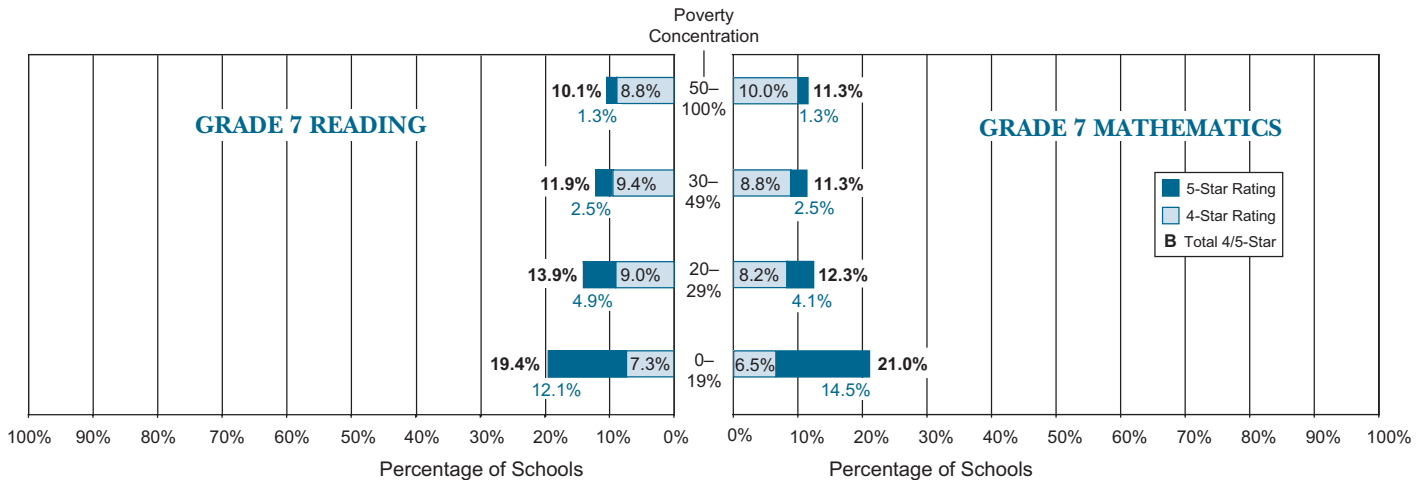


Figure 2.4 High School: Percentage of Schools Receiving Four-star and Five-star Ratings, by Poverty Concentration

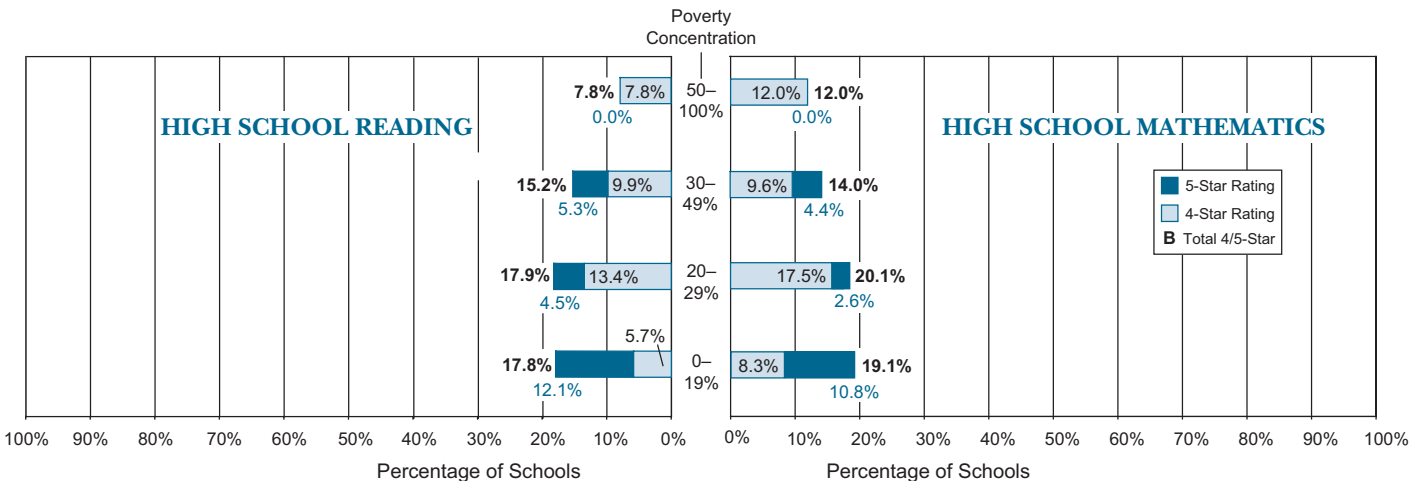


Figure 2.5 Grade 3: Percentage of Schools Receiving Four-star and Five-star Ratings, by Attendance Rate

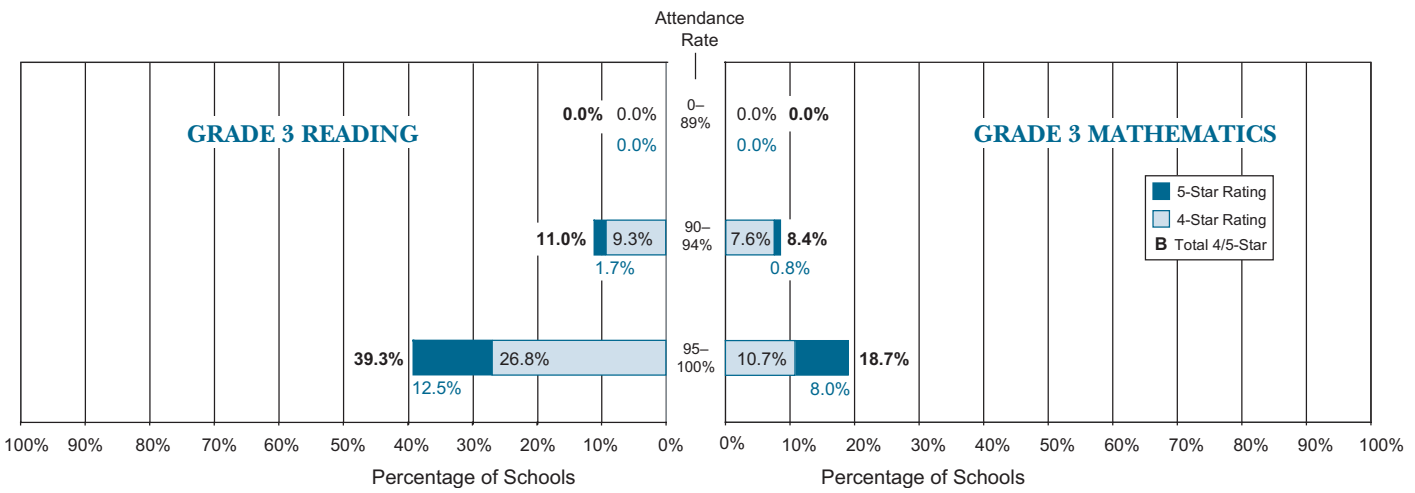


Figure 2.6 Grade 5: Percentage of Schools Receiving 4-Star and 5-Star Ratings, by Attendance Rate

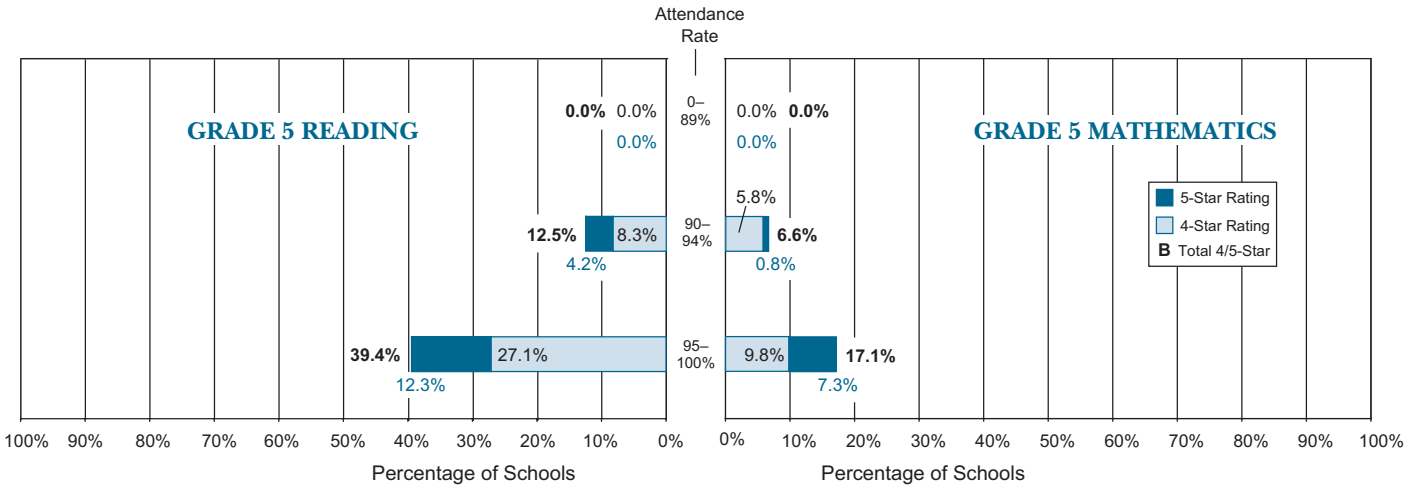


Figure 2.7 Grade 7: Percentage of Schools Receiving Four-star and Five-star Ratings, by Attendance Rate

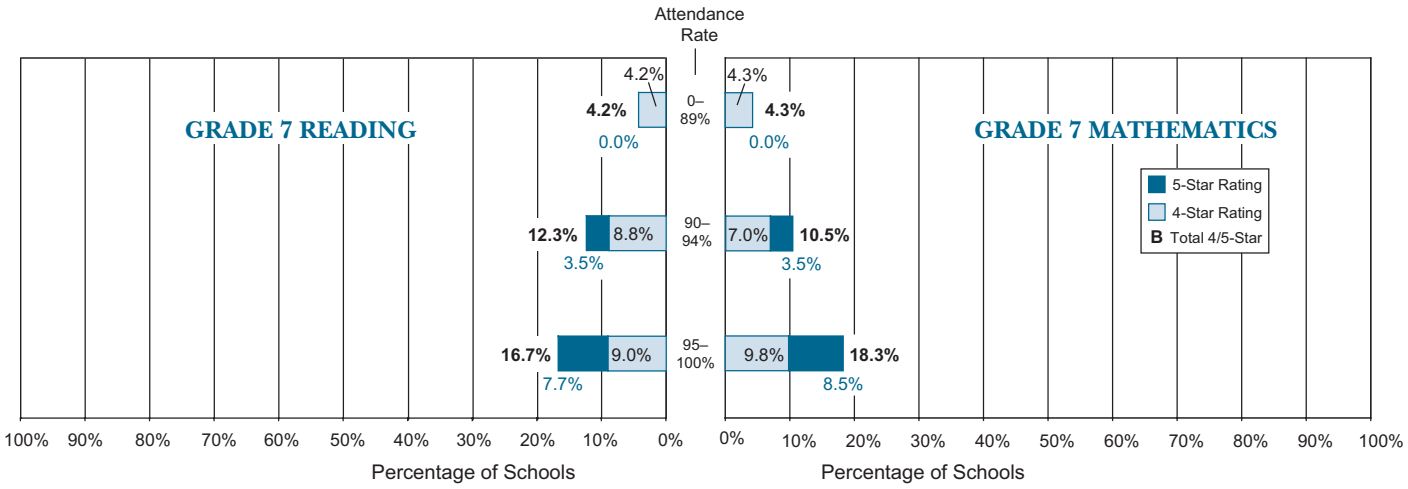


Figure 2.8 High School: Percentage of Schools Receiving Four-star and Five-star Ratings, by Attendance Rate

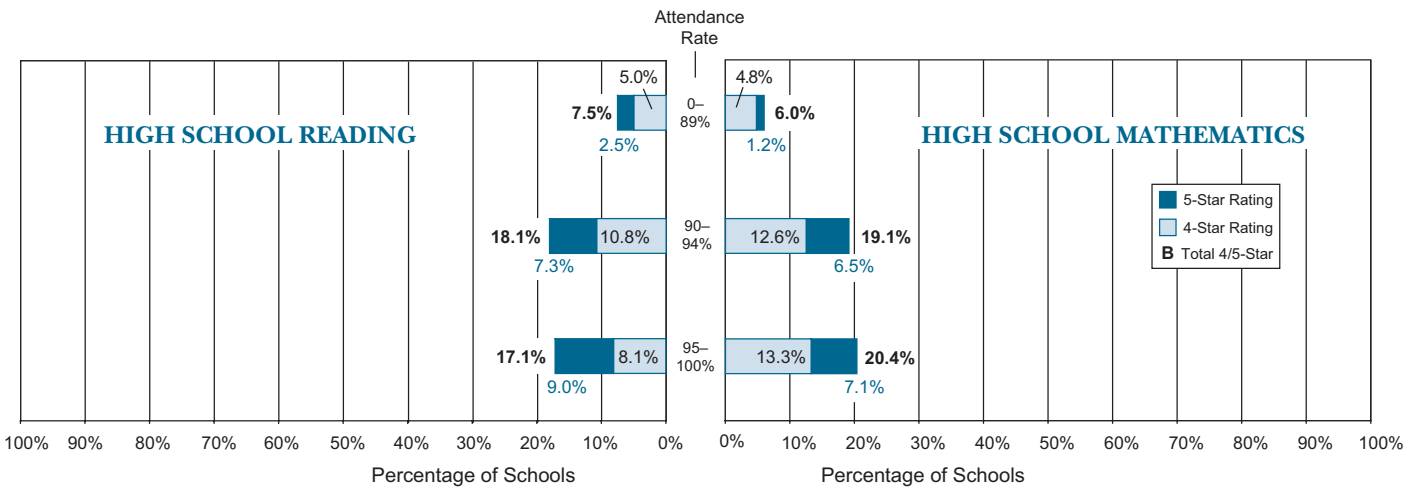


Figure 2.9 Grade 3: Percentage of Schools Receiving Four-star and Five-star Ratings, by LEP Concentration

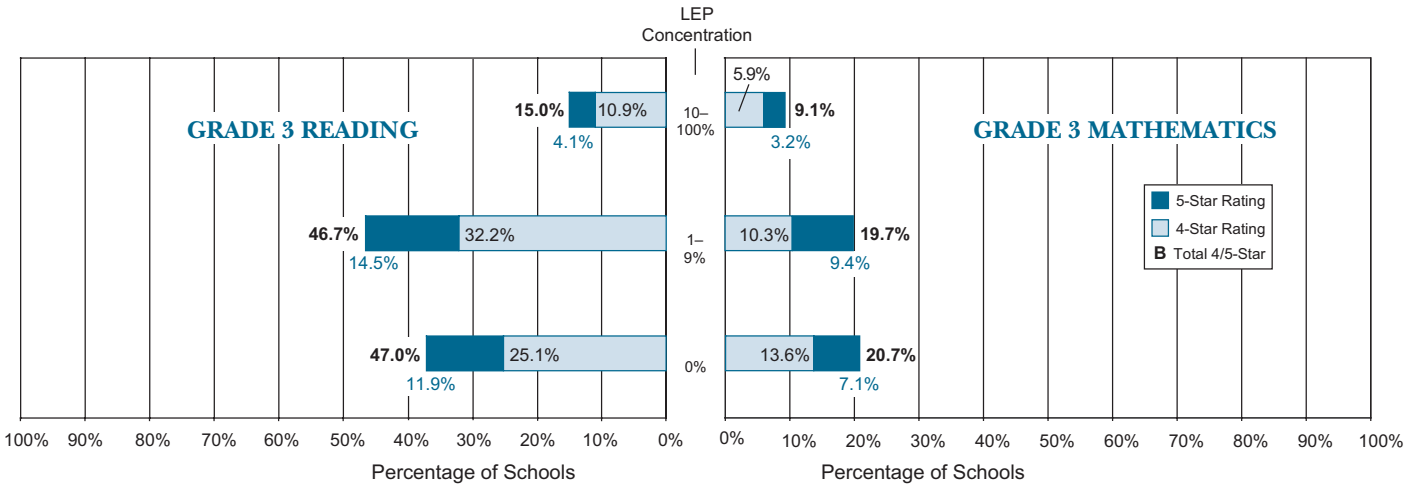


Figure 2.10 Grade 5: Percentage of Schools Receiving 4-Star and 5-Star Ratings, by LEP Concentration

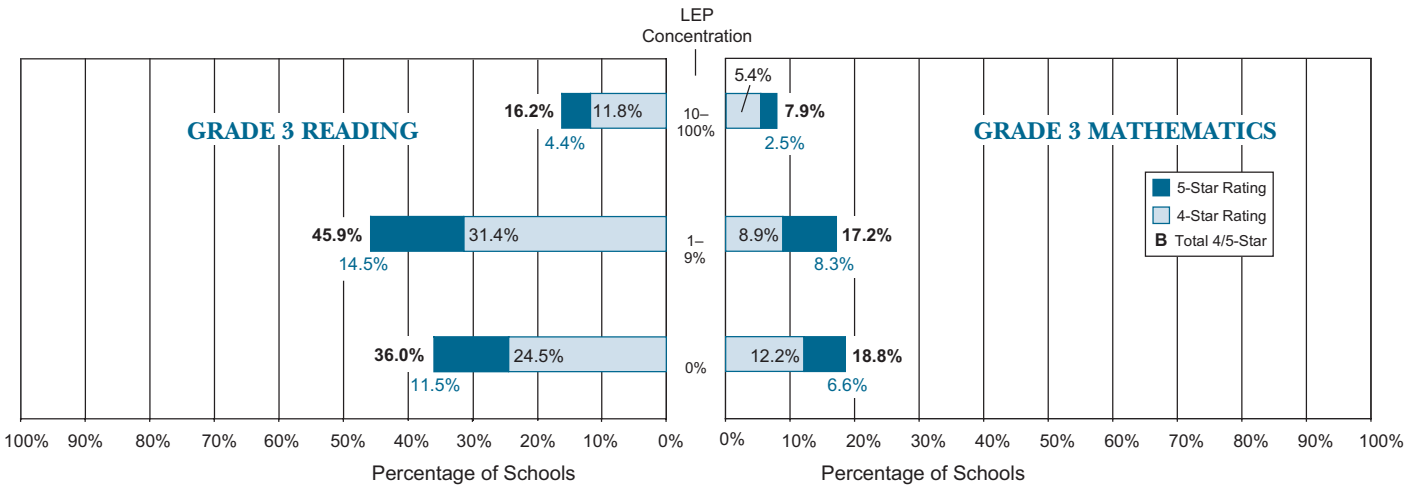


Figure 2.11 Grade 7: Percentage of Schools Receiving Four-star and Five-star Ratings, by LEP Concentration

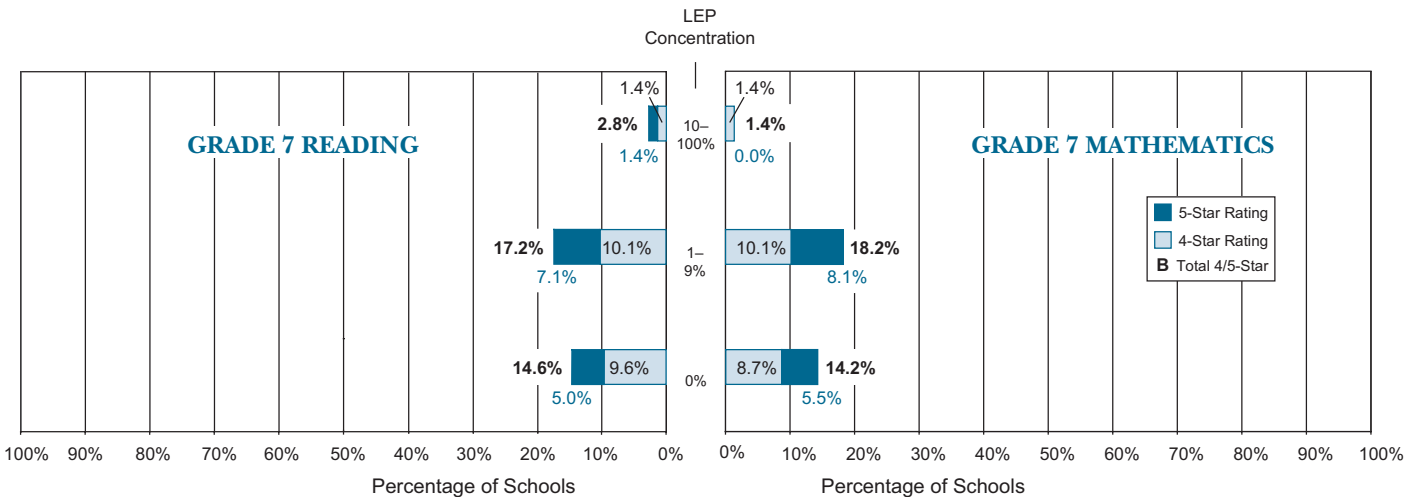


Figure 2.12 High School: Percentage of Schools Receiving Four-star and Five-star Ratings, by LEP Concentration

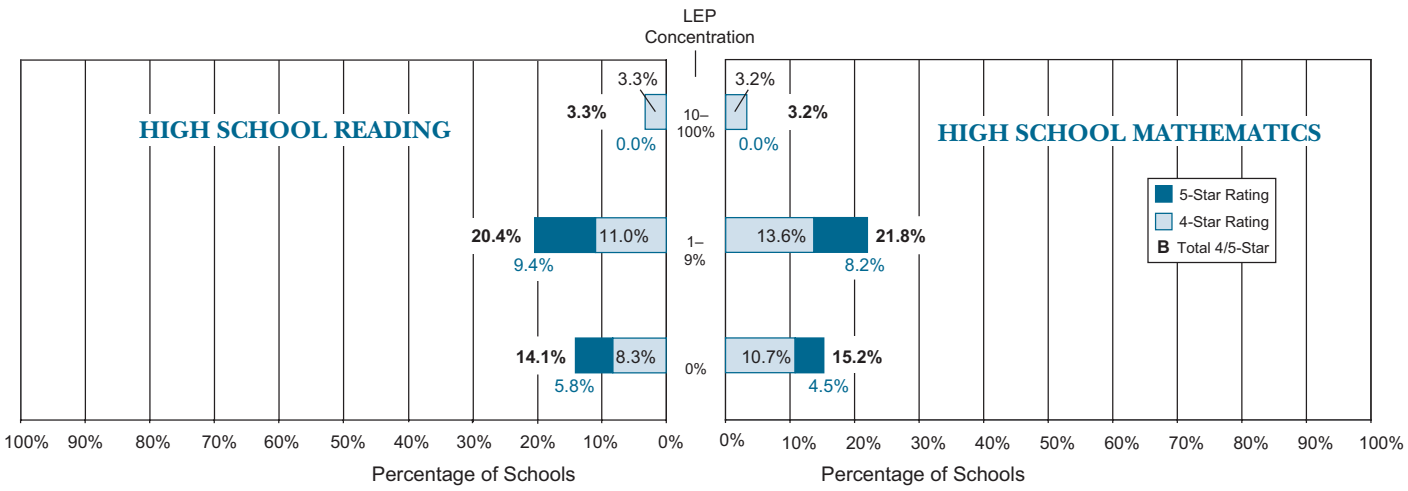


Figure 2.13 Grade 3: Percentage of Schools Receiving Four-star and Five-star Ratings, by Mobility

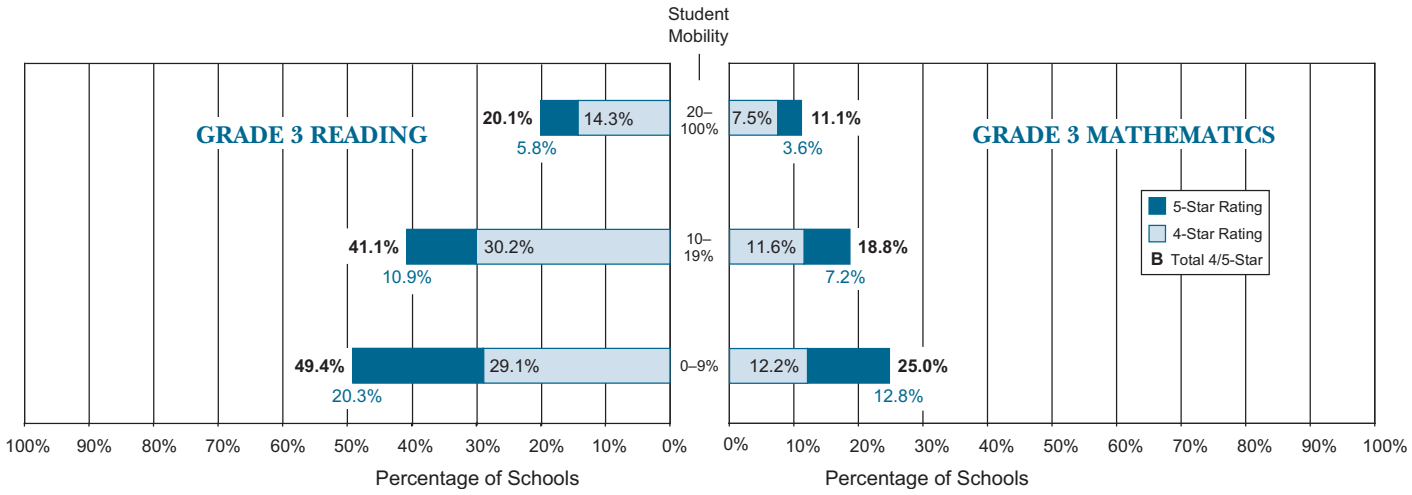


Figure 2.14 Grade 5: Percentage of Schools Receiving 4-Star and 5-Star Ratings, by Mobility

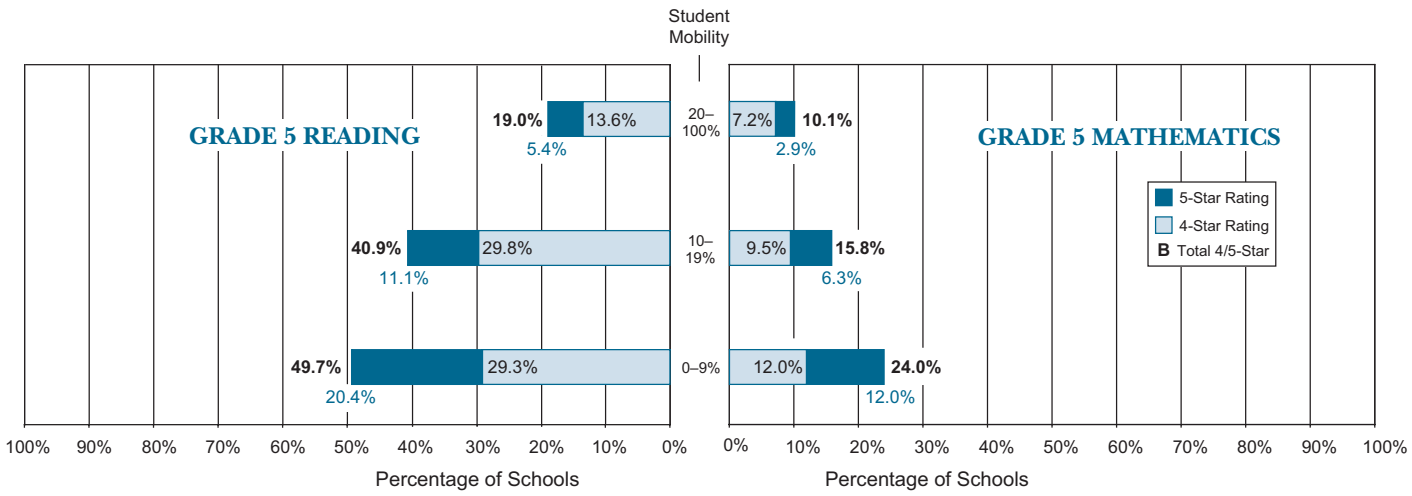


Figure 2.15 Grade 7: Percentage of Schools Receiving Four-star and Five-star Ratings, by Mobility

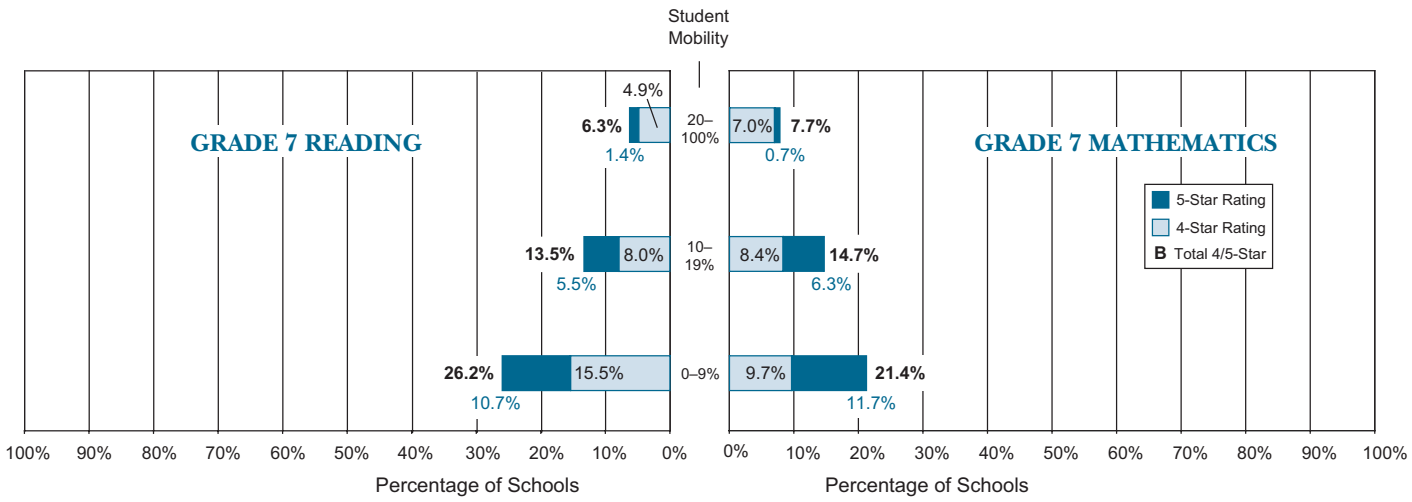


Figure 2.16 High School: Percentage of Schools Receiving Four-star and Five-star Ratings, by Mobility

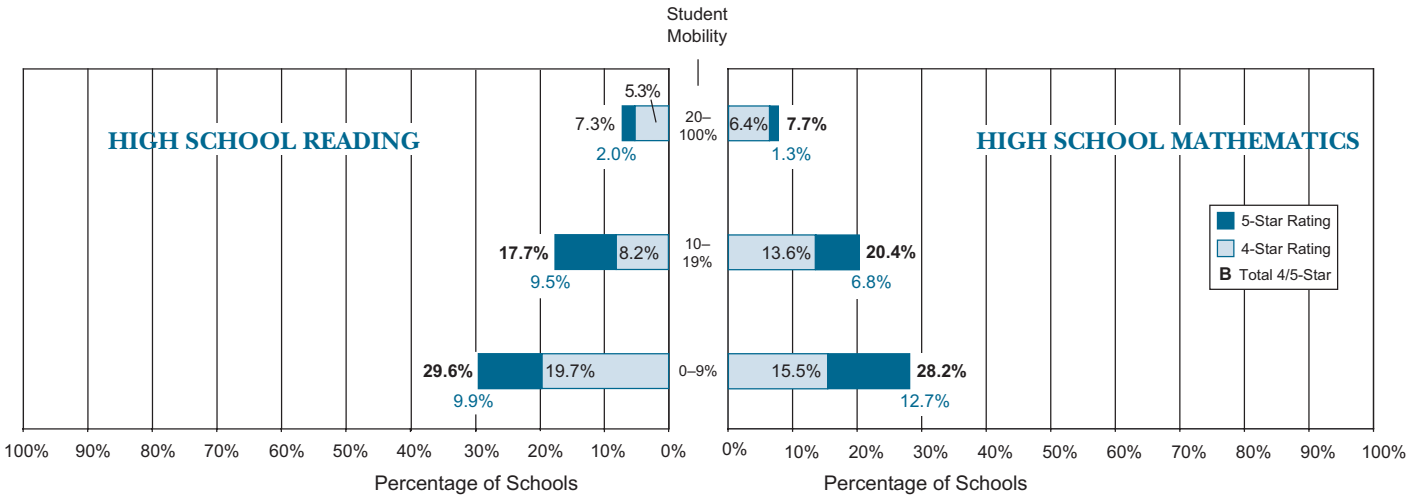


Figure 2.17 Grade 3: Percentage of Schools Receiving Four-star and Five-star Ratings, by Special Education Concentration

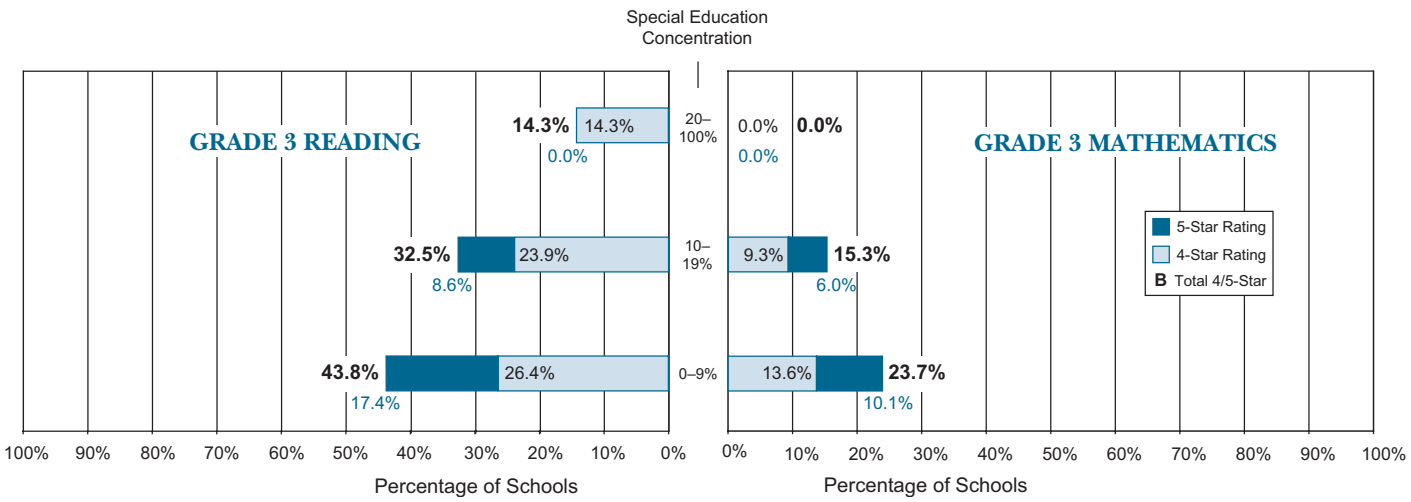


Figure 2.18 Grade 5: Percentage of Schools Receiving 4-Star and 5-Star Ratings, by Special Education

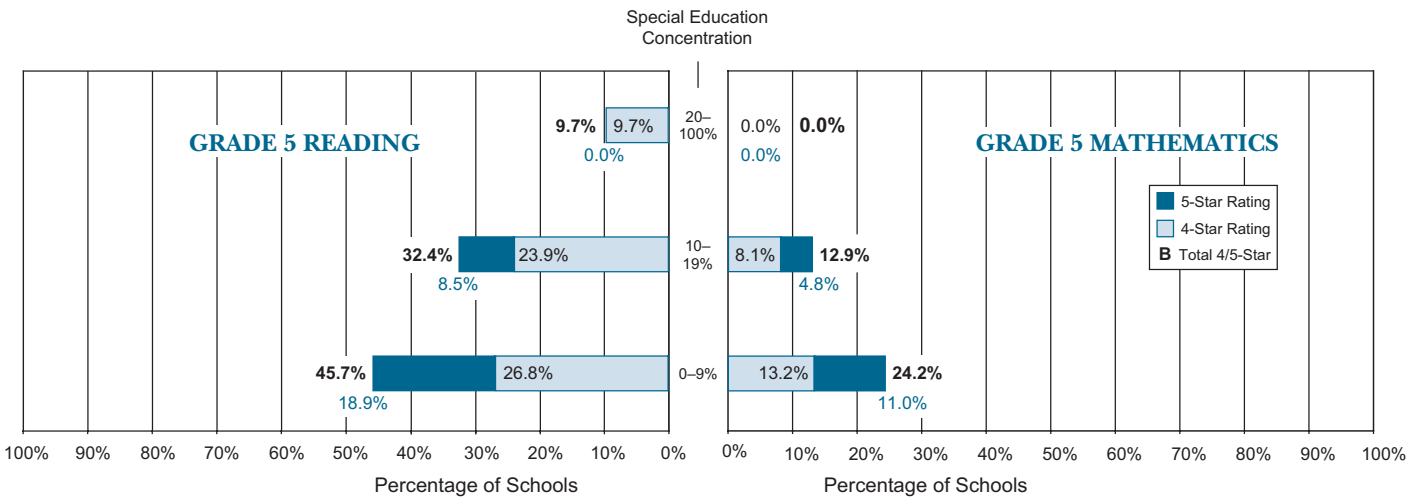


Figure 2.19 Grade 7: Percentage of Schools Receiving Four-star and Five-star Ratings, by Special Education Concentration

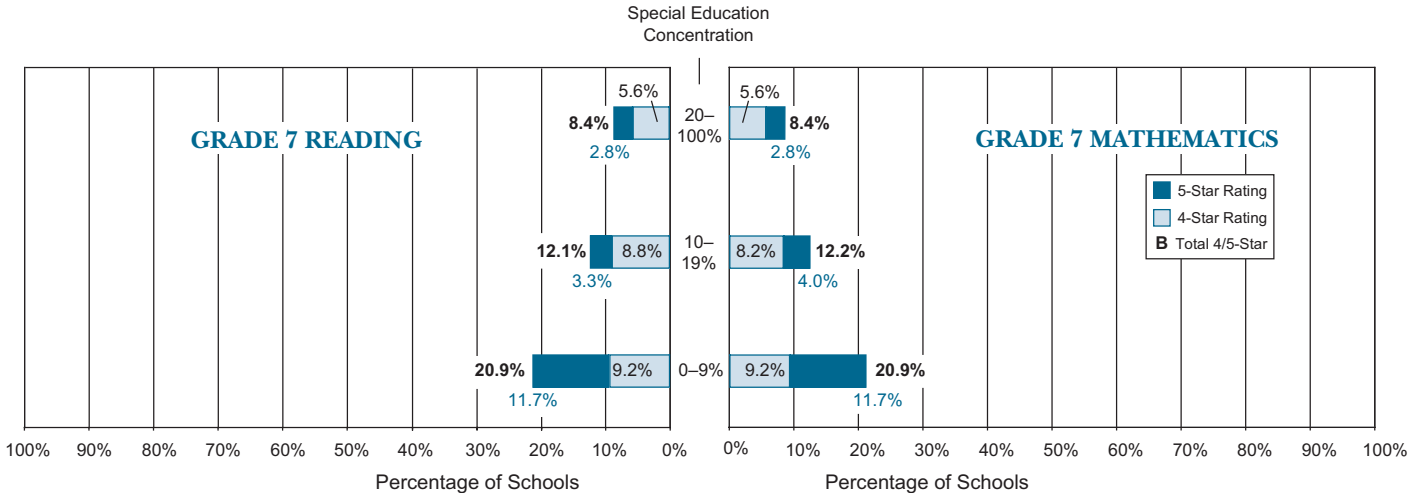


Figure 2.20 High School: Percentage of Schools Receiving Four-star and Five-star Ratings, by Special Education Concentration

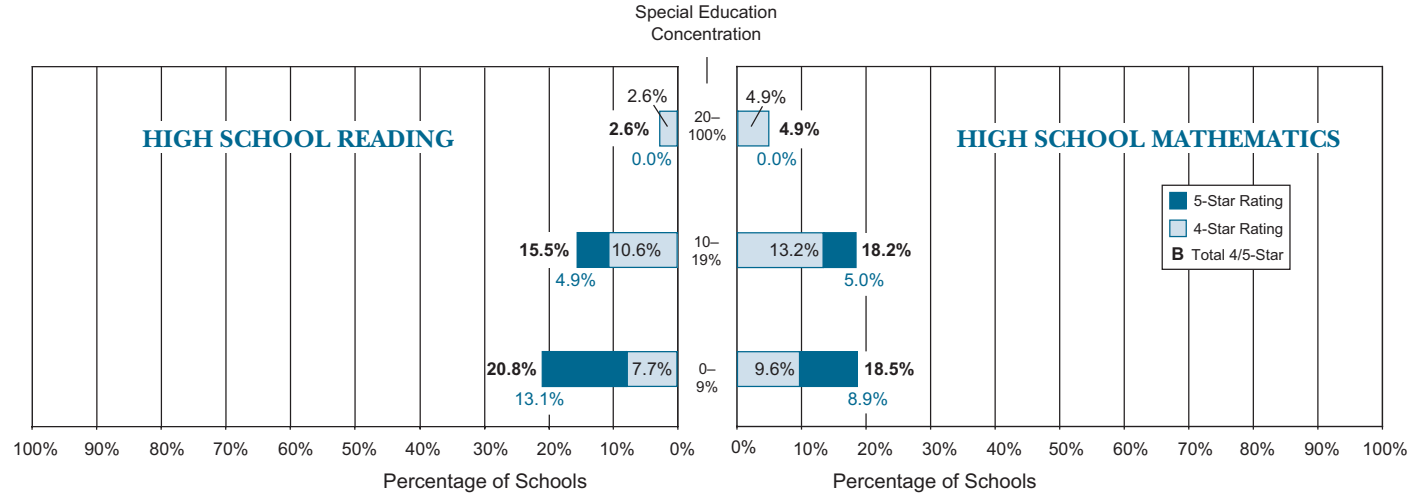


Figure 2.21 Grade 3: Percentage of Schools Receiving Four-star and Five-star Ratings, by Strata

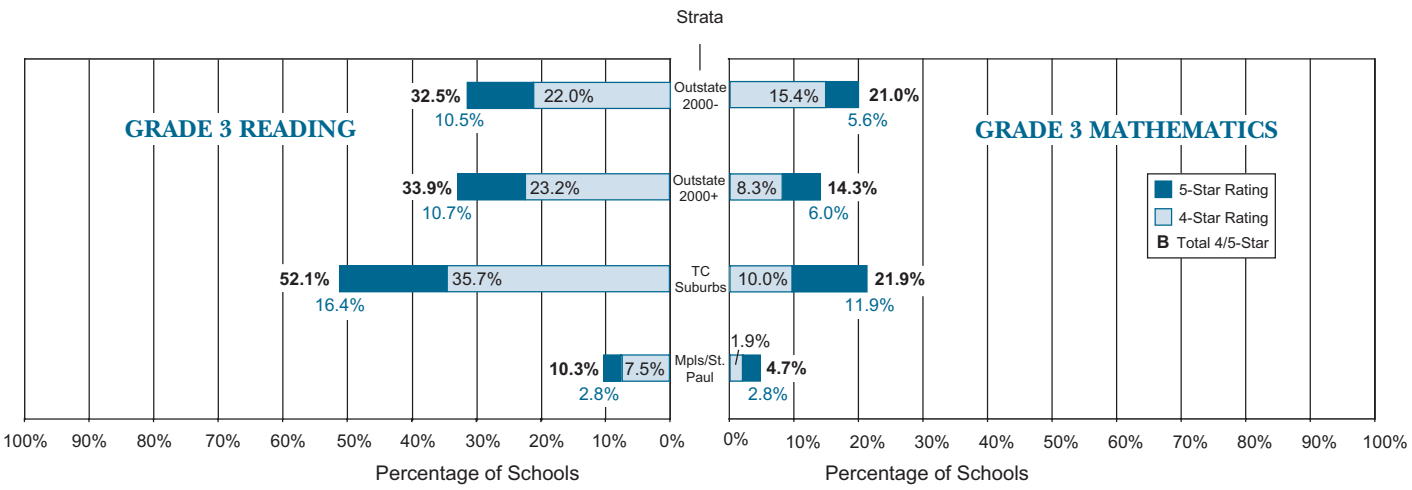


Figure 2.22 Grade 5: Percentage of Schools Receiving 4-Star and 5-Star Ratings, by Strata

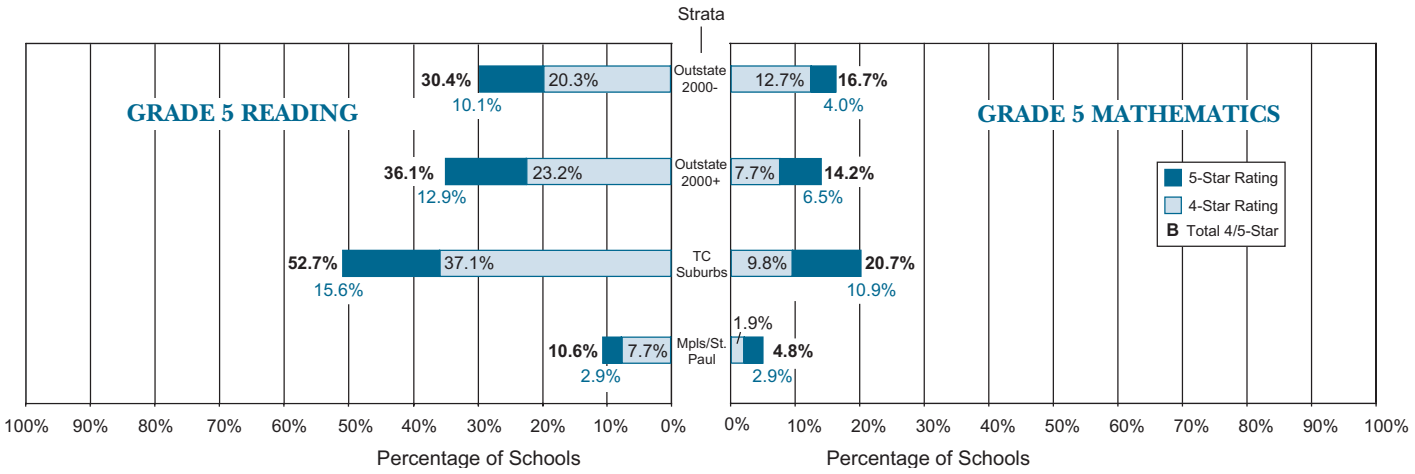


Figure 2.23 Grade 7: Percentage of Schools Receiving Four-star and Five-star Ratings, by Strata

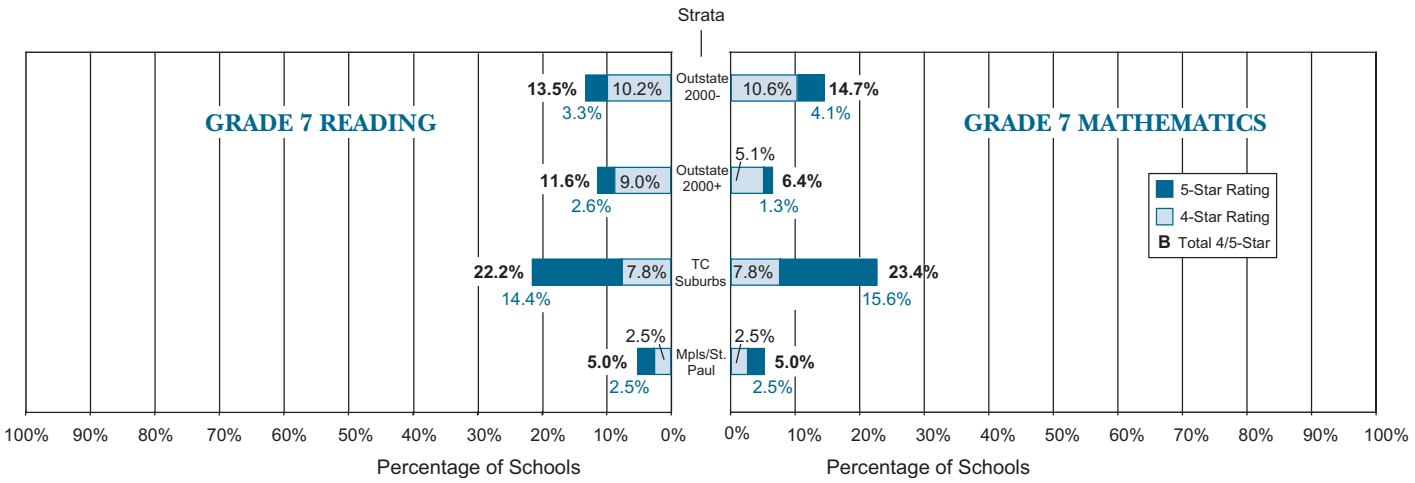


Figure 2.24 High School: Percentage of Schools Receiving Four-star and Five-star Ratings, by Strata

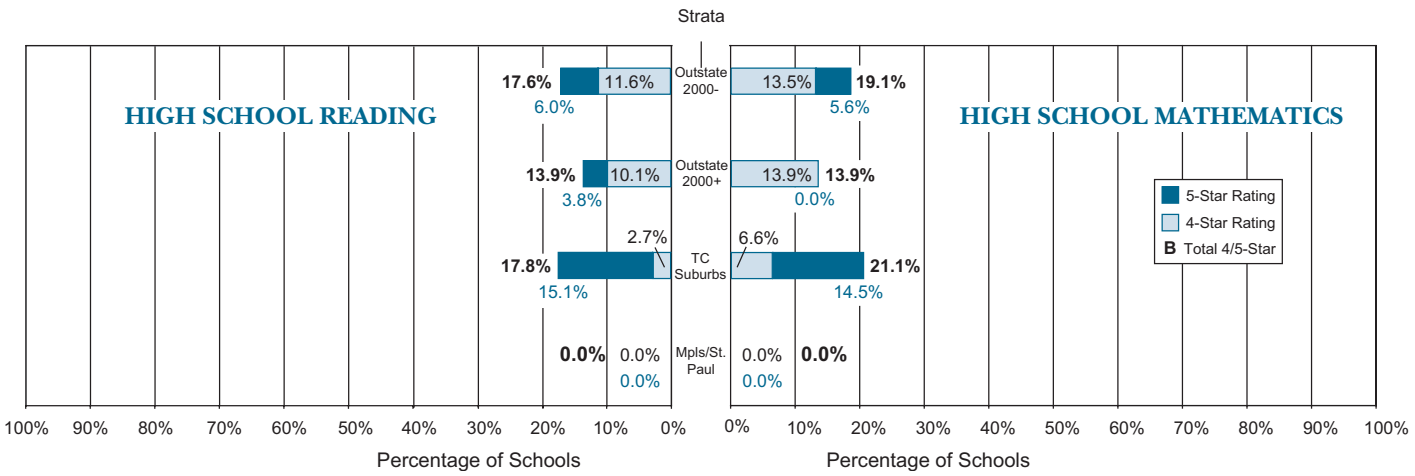
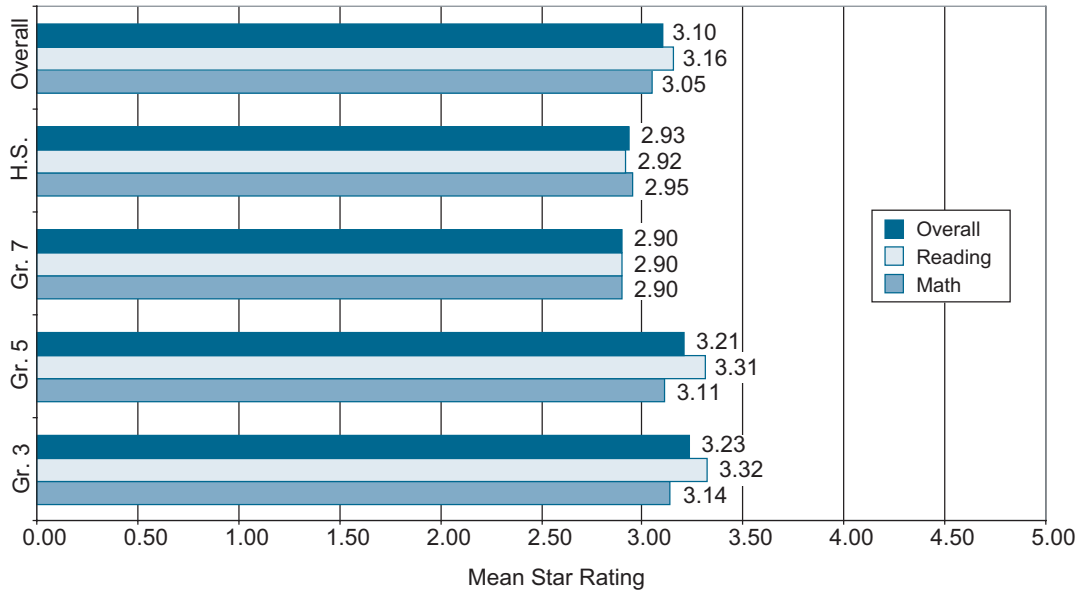


Figure 2.25 Mean Star Rating, by Grade and Content Area



Chapter 3: Educational Inputs and Processes

This chapter describes three major inputs into the educational system: students, teachers, and finances. It begins by describing the changes in enrollment, including shifts in the distribution of students across schools in the various regions of the state, and changes in student population makeup. It then describes the expenditure of school revenues and the sources of those revenues. Finally, the chapter provides a profile of Minnesota's teachers. Throughout the chapter, we discuss projected finance and teacher staffing needs in light of enrollment shifts.

ENROLLMENT

Table 3.1 shows overall student enrollment in Minnesota schools for academic year 2003–04. Across the top, enrollment is broken down by student characteristics: gender and ethnicity. Down the left side of the table, enrollments are broken down by region and strata, along with school characteristics associated with student outcomes: the percentage of students in the school who are eligible for free or reduced-price lunch (Poverty), the percentage of students with limited English language proficiency (LEP), the percentage of students who have Individual Education Plans, or IEPs (Special Ed), the percentage of students who changed schools more than one time that year (Mobility), and enrollments in charter schools (Charter) and Alternative Learning Centers (ALCs).

Table 3.1 Overall Student Enrollment in Minnesota Schools, by Gender, Ethnicity, Region, Strata, and School Characteristics: 2003–04

		Total Students	Male	Female	American Indian	Asian/Pacific Islander	Hispanic	Black	White
TOTAL		832,039	427,225	404,814	17,423	44,907	38,052	64,693	666,964
REGION	Metro Area	432,828	222,114	210,714	5,645	37,213	23,055	53,618	313,297
	Outstate	382,790	196,655	186,135	11,029	5,982	13,890	6,752	345,137
STRATA	Mpls/St. Paul	84,842	43,468	41,374	2,544	17,887	10,736	29,839	23,836
	TC Suburbs	347,986	178,646	169,340	3,101	19,326	12,319	23,779	289,461
	Outstate 2000+	191,362	98,167	93,195	3,710	4,367	7,591	5,316	170,378
	Outstate 2000-	191,428	98,488	92,940	7,319	1,615	6,299	1,436	174,759
POVERTY	0–19%	363,014	185,891	177,123	2,431	13,762	8,015	12,207	326,599
	20–29%	167,356	86,006	81,350	2,436	5,009	5,759	6,645	147,507
	30–49%	186,990	95,957	91,033	4,757	7,450	11,153	12,147	151,483
	50–100%	114,679	59,371	55,308	7,799	18,686	13,125	33,694	41,375
LEP	0%	200,511	104,129	96,382	7,741	2,668	2,598	6,715	180,789
	1–9%	474,494	242,816	231,678	5,994	17,178	15,416	19,932	415,974
	10–100%	157,034	80,280	76,754	3,688	25,061	20,038	38,046	70,201
SPECIAL ED	0–9%	255,150	129,660	125,490	3,278	14,562	10,886	19,419	207,005
	10–19%	550,559	282,271	268,288	12,428	28,460	25,667	41,111	442,893
	20–100%	26,330	15,294	11,036	1,717	1,885	1,499	4,163	17,066
MOBILITY	0–9%	125,430	64,169	61,261	1,226	4,093	2,730	3,256	114,125
	10–19%	462,914	237,054	225,860	6,370	18,497	14,643	18,134	405,270
	20–100%	232,049	119,494	112,555	9,371	21,969	20,235	42,091	138,383
CHARTER SCHOOLS		14,246	7,320	6,926	539	1,582	1,048	4,313	6,764
ALCs		10,990	5,879	5,111	704	654	1,016	2,211	6,405

Overall, student enrollment was just over 832,000. By far, White students comprised the largest group of students enrolled (666,964, or 80.2%), followed by Black (64,693, or 7.8%), Asian (44,907, or 5.4%), Hispanic (38,052), and American Indian (17,423, or 2.1%) students.

Table 3.2 Enrollment Trends from Academic Year 1993–94 to Academic Year 2003–04: October 1 Headcount

	Academic Year										
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total K-12	803,393	813,103	826,074	837,723	844,408	847,339	845,839	845,040	841,711	836,854	832,039
Pre-K	6,656	8,060	8,340	8,902	8,945	9,116	9,234	9,300	9,671	10,037	10,876
Kindergarten	62,391	62,908	63,896	62,383	62,085	61,023	59,116	58,963	58,356	58,757	59,330
Elementary	380,505	380,474	382,518	385,294	382,701	381,230	379,584	376,767	371,501	364,376	360,279
Secondary	360,497	369,721	379,660	390,046	399,622	405,086	407,139	409,310	411,854	413,721	412,430
Mpls/St. Paul	82,805	84,907	88,197	90,749	93,313	93,612	93,018	93,042	91,364	88,964	84,842
Suburban	311,586	316,915	324,447	332,099	336,995	343,081	347,777	343,950	346,638	346,772	347,986
Outstate MN	409,002	411,281	413,430	414,875	414,100	410,646	405,044	396,705	391,421	386,894	382,790
LEP	18,556	21,616	24,759	27,953	26,936*	31,576	35,810	44,360	47,961	51,275	53,507
Special Ed	95,501	101,891	106,525	110,979	93,362*	96,322	98,089	99,741	100,630	101,923	102,952
F/R Lunch	197,669	200,524	208,708	212,352	222,284	223,352	220,040	217,791	223,738	230,222	236,597
Charter Sch.	—	—	—	—	3,272	4,918	7,780	9,384	10,182	12,131	14,246
ALCs	—	—	—	—	9,092	9,121	9,743	10,142	10,898	11,324	10,990

* The method of counting special education and LEP students changed in 1998, resulting in an apparent drop in special education and LEP enrollments that year. A long dash (—) means that a comparable number was not available for that year.

Figure 3.1 Statewide Enrollment: Elementary, Secondary, and Total K–12: 1994-04 (October 1 Headcount)

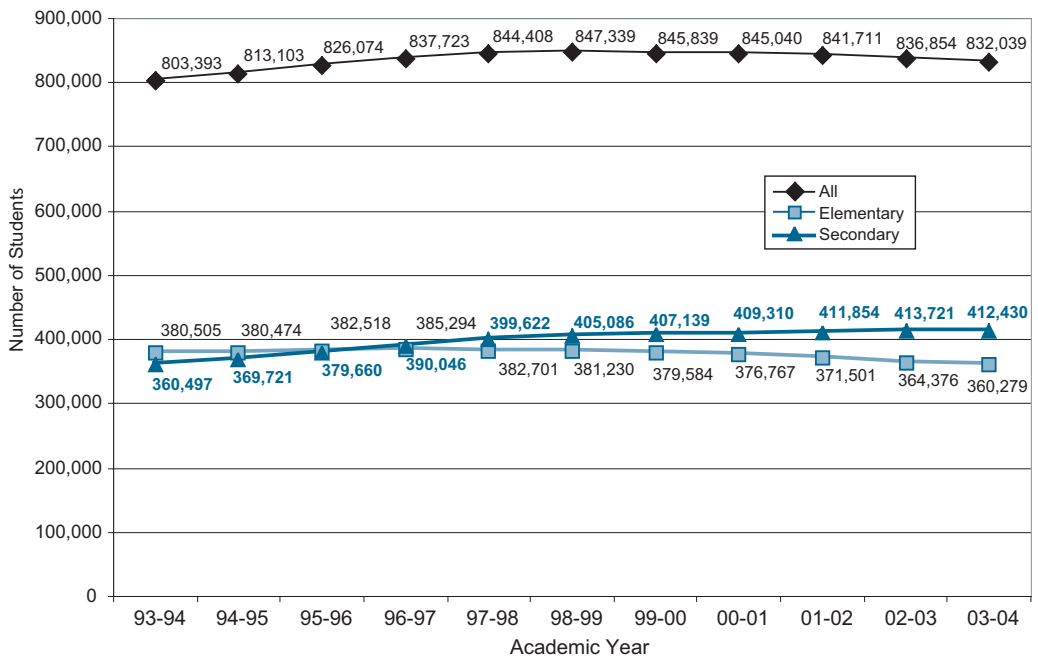
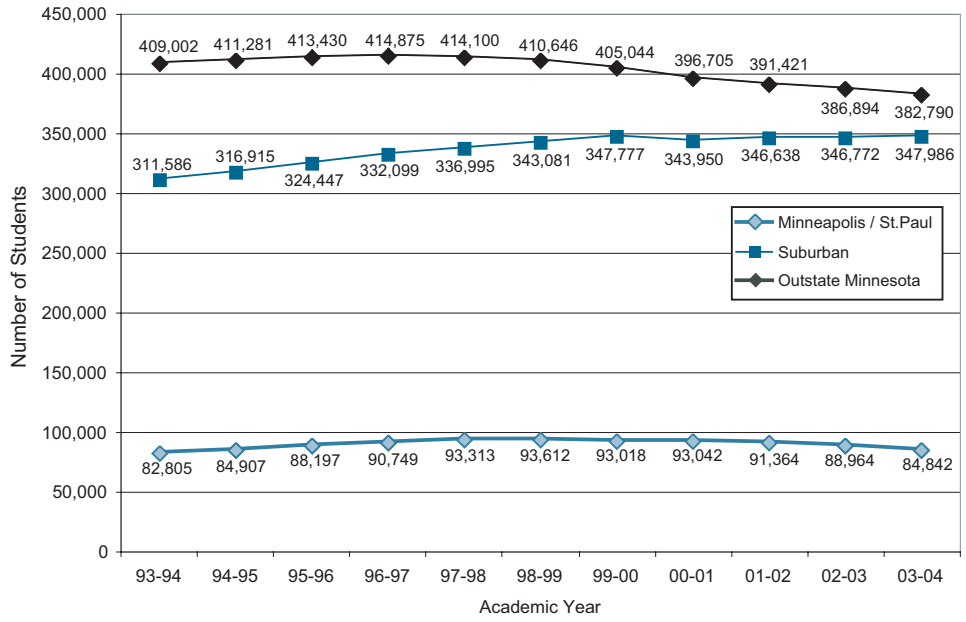


Table 3.2, Figure 3.1, and Figure 3.2 (p. 29) show enrollment trends for grades K–12 in academic years 1994 through 2004. Table 3.2 also shows those enrollments broken down by grade level (pre-K, kindergarten/elementary/secondary), region of the state, and student characteristics (limited English proficiency [LEP], special education [Special Ed], eligibility for free or reduced-price lunch [F/R Lunch]), charter schools, and Alternative Learning Centers (ALC's). Overall enrollment has continued to decline modestly since 1999. The decline in 2004 was 4,815 students (less than 1%). An increase of 1,412 pre-kindergarten and kindergarten students was offset by a decline of 5,388 students in the elementary and secondary grades.

Figure 3.2 K–12 Enrollment in Minneapolis/St. Paul, Suburban, and Outstate Minnesota Schools: 1994–04 (October 1 Headcount)



Charter schools are the fastest growing segment of the public school system. The charter school enrollment in 2004 (14,246) was over four times as large as the enrollment in 1998 (3,272). It now constitutes almost 2% of the total public school enrollment.

As illustrated in Figure 3.1, although secondary school enrollment increased each year from 1993–94 to 2002–03, it decreased slightly in 2003–04, while elementary school enrollment has continued to decrease by larger numbers since 1996–97.

Figure 3.2 and Tables 3.2 and 3.3 show enrollment trends in Minneapolis/St. Paul, suburban areas, and outstate Minnesota. Enrollment in suburban schools increased slightly in 2003–04 (by 1,214); however, schools in Minneapolis/St. Paul and outstate Minnesota experienced decreases in enrollment (by 4,122 and 4,104 respectively).

Although the beginning of a decline in secondary school enrollments is not good news for schools, Figures 3.1 and Table 3.3 suggest that the decline in elementary enrollments may be coming to an end. As shown in Figure 3.1, this year's decline of 4,097 in elementary enrollments was smaller than last year's (7,125). Furthermore, as seen in Table 3.3, this year's kindergarten class is larger than this year's first grade class, which is larger than this year's second grade class. Finally, the entering classes of kindergarteners and first graders in Table 3.3 are larger than the corresponding grade classes in last year's *Yearbook* (Davison, et

Table 3.3 Enrollment in Grades Pre-K–12, by School Strata: 2003–04

	Number of Students Statewide	Mpls/ St. Paul	TC Suburbs	Outstate: 2000+	Outstate: 2000-
Pre-Kindergarten	10,876	1,065	4,498	2,615	2,628
Kindergarten	59,330	7,566	24,098	13,470	12,780
Grade 1	58,055	6,302	24,458	13,274	12,593
Grade 2	57,610	6,084	24,862	12,899	12,535
Grade 3	58,720	6,077	25,171	13,259	12,937
Grade 4	60,045	6,342	25,847	13,362	13,305
Grade 5	62,175	6,465	26,393	13,938	14,245
Grade 6	63,674	6,439	26,886	14,437	14,756
Grade 7	65,692	6,490	27,365	15,239	15,602
Grade 8	67,933	6,619	28,463	15,750	16,184
Grade 9	69,744	6,838	28,764	16,489	16,497
Grade 10	68,895	6,515	27,993	16,427	16,607
Grade 11	67,558	5,796	27,484	16,181	16,665
Grade 12	72,608	7,309	30,202	16,637	16,722
TOTAL	**842,915**	**85,907**	**352,484**	**193,977**	**194,056**

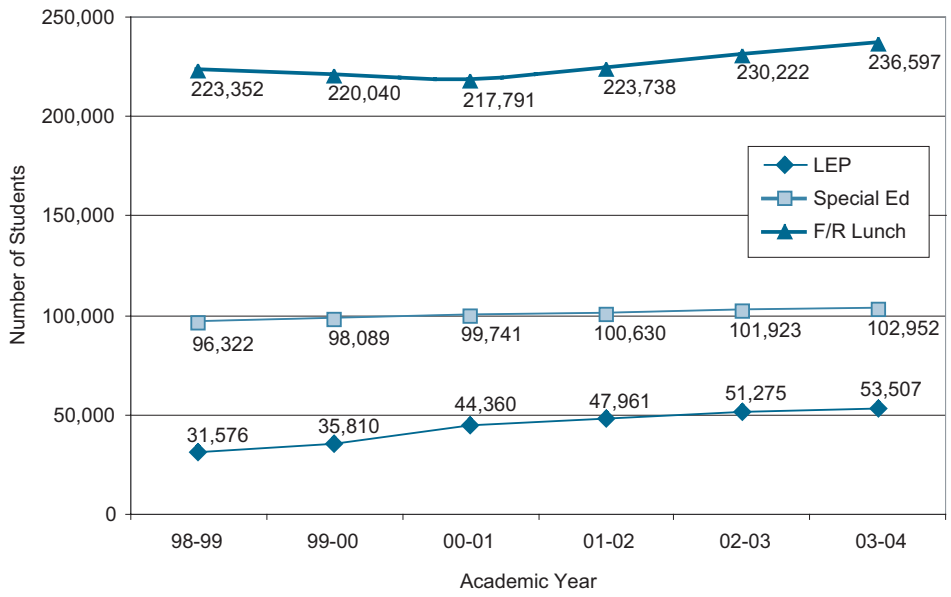
al., 2003). If the entering kindergarten and first grade classes continue to grow, then the elementary enrollment decline will slow and eventually come to an end.

Thus, Minnesota is entering an era of declining enrollments at the secondary level. But it may be approaching the day when elementary enrollments cease to decline and may even begin to increase. Larger kindergarten and first grade classes seem to be entering public schools in all strata of the state: Minneapolis/St. Paul, the Twin Cities suburbs, and outstate. Overall, however, enrollments can still be expected to decline for a few more years.

Figure 3.3 compares the number of students statewide in limited English proficiency (LEP) programs, the number of students in special education, and the number of students eligible for free or reduced-price lunch, for academic years 1998–99 to 2003–04. The number of students with limited English proficiency has increased by 2,232 students (4%) since 2002–03. Thus, the steady decline in overall enrollment continues to be accompanied by increasing numbers of students who need LEP services. However, last year, Minnesota changed its policy on state funding of LEP services. Since that change, students cannot receive state funding of LEP services for more than five years. This year's increased enrollment in LEP programs is almost one third lower than last year's increase (3,314) over enrollment in 2001–02. The change in funding policy may be one reason for the smaller increase in the number of students receiving LEP services in 2003–04; some students may have used up their state LEP funding and may therefore have been administratively discontinued from receiving LEP services, even though previously they might have been able to continue receiving those services.

Despite modest overall enrollment declines, Figure 3.3 shows that the number of students receiving special education services has increased steadily over the last six years. Enrollment in special education programs has increased by 1,029 students (about 1%) since last year, and by 6,630 students since 1998–99 (approximately 7%).

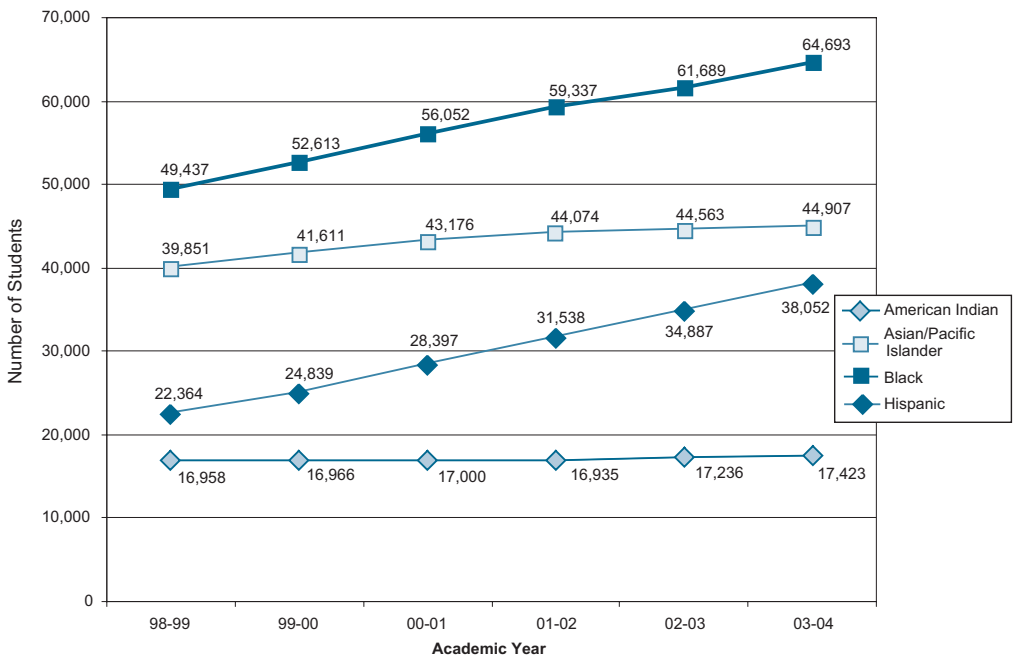
Figure 3.3 Minnesota K–12 Students Enrolled in LEP Programs, Special Education, and Free or Reduced-price Lunch: 1999–04



The number of low income students in 2003–04 was the highest of any year in more than a decade. As illustrated in Figure 3.3, the number of students eligible for free or reduced-price lunch has increased by 6,375 students (almost 3%) since last year, an increase almost as large as that from 2001–02 to 2002–03, for a two-year increase of 12,859. These increases are consistent with the declining economic situation in the state over this period.

Figure 3.4 shows the changes over the past six years in minority student enrollments. Overall, minority enrollments have increased steadily since 1998–99. In the past year, the largest increases were in the number of Black (3,004) and Hispanic (3,165) students enrolled, and the smallest increases were in the number of Asian (344) and American Indian (187) students enrolled.

Figure 3.4 Statewide K–12 Minority Enrollment: 1999–04



Over time, demographic shifts tend to alter schools' financial and staffing needs, and Minnesota will need to position itself to provide for these changes. As we noted in the 2002 and 2003 *Minnesota Education Yearbooks,* declining overall enrollment might seem to predict a decline in the need for education funding. However, the declines continue to occur primarily among students with less need for services such as special education and English as a Second Language (ESL) classes, while the number of students needing those services is increasing. Furthermore, the need for teachers trained to provide these additional services can also be expected to increase. Schools will need more teachers in special education as well as ESL, even as the need for teachers in other areas may diminish. Given the higher cost of educating students requiring additional services such as ESL and special education, the cost per pupil can be expected to rise. Any savings to the state from declining enrollments may be partially offset by the increased funding necessary for special services if the number of students receiving those services continues to grow.

FINANCE

As shown in Table 3.4 (p. 32), the average operating expenditure per pupil in Minnesota was $7,796, a 2% increase over the $7,655 reported for 2001–02 (Davison, et al., 2003). In the most recent year for which data are available from other states, *Quality Counts: No Small Change* (2005) ranks Minnesota 23rd among the 50 states, with annual per-pupil spending of $7,889 after adjustments for regional cost differences—only 2 higher than the average of $7,734 spent per pupil nationwide. According to *Quality Counts 2005,* Minnesota now spends less per pupil on education than such neighboring states as Wisconsin and Iowa. Minnesota is only just ahead of North Dakota's $7,868 annual per-pupil expenditure.

Per-pupil Expenditures. Table 3.4 and Figure 3.5 (p. 33) show per-pupil operating ex-

penditures for the state as a whole, and for various district categories. These figures do not include capital expenditures. The "operating expenditures" category in Table 3.4 includes not only the cost of regular instruction, but also the cost of special education, vocational education, and non-instructional services such as transportation and food service.

Figure 3.5 (p. 33) shows how expenditures statewide are distributed among the expense categories. As in most states, schools expend the largest proportion of funds (47%) on regular instruction. The second largest expense category is special education, at 16%. Together, the three instructional categories (Regular, Special, and Vocational) include most teacher salaries and consume 65% of the educational budget.

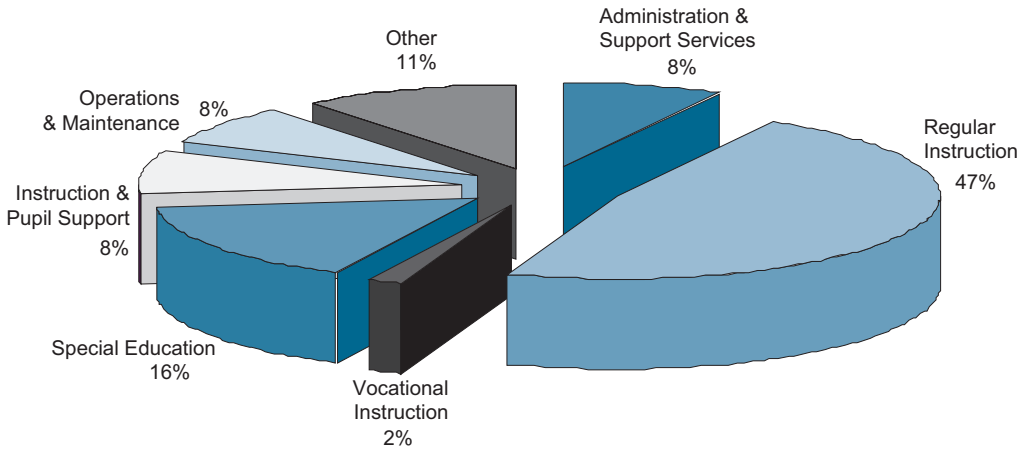
As shown in Table 3.4, districts spend money somewhat differently depending on district characteristics. For instance, metro area and outstate schools differ somewhat in the amount of money spent on administration and support services, instruction and pupil support, etc., and districts with high concentrations of low income students spend money differently than do districts with few low income students.

Concern has been expressed that, nationally, schools and districts with high concentrations of economically disadvantaged students may be less well funded than other schools and districts. Figure 3.6 (p. 33) shows per pupil expenditure amounts for Minnesota's high- and low poverty districts. "District poverty concentration" is indicated by the proportion of students eligible for free or reduced-price lunch. According to these numbers, there is no tendency for higher poverty districts to spend less than other districts, which suggests that Minnesota's efforts to provide for its economically disadvantaged students have achieved some success. However, low-income students more frequently need additional services

Table 3.4 Per-pupil Operating Expenditures, by District Category: 2002–03

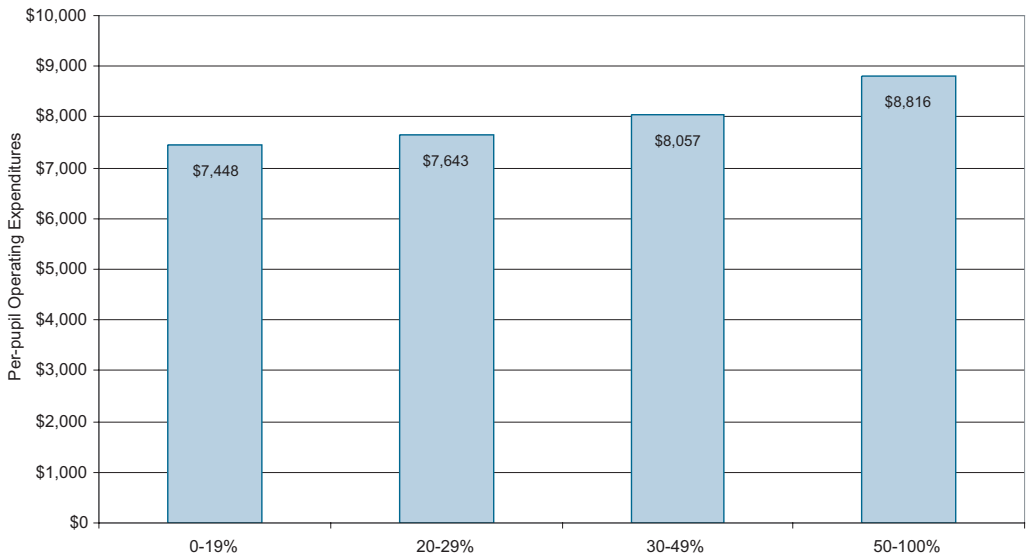
		Total PK–12 Operating Exp.	Admin/ Support Svcs.	Regular Instr.	Voc. Instr.	Special Ed.	Instr. & Pupil Support	Operations & Maintenance	Other
STATE TOTAL		7,796	623	3,703	139	1,252	635	594	841
REGION	**Metro Area**	7,887	606	3,751	139	1,290	723	573	840
	Outstate	7,694	643	3,650	140	1,209	538	618	842
STRATA	**Mpls/St. Paul**	8,670	641	4,331	152	1,252	815	650	909
	TC Suburbs	7,682	597	3,599	136	1,300	698	553	822
	Outstate 2000+	7,566	570	3,552	131	1,309	599	598	798
	Outstate 2000-	7,822	716	3,749	148	1,108	476	638	886
POVERTY	**0–19%**	7,448	594	3,533	129	1,188	631	553	807
	20–29%	7,643	598	3,614	126	1,290	645	578	814
	30–49%	8,057	670	3,754	164	1,329	527	654	885
	50–100%	8,816	696	4,348	162	1,262	792	669	935
LEP	**0%**	8,003	717	3,796	138	1,210	493	645	890
	1–9%	7,622	602	3,591	137	1,261	635	574	820
	10–100%	8,340	636	4,093	152	1,248	755	638	884
SPECIAL ED	**0–9%**	7,522	603	3,609	131	1,122	637	548	821
	10–19%	7,853	627	3,724	141	1,281	635	605	845
	20–100%	11,191	1,172	4,688	219	1,899	806	841	1,196
MOBILITY	**0–9%**	7,738	707	3,722	146	1,061	478	621	860
	10–19%	7,494	601	3,579	134	1,176	591	573	823
	20–100%	8,255	644	3,885	147	1,393	725	623	865

Figure 3.5 Distribution of Per Pupil Operating Expenditures: 2002–03



(ESL instruction, special education, etc.), and there is debate as to whether the funding of schools and districts with high concentrations of low-income students is sufficient to cover the costs of those additional services.

Figure 3.6 Total District Per-pupil Operating Expenditures, by District Poverty Level: 2002–03



District Poverty Level = the percentage of the student population that is eligible for free or reduced-price lunch.

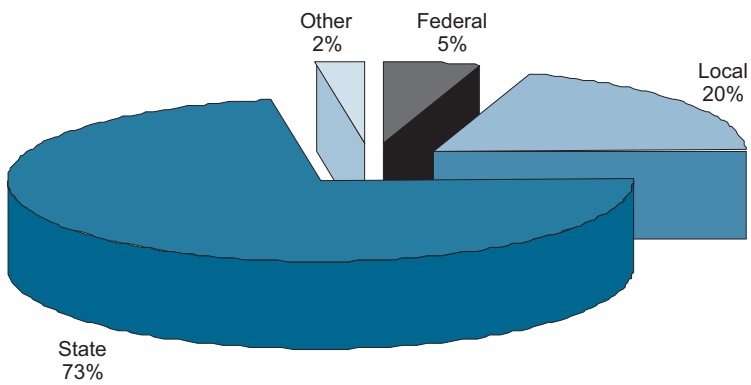
Per-pupil Revenues. Figure 3.7 and Table 3.5 (p. 34) show the district per-pupil revenues that come from state, local and federal sources. Table 3.6 (p. 35) contains a further breakdown of revenue sources.[2] As shown in Figure 3.7, 73% of school funding currently comes from state revenues. Local revenues provide 20%, and federal sources account for only 5%. Other sources, such as private donations, various fundraising efforts, and grants, provide an additional 2%. However, it is important to note that individual districts vary significantly in the degree to which they depend on local, state, and federal revenues.

In Minnesota, the percentage of revenue that individual districts receive from local sources ranges from 1.7%–43.7% of the total; the percentage received from state revenues varies from 50.1%–88.8%; and the percentage received from federal revenues varies from 1.3%–43.5% (Minnesota Department of Education, 2004). Shifts in revenue source (e.g., from local to state sources) may affect some districts more than others. For instance, a shift

NOTES

[2] The district per-pupil revenues in Tables 3.5 and 3.6 exceed the per-pupil operating expenditures in Table 3.4 because the operating expenditures exclude capital expenses, whereas the revenues include money for capital expenses.

Figure 3.7 Percentage of School Funding Received through Federal, State, and Local Sources for Minnesota: 2002–03



that includes a reduction in local property tax revenues may, depending on how it is implemented, have its biggest effect on districts that depend most heavily on local revenue. Likewise, a shift that includes an increase in state funding may, depending on how it is allocated, give an advantage to districts that receive the largest proportions of their budgets from state revenues.

If policymakers contemplate further shifts from local to state revenue sources, they must carefully consider the potential for redistribution of funds across districts that could result from such shifts—and the potential for creating new imbalances in school funding. The stability of state revenue sources also needs to be considered. State revenues rise and fall dramatically with the ups and downs of the state economy. The number of students in schools and the needs of those students, however, do not necessarily rise and fall with the economy. Policymakers need to consider whether current state revenue collection procedures provide a sufficiently stable source of revenue to adequately fund schools in both good and bad economic times.

Table 3.5 Per-pupil Total Revenues, by District Category: 2002–03

		Total Local Revenues	Total State	Total Federal	Other Financing	Total Revenues
STATE TOTAL		$1,940	$7,110	$481	$242	$9,772
REGION	Metro Area	$2,364	$7,074	$416	$256	$10,110
	Outstate	$1,522	$7,146	$544	$227	$9,439
STRATA	Mpls/St. Paul	$1,545	$9,062	$1,145	$84	$11,835
	TC Suburbs	$2,470	$6,817	$322	$278	$9,888
	Outstate 2000+	$1,724	$7,065	$500	$241	$9,529
	Outstate 2000-	$1,320	$7,227	$588	$214	$9,349
POVERTY	0–19%	$2,217	$6,700	$286	$283	$9,487
	20–29%	$1,945	$7,038	$446	$234	$9,663
	30–49%	$1,530	$7,400	$626	$218	$9,774
	50–100%	$1,461	$8,887	$1,303	$98	$11,749
LEP	0%	$1,566	$7,300	$648	$200	$9,714
	1–9%	$2,030	$6,903	$395	$265	$9,594
	10–100%	$1,850	$8,154	$800	$146	$10,950
SPECIAL ED	0–9%	$2,320	$6,748	$314	$258	$9,640
	10–19%	$1,844	$7,199	$518	$238	$9,798
	20–100%	$1,189	$9,162	$2,911	$1198	$13,381
MOBILITY	0–9%	$1,832	$6,930	$394	$235	$9,391
	10–19%	$1,918	$6,868	$378	$259	$9,422
	20–100%	$1,999	$7,575	$680	$212	$10,465

Table 3.6 Per-pupil Revenues, by District Category: 2002–03

		Levy	Tuition & Fees	Other Local Sources	State Aid	Special Ed.	State Grants/ Other State Revenues	Fed. thru MDE	Fed. thru Other State & Fed. Direct	Child Nutrition
STATE TOTAL		$1,139	$332	$470	$6,086	$725	$300	$298	$58	$125
REGION	Metro Area	$1,484	$359	$521	$5,964	$801	$308	$272	$33	$111
	Outstate	$798	$305	$418	$6,206	$649	$291	$324	$83	$138
STRATA	Mpls/St. Paul	$989	$291	$265	$7,157	$1,077	$828	$637	$211	$297
	TC Suburbs	$1,547	$368	$555	$5,810	$766	$241	$225	$10	$87
	Outstate 2000+	$897	$323	$504	$6,055	$697	$312	$334	$46	$120
	Outstate 2000-	$700	$287	$333	$6,356	$600	$271	$313	$120	$155
POVERTY	0–19%	$1,363	$345	$509	$5,796	$676	$227	$196	$13	$77
	20–29%	$1,128	$342	$476	$5,987	$748	$303	$287	$37	$122
	30–49%	$778	$313	$439	$6,410	$700	$290	$399	$58	$169
	50–100%	$878	$276	$307	$7,187	$981	$720	$635	$385	$283
LEP	0%	$765	$334	$467	$6,377	$647	$277	$384	$112	$152
	1–9%	$1,219	$337	$474	$5,928	$718	$258	$253	$39	$104
	10–100%	$1,106	$297	$448	$6,699	$864	$591	$467	$112	$221
SPECIAL ED	0–9%	$1,436	$369	$515	$5,865	$633	$250	$206	$13	$95
	10–19%	$1,063	$323	$458	$6,140	$747	$312	$319	$66	$132
	20–100%	$691	$178	$320	$7,337	$1,377	$448	$1,214	$1,454	$243
MOBILITY	0–9%	$1,047	$339	$445	$6,127	$574	$228	$245	$27	$122
	10–19%	$1,109	$313	$495	$5,971	$655	$241	$250	$23	$104
	20–100%	$1,207	$364	$428	$6,282	$875	$417	$392	$127	$161

TEACHER CHARACTERISTICS

Table 3.7 (p. 36) profiles Minnesota's 51,518 full-time teachers for academic year 2002–03. Approximately 4% (2,250) were new teachers, down from the 2,437 reported for 2001–02. Consistent with enrollment trends reflected in Figures 3.1 and 3.2 (pp. 28–29), approximately equal numbers of these new teachers were hired in the metro area and outstate. More new teachers were hired at the secondary level. Given current enrollment trends, we would expect somewhat larger numbers of teachers in the next few years to be hired in the metro and suburban areas, rather than in outstate schools. There may also be an increased need for elementary school teachers.

The average reported teacher salary was $45,335, although there are marked salary variations across regions of the state (see the Strata categories in Table 3.7). This average teacher salary is $2,699.00 (approximately 5%) higher than the previous year. In comparing teacher salaries across states, the American Federation of Teachers (AFT) found that in 2002–03, the average Minnesota teacher salary was below the U.S. average. In average teacher salary, Minnesota ranked 19th among the 50 states (American Federation of Teachers, 2004). The average teacher age was 42, and the average amount of teacher experience was 14 years. High poverty schools, Twin Cities schools (including suburban and Minneapolis/St. Paul districts), and schools with the largest concentrations of special education and LEP students had teachers with somewhat fewer average years of experience (13 years).

The number of teachers on licensure variances has been increasing over the past three years, but at steadily slower rates. For the state overall, the reported number of teachers on licensure variances roughly doubled in 2000–01, increased by only 1,000 in 2001–02, and, in 2002–03, increased by slightly less than 560. Figure 3.8 shows the percentage of teachers on licensure variance, by strata. The percentage is highest in Minneapolis/St. Paul schools,

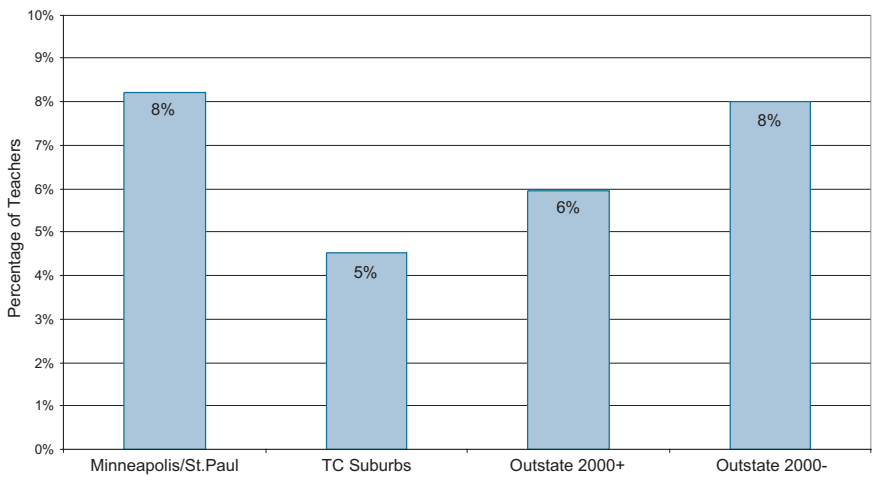
Table 3.7 Minnesota Teachers Profile: Full-time Teachers: 2002–03

		Number of Teachers	Number of New Teachers	% with BA as Highest Degree	% with MA as Highest Degree	No. of Teaching Variances	Mean Years Exper.	Average Salary	Avg. Age
TOTAL		51,518	2,250	55	44	3,540	14	$45,335	42
SCH. LEVEL	Elementary	27,138	1,020	56	44	2,183	15	$45,972	42
	Secondary	24,380	1,230	56	44	1,357	14	$44,667	41
REGION	Metro Area	24,575	1,097	45	55	1,325	13	$48,719	41
	Outstate	25,986	1,016	65	35	1,843	15	$42,475	42
STRATA	Mpls/St. Paul	5,730	185	49	51	470	13	$50,546	42
	TC Suburbs	18,845	912	43	57	855	14	$48,164	40
	Outstate: 2000+	11,713	409	54	46	698	15	$44,940	42
	Outstate: 2000-	14,273	607	74	26	1,145	16	$40,451	43
POVERTY	0–19%	19,498	896	47	53	799	14	$46,961	41
	20–29%	10,256	428	58	42	734	15	$44,176	42
	30–49%	12,682	515	64	36	1,290	15	$43,558	43
	50–100%	8,420	377	59	40	630	13	$45,571	42
LEP	0%	13,228	620	66	34	1,429	15	$42,737	42
	1–9%	27,432	1,142	52	48	1,479	14	$45,811	41
	10–100%	10,196	454	52	48	545	13	$47,353	42
SPECIAL ED	0–9%	14,068	661	53	47	627	14	$45,848	41
	10–19%	34,597	1,437	56	44	2,332	14	$45,236	42
	20–100%	2,191	118	61	39	494	13	$43,271	42
PUBLIC SCHOOLS	Non-charter	50,718	2,118	55	45	3,179	14	$45,495	42
	Charter	800	132	74	24	361	7	$35,205	35

and in outstate schools with 2000 or fewer students: 2–3% higher than in the Twin Cities suburbs or in larger outstate schools. Figure 3.9 (p. 37) shows the percentage of teachers on licensure variance, by poverty concentration. The percentage is highest at schools with 30–49% poverty concentration.

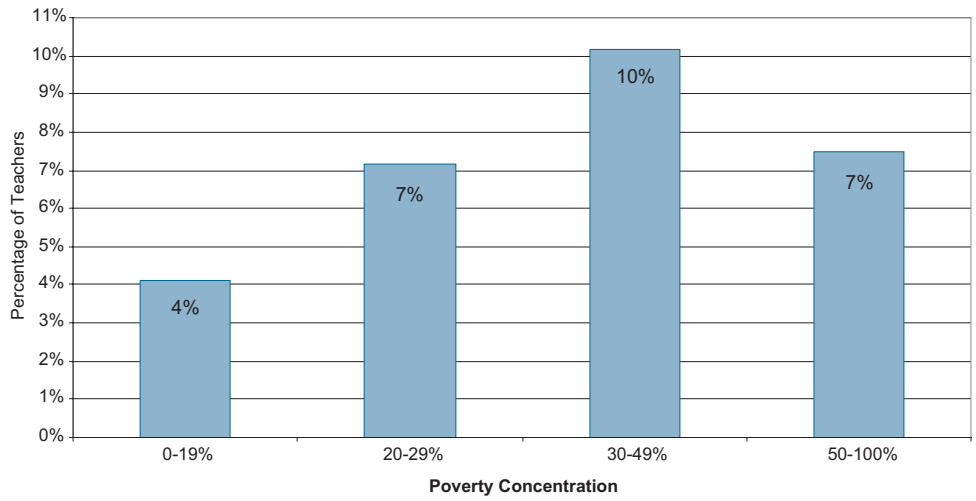
Charter schools show some of the most marked deviations from the overall trends to be found in Table 3.7. While almost 4% of all teachers in the state are new, about 17% of the teachers in charter schools are new. The average salary in charter schools was $35,205 as compared to $45,335 for the state overall. And while 6% of the state's teachers overall were on licensure variances, 45% of the charter school teachers held licensure variances (a small improvement over the previous year's 46%). The average number of years of experience in charter schools, 7 years, is half that for the state overall (14 years). In part, these figures reflect growth in the number of charter schools and the recency with which much

Figure 3.8 Percentage of Full-time Teachers Holding Licensure Variances, by Strata: 2002–03



Note: Because the values in this figure were rounded to the nearest whole number, bar height does not always match percentage lines.

Figure 3.9 Percentage of Full-time Teachers Holding Licensure Variances, by Poverty Concentration: 2002–03



Poverty Concentration = Percentage of students in the school who are eligible for free or reduced-price lunch. Note: Because the values in this figure were rounded to the nearest whole number, bar height does not always match percentage lines.

of the staff has been hired. However, as the sponsors of charter schools review the charters for their schools, they should pay careful attention to the qualifications and experience of the staff, and particularly to the use of licensure variances by the school in core academic subjects.[3]

SUMMARY AND CONCLUSIONS

As in recent years, overall enrollment continued to decline. For 2004, the public schools enrolled over 830,000 students in grades K through 12 at the beginning of the school year. For the first time in recent years, secondary enrollment declined along with continuing declines in elementary enrollment. However, elementary enrollment declines are slowing and may soon come to an end. Secondary enrollment declines can be expected to continue for several more years. Over the next five years, there may be a need to shift resources from secondary to elementary education if elementary enrollments cease their decline and actually begin to increase.

While overall enrollment declined, the number of students needing additional services continued to rise. That is, the number of students receiving English as second language (ESL) instruction increased. The number of students receiving special education services grew. Also, the number of low income students likely to need compensatory funding rose. As a result, savings from lower enrollments were partially offset by higher costs per pupil arising from the increased percentage of students receiving additional services.

The average per-pupil operating expenditure for 2004 was $7,796. In the 2001–02 school year, *Quality Counts: No Small Change* (2005) ranks Minnesota 23rd among the 50 states, with annual per-pupil spending only 2.1% higher than the average spent per pupil nationwide.

In 2003, Minnesota employed just over 51,500 full-time teachers. As would be expected in an era of declining enrollments, only 4% were in their first year of teaching. Reflecting enrollment trends, more new teachers were hired at the secondary level than at the elementary level. Approximately equal numbers of new teachers were hired in the metro area and in outstate Minnesota. The average teacher salary was $45,335. In comparing teacher salaries to those in other states during the most recent year for which data from other states are available, the American Federation of Teachers reported that the average teacher salary in Minnesota was below the national average. In average teacher salary, Minnesota ranked 19th among the 50 states.

NOTES

[3] The No Child Left Behind Act defines core academic subjects as English, reading, language arts, mathematics, science, foreign languages, civics and government, economics, the arts, history, and geography.

Minnesota is losing general student population while increasing in special needs students. If current trends continue, Minnesota can anticipate increasing needs for additional services such as English as second language instruction, special education, and Title I instruction. Over the next few years, some schools may need to shift resources as secondary enrollment declines and elementary enrollment levels off or even begins to grow. The state is also becoming less competetive in spending for schooling and paying for teaching. Policymakers should watch the competitiveness of Minnesota teacher salaries, particularly as compared to those in the larger neighboring states.

Chapter 4: Coursework, Attendance, and Graduation

Student coursework, attendance, and graduation rates are important indicators of students' academic effort. They tell us about the amount of time that students have invested in their own education. They also help to mark the progress that students are making to meet standards and requirements.

Attendance rates have recently taken on increased importance. In implementing the No Child Left Behind provisions, Minnesota has adopted attendance rates as one of the indicators used to evaluate school performance in elementary, middle, and high schools. All schools are expected either to have an attendance rate of 90% or to be improving their attendance rate. The attendance rates reported in this chapter will be evaluated against the 90% benchmark.

High school graduation rates have also taken on increased importance. In 2003–04, Minnesota graduation rates are calculated with the method adopted under No Child Left Behind in 2002–03. All high schools are expected to have a graduation rate of 80% or to be improving their graduation rate. Graduation rates reported in this chapter are evaluated against this 80% benchmark.

Educators sometimes view coursework, attendance, and graduation rate as educational inputs—the part of the accountability "measurement" system that tells us what investments of time students are making in education. The same indicators (attendance, coursework, and graduation rate) can also be used as educational outputs—measures of how well the education system is working. For instance, good attendance can be a result of the student having found the school experience rewarding enough that he or she participates regularly. In much the same way, graduation rates can tell us much about how well students are doing at completing the academic curriculum. A high graduation rate implies that students are learning what they need to know in order to complete high school.

Whether viewed as inputs or outputs, attendance, high school graduation, and completion of challenging courses involve elements of persistence and good work habits on the part of students over an extended period of time. Depending on whether the district's high school encompasses grades 10–12 or 9–12, high school completion takes three or four years. Students' completion of challenging coursework and graduation from high school require achievement levels high enough to meet the standards set by teachers. When viewed as outcomes, coursework, attendance, graduation, and completion of challenging courses require a persistent, organized student effort extending from one semester up to four years.

HIGH SCHOOL COURSEWORK

This section contains data on high school coursework from two sources: the coursework survey information from Minnesota students taking the *ACT* college entrance examination, and the mathematics coursework survey administered by the Minnesota Department of Education to 11th grade students taking the *MCA* in mathematics. The ACT survey covers four subject areas: English, mathematics, social science, and natural science; but it only includes students who took the *ACT* entrance examination. Most of these students would be college-bound, so the results cannot be generalized to all high school students. The survey questions accompanying the 11th grade *MCA* are given to virtually all 11th graders, but the survey only asked about mathematics coursework. The results of this survey can be generalized to all high school juniors in Minnesota, but it covers only mathematics coursework.

While there is not complete agreement on the core academic courses to be included in a high school education, many experts recommend four years of English, three years of science, three years of mathematics, and three years of social studies. Table 4.1 (p. 41) shows four examples of such high school coursework recommendations: the recommendations of ACT, Inc., publisher of the college admissions test most often taken by Minnesota students; those contained in the landmark publication, *A Nation at Risk;* the recommendations of the Minnesota State Colleges and Universities (MnSCU); and the recommendations of the University of Minnesota/Twin Cities.

In the 2003 session, the Minnesota legislature passed new high school course requirements consistent with the recommendations in Table 4.1 (p. 41). The new Minnesota high school course graduation requirements are applicable to this year's 9th graders; that is, students entering 9th grade during or after the 2004–05 academic year. Those requirements appear in the box below.

Minnesota High School Course Requirements Applicable to Students who Enter 9th Grade During or After Academic Year 2004–05

- Four credits of language arts.
- Three credits of mathematics encompassing at least algebra, geometry, and statistics and probability sufficient to satisfy the academic standard.
- Three credits of science, including at least one credit in biology.
- Three and one-half credits of social studies including at least 0.5 credits of economics; students may fulfill this economics course requirement with a course taught by either the school's social studies or business department. [Changed from last year.]
- Health and physical education credit as required by locally developed standards. [Changed from last year.]
- At least one credit in the arts. [Changed from last year.]
- A minimum of seven elective course credits. [Changed from last year.]

For purposes of these requirements, a course credit is equivalent to a student's successful completion of an academic year of study or a student's mastery of the applicable subject matter, as determined by the local school district. Documentation for changes was retrieved from the Minnesota Department of Education Web site's Summary of Chapter 294 2004 Omnibus K–12 Education Policy Act, on 8/24/04 at: http://education.state.mn.us/content/072662.pdf.

With respect to the amount of coursework recommended in the four major content areas (English language arts, mathematics, science, and social studies), the new Minnesota requirements are comparable to the recommendations shown in Table 4.1. The Minnesota requirements differ from the recommendations with respect to specific content within the four major academic areas, just as the various recommendations in Table 4.1 differ among themselves. Also, the Minnesota requirements and the various recommendations in Table 4.1 differ with respect to content beyond that in the four major content areas. In comparing the new Minnesota requirements to the recommendations in Table 4.1, it is important to remember that the Minnesota requirements apply to all high school students, whereas the ACT, MnSCU, and University of Minnesota preparation standards in Table 4.1 were designed primarily for college-bound students.

ACT Survey of Recommended Coursework Completion. The *ACT* testing program asks test-takers to report on recommended coursework taken (or expected to be taken by the end of high school). The recommended coursework appears in Table 4.1.

Table 4.1 High School Course Recommendations of ACT, Inc. and *A Nation at Risk;* High School Course Preparation Requirements for Freshman Admissions at the Minnesota State Colleges and Universities (MnSCU) and the University of Minnesota

Content Area	ACT, Inc.	*A Nation at Risk*	MnSCU	U of M
English	4 or more years (grammar, composition, literature, etc.)	4 years	4 years of English (including composition and literature)	4 years, with emphasis on writing, including instruction in reading and speaking skills and in literary understanding and appreciation
Mathematics	3 or more years (algebra I and higher—does not include general math, business math, or consumer math)	3 years	3 years (2 years of algebra and 1 year of geometry)	3 years, including 1 year each of elementary algebra, geometry, and intermediate algebra (or integrated math 1, 2, & 3) (n.b. see important details below under "Additional Courses")
Social Sciences	3 or more years (history, economics, geography, civics, psychology, etc.)			
Social Studies		3 years	3 years (1 year of U.S. history and geography)	3 years, including 1 year each of U.S. history and geography (or a course that includes a geography component, such as world history, western civilization, or global studies)
Science	3 or more years (earth science, biology, chemistry, physics, etc.)	3 years	3 years (including 1 year each of a biological science and a physical science)	3 years of science, including 1 year each of biological and physical science and including laboratory experience (n.b. see important details below under "Additional Courses")
Computer Science		1/2 year		
Foreign Language		Recommended for college-bound students, but no specific amount is given	2 years of a single world language	2 years of a single second language
Fine Arts			1 year of **either** world culture **or** fine arts	1 year of visual and/or performing arts, including instruction in the history and interpretation of the art form (e.g., theater arts, music, band, chorus, orchestra, drawing, painting, photography, graphic design)
Additional courses	Some colleges and universities require other classes as prerequisites for admission, such as 2 or more years of the same foreign language or courses in the visual arts, music, theater, drama, dance, computer science, etc.			n.b. The Carlson School of Management, College of Biological Sciences, and Institute of Technology have some additional requirements for math and science preparation; see their School admission requirements for details.

Available online: ACT requirements, http://www.actstudent.org/planning/plancourses.html; MnSCU requirements, http://www.mnscu.edu/students/admission.html; U of M requirements, http://admissions.tc.umn.edu/AdmissionInfo/fresh_requirements.html. Students who do not meet certain MnSCU or U of M requirements may still be considered for admission, but they may be required to take specific coursework designed to enhance their opportunity for academic success. In making an admissions decision, MnSCU and the U of M also consider a variety of factors, such as high school class rank and college admission test scores.

Figure 4.1 Percentage of Minnesota *ACT* Test-takers Having Completed the ACT Recommended Core Academic Preparation, by School Year: 1995–04

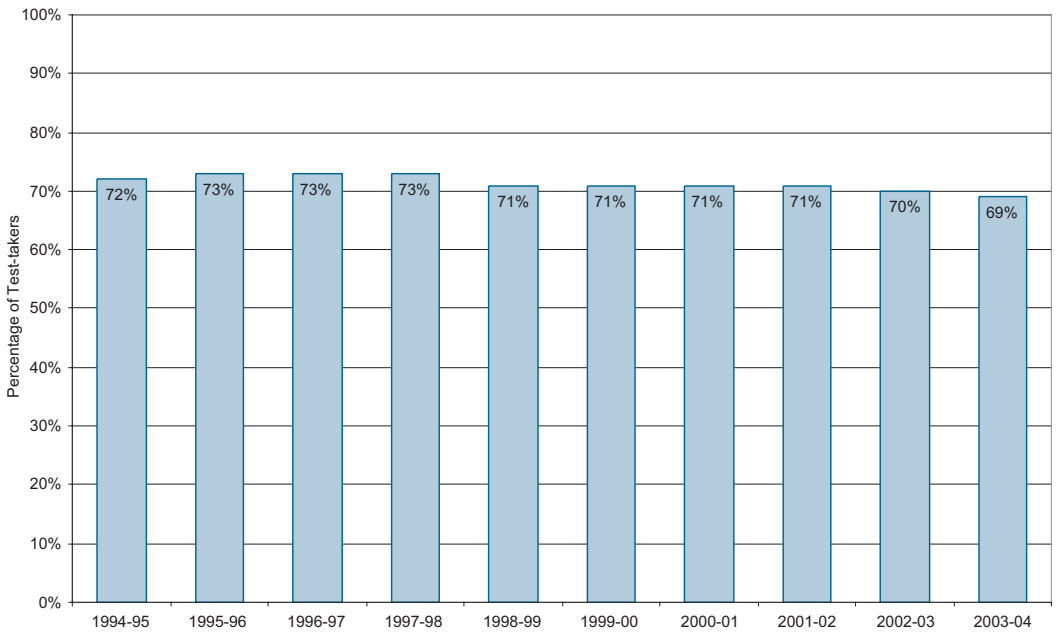


Figure 4.1 shows the trend in student-reported coursework over the last decade among Minnesota *ACT* test-takers. This figure shows the percentage of students who reported taking all of the recommended coursework. From 1994–95 to 1995–96, the percentage of test-takers completing the core increased from 72% to 73%. The percentage leveled off at 73% between 1995–96 and 1997–98, and then dropped to 71% in 1998–99, where it remained through 2001–02. In 2002–03, the percentage dropped again, to 70%, and in 2003–04 it dropped again, to 69%. In other words, just over 30% of the Minnesota students taking the *ACT* have not completed, and do not expect to complete, the full set of courses recommended by ACT.[4] Over the past five years, the percentage of test-takers completing the core has dropped by 3%, and last year the percentage reached its lowest point in the past ten years.

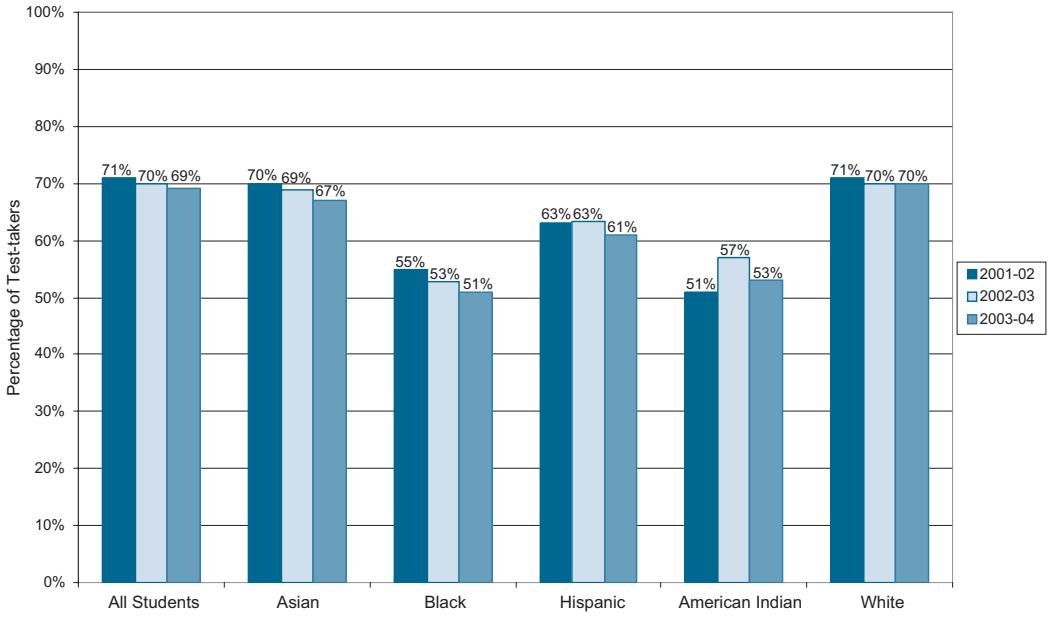
Figure 4.2 (p. 43) shows the percentage, by ethnicity, of *ACT* test-takers in academic years 2001–02, 2002–03, and 2003–04 who completed the core coursework recommended by ACT. Asian, Black, American Indian, and Hispanic test-takers were less prepared than their White peers. Overall, compared to last year, the percentage of students who completed ACT's recommended core dropped by one percentage point, to 69%. White students showed no change (70%). Asian, Black, and Hispanic students' preparation declined by two percent in each group. The largest change was a decrease of 4% that occurred among American Indian students and that largely reversed last year's preparation increase for this group. Shrinking the ethnic differences in *ACT* test performance (see Chapter 5) will require progress in closing the coursework preparation gaps shown in Figure 4.2. Unfortunately, Figure 4.2 shows smaller percentages of Asian, Black, and Hispanic students completed the core in 2003–04 as compared to 2001–02. Figure 4.2 indicates that the gaps are not closing for Asian, Black, and Hispanic students, and that those gaps may even be widening for some of these groups.

In addition to the new Minnesota high school course requirements described above, two other trends will presumably lead to changes in high school coursework and course content around the state in the next few years. First, as mentioned in Chapter 2, new standards were adopted last year in English/reading and mathematics, and new standards have been adopted this year in science and social studies. Secondly, the college admissions tests are changing to reflect changing emphases in higher education. By 2005, the *SAT I* college

NOTES

[4] ACT recommends three years of science, including two years of physical science (i.e., chemistry, physics). Many Minnesota high schools, and Minnesota's public colleges and universities, on the other hand, require three years of science, but only one of these must be physical science. Students could, therefore, take two years of a life science (biology), plus one year of physical science, and satisfy the state's requirement but not the ACT coursework recommendation.

Figure 4.2 Percentage of Minnesota *ACT* Test-takers Having Completed the ACT Recommended Core Academic Preparation, by Ethnicity: Academic Years 2001–02 through 2003–04.



admissions test will add a writing section and expand its mathematics section to encompass Algebra II (as well as Algebra I and Geometry; see http://www.collegeboard.com/about/newsat/index.html). By that same year, the *ACT* college admissions test will also add an optional writing section. The *ACT* already covers high school mathematics up through Algebra II (http://www.act.org/aap/writing/). This increased emphasis on writing and high school math through Algebra II in college entrance examinations will likely lead to an increased emphasis on these topics in secondary schools, at least among college-bound students.

MINNESOTA DEPARTMENT OF EDUCATION SURVEY OF HIGH SCHOOL MATH COURSEWORK COMPLETED

Along with the 11th grade math test, the Minnesota Department of Education asked students about the high school math that they had taken in each of the following categories:

- Algebra I (including Algebra I or Integrated Math I)
- Geometry (including Geometry or Integrated Math II)
- Algebra II (including Algebra II or Integrated Math III)
- Pre-calculus (including Pre-calculus, Integrated Math 4, or International Baccalaureate Math Studies)
- Calculus (including Calculus, Advanced Placement (AP) Calculus, AP Statistics, or International Baccalaureate Higher Level Math)

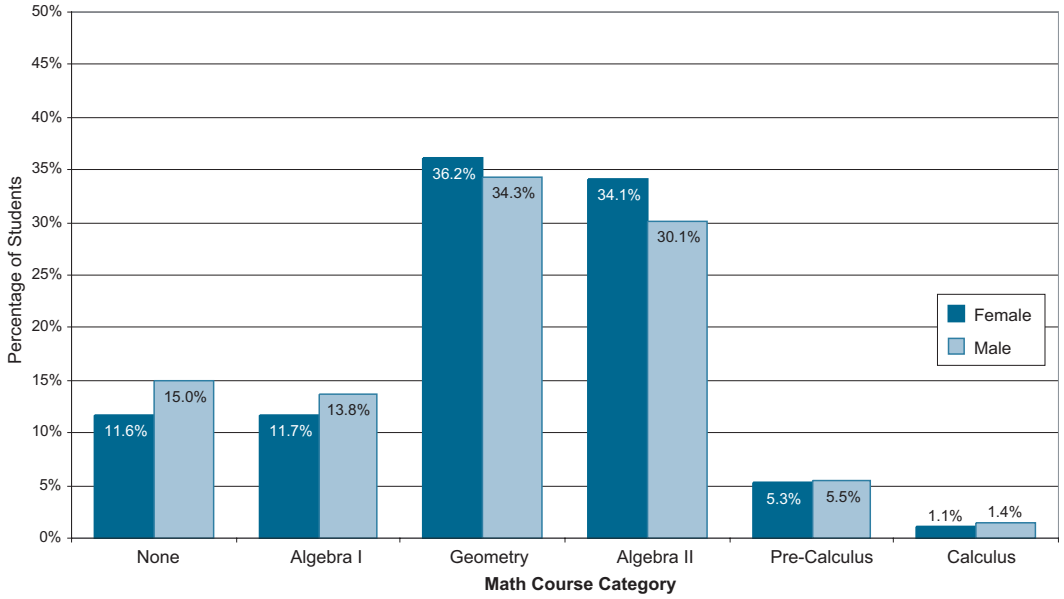
We have labeled each of these categories by the course considered to be the most commonly taken in the category: Algebra I, Geometry, Algebra II, Pre-calculus, and Calculus. The labels are not fully descriptive of the categories; for instance, Calculus includes two higher level math courses other than calculus. Furthermore, we have ranked the course categories from low- to high level as follows: Algebra I, Geometry, Algebra II, Pre-calculus, and Calculus. This ranking is debatable. For instance, Algebra II may not be more rigorous than Geometry, although most students take Algebra II only after having taken Geometry. In the Calculus category, only Calculus and AP Calculus are clearly more rigorous

than Pre-calculus. Finally, we have added a sixth category, "None", to encompass students who did not report completing coursework in any of the five categories listed above. All students were then classified by the highest math course category in which they reported having completed work. For the purposes of this analysis, students appear in one category only, rather than in all categories in which they have completed coursework. For example, a student may have completed Algebra, Geometry, and Algebra II, but that student is included only in the Algebra II category.

It is notable that the mean scale score for students taking the 11th grade *MCA* tests is below the state average of 1539 for the groups who have not completed coursework at or above the level of Algebra II (see Figure 5.4, p. 68, and Table 5.12, p. 71, for the state's average mean scale score).

Figure 4.3 shows the percentage of males and females reporting each category as their highest category completed. While the differences among the males and females seem small, they mirror the pattern shown in national data: boys predominate in the lowest (None and Algebra I) and highest categories (pre-Calculus and Calculus); girls predominate in the middle categories (Geometry and Algebra II). For instance, 15% of the boys did not report completing any math, but only 11.6% of the girls had taken no math. Similarly, more boys than girls (13.8% vs. 11.7%) completed Algebra I, but nothing higher. However, girls are more likely than boys to have gone beyond Algebra I to either Geometry or Algebra II. Even though girls are more likely to complete Geometry or Algebra II, they are slightly more likely than boys to stop before pre-Calculus and Calculus. These data are taken from Table 5.9, p. 64.

Figure 4.3 Highest Level Math Course Category Completed by 11th Grade Students, by Gender: 2003–04



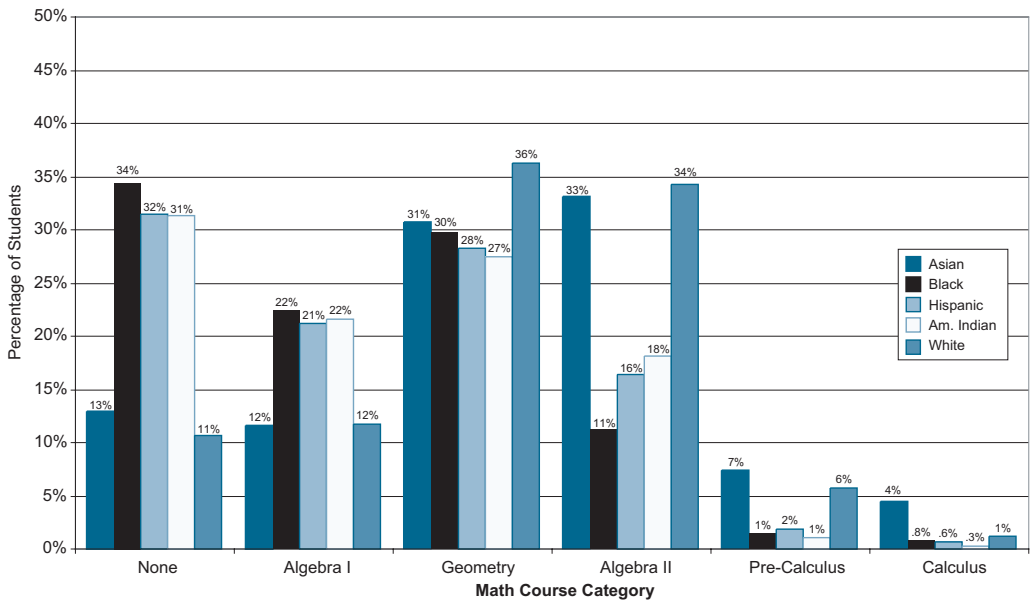
Notes: Each math course category is named according to the most common math course taken at that level, although most categories include other courses that are considered to be at roughly the same level of difficulty. The categories contain the following possible coursework: Algebra I includes both Algebra I and Integrated Math I; Geometry includes both Geometry and Integrated Math II; Algebra II includes both Algebra II and Integrated Math III; Pre-calculus includes Pre-calculus, Integrated Math IV, and International Baccalaureate Math Studies; and Calculus includes Calculus, Advanced Placement Calculus, Advanced Placement Statistics, and International Baccalaureate Higher Level Mathematics.Students are included only in the category for the highest-level math coursework they have completed; therefore, a student who appears in the Algebra II category may have completed coursework at the lower levels, but that student is only included in the percentage for Algebra II.

In the last half of the 20th century, there was concern about the fact that girls took fewer advanced high school math courses than boys. Whether this is still a problem depends on how one defines advanced math. Boys predominate somewhat in our highest categories, pre-Calculus and Calculus, but few students, male or female, completed any coursework in these categories. On the other hand, if one defines "advanced math" as the college

preparatory coursework (Algebra I and above) in Table 4.1 (p. 41), then girls were generally further along in the sequence than boys. Over time, this problem—girls taking fewer advanced high school math courses—has diminished to the point that the problem is evidenced only at the very highest level of high school mathematics, and it is very small even there.

Figure 4.4 shows the highest level of math coursework completed by ethnicity. There are major differences between Asian and White students as compared to American Indian, Black, and Hispanic students. At the low end, approximately one-third of Black, Hispanic, and American Indian students report having completed no math coursework; closer to 10% of Asian and White students report having completed no math coursework. However, 44% of Asian students and 41% of White students have completed coursework at the level of Algebra II or above, compared with 13% of Blacks and 19% of Hispanics and American Indians. National studies have found that when the full range of coursework is considered (including math coursework below Algebra I), minority and majority students differ widely in the level of math coursework completed, but not in the total amount (number of Carnegie units) completed. Minority and majority students are both studying math in high school, but not the same content. Closing the ethnic gaps in achievement will probably require closing the gap between minority and majority students in both the level and amount of math coursework completed.

Figure 4.4 Highest Level Math Course Category Completed by 11th Grade Students, by Ethnicity: 2003–04

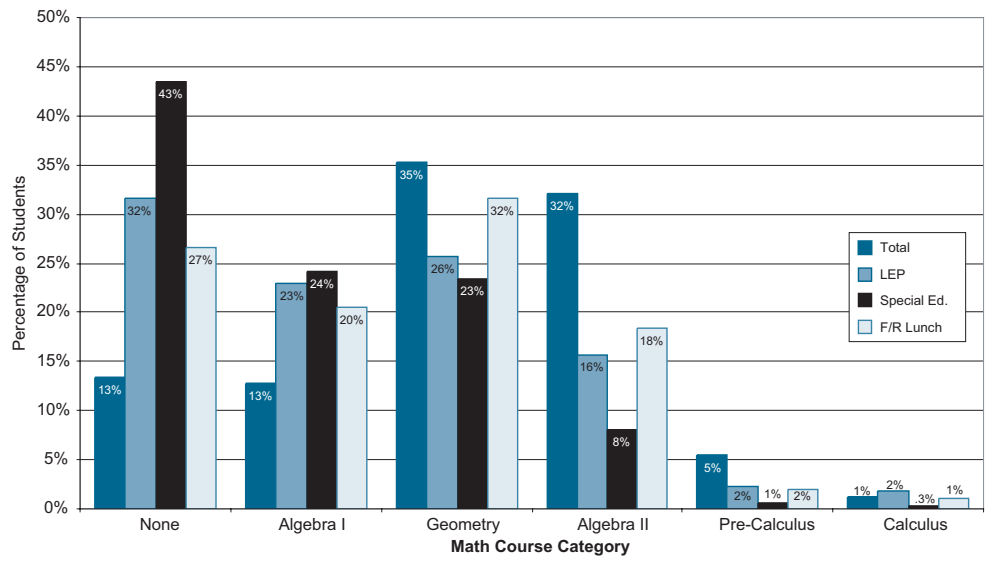


Notes: Each math course category is named according to the most common math course taken at that level, although most categories include other courses that are considered to be at roughly the same level of difficulty. The categories contain the following possible coursework: Algebra I includes both Algebra I and Integrated Math I; Geometry includes both Geometry and Integrated Math II; Algebra II includes both Algebra II and Integrated Math III; Pre-calculus includes Pre-calculus, Integrated Math IV, and International Baccalaureate Math Studies; and Calculus includes Calculus, Advanced Placement Calculus, Advanced Placement Statistics, and International Baccalaureate Higher Level Mathematics.Students are included only in the category for the highest-level math coursework they have completed; therefore, a student who appears in the Algebra II category may have completed coursework at the lower levels, but that student is only included in the percentage for Algebra II.

Figure 4.5 shows the highest math level completed by limited English proficiency status, special education status, and poverty, as compared to all students in the state. Students in these three subgroups are less likely to have completed coursework in the more advanced categories, although LEP and low income students are just as likely as other students to have taken coursework in the Calculus category.

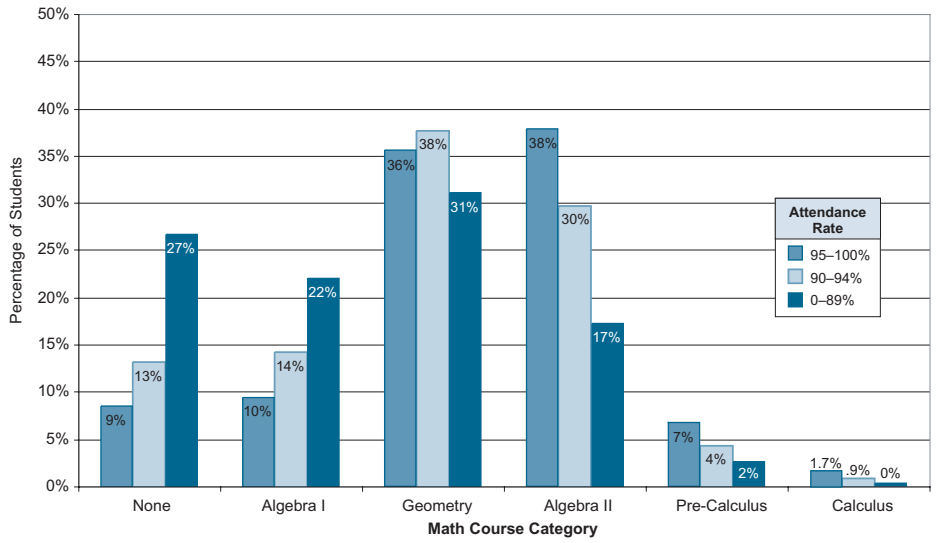
Figures 4.6 and 4.7 (p. 46) show the highest math level completed as a function of student atten-

Figure 4.5 Highest Level Math Course Category Completed by 11th Grade Students, by Total Number of Students, LEP, Special Education, and F/R Lunch: 2003–04



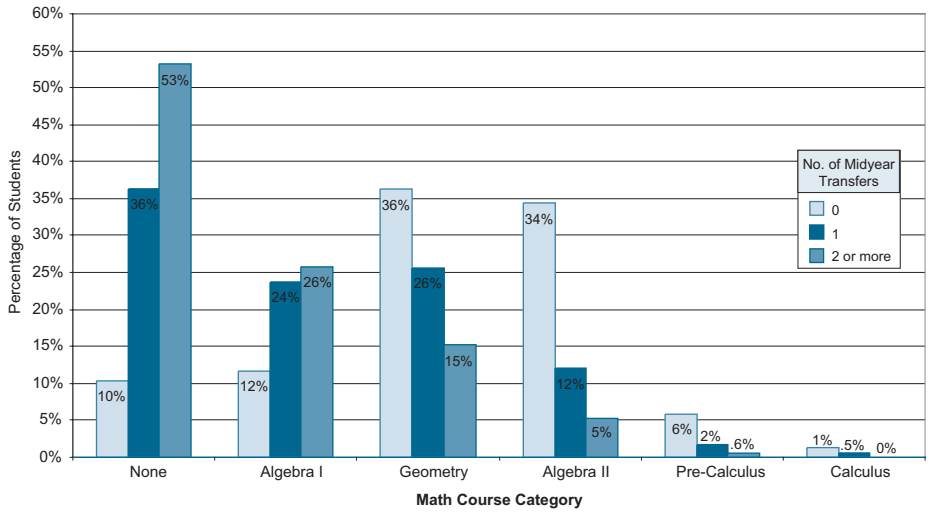
Notes: Each math course category is named according to the most common math course taken at that level, although most categories include other courses that are considered to be at roughly the same level of difficulty. The categories contain the following possible coursework: Algebra I includes both Algebra I and Integrated Math I; Geometry includes both Geometry and Integrated Math II; Algebra II includes both Algebra II and Integrated Math III; Pre-calculus includes Pre-calculus, Integrated Math IV, and International Baccalaureate Math Studies; and Calculus includes Calculus, Advanced Placement Calculus, Advanced Placement Statistics, and International Baccalaureate Higher Level Mathematics.Students are included only in the category for the highest-level math coursework they have completed; therefore, a student who appears in the Algebra II category may have completed coursework at the lower levels, but that student is only included in the percentage for Algebra II.

Figure 4.6 Highest Level Math Course Category Completed by 11th Grade Students, by Attendance Rate: 2003–04



Notes: Each math course category is named according to the most common math course taken at that level, although most categories include other courses that are considered to be at roughly the same level of difficulty. The categories contain the following possible coursework: Algebra I includes both Algebra I and Integrated Math I; Geometry includes both Geometry and Integrated Math II; Algebra II includes both Algebra II and Integrated Math III; Pre-calculus includes Pre-calculus, Integrated Math IV, and International Baccalaureate Math Studies; and Calculus includes Calculus, Advanced Placement Calculus, Advanced Placement Statistics, and International Baccalaureate Higher Level Mathematics.Students are included only in the category for the highest-level math coursework they have completed; therefore, a student who appears in the Algebra II category may have completed coursework at the lower levels, but that student is only included in the percentage for Algebra II.

Figure 4.7 Highest Level Math Course Category Completed by 11th Grade Students, by Number of Midyear School Transfers: 2003–04



Notes: Each math course category is named according to the most common math course taken at that level, although most categories include other courses that are considered to be at roughly the same level of difficulty. The categories contain the following possible coursework: Algebra I includes both Algebra I and Integrated Math I; Geometry includes both Geometry and Integrated Math II; Algebra II includes both Algebra II and Integrated Math III; Pre-calculus includes Pre-calculus, Integrated Math IV, and International Baccalaureate Math Studies; and Calculus includes Calculus, Advanced Placement Calculus, Advanced Placement Statistics, and International Baccalaureate Higher Level Mathematics.Students are included only in the category for the highest-level math coursework they have completed; therefore, a student who appears in the Algebra II category may have completed coursework at the lower levels, but that student is only included in the percentage for Algebra II.

dance rate and student mobility. Not surprisingly, students with good attendance and continuous enrollment in a single school are more likely to have completed higher level mathematics coursework.

Figure 4.8 (p. 47) shows the highest math level completed by students in various regions of our state. Students in Minneapolis/St. Paul were more likely than students in other areas of the state to report having taken no math, but they were also the most likely to have taken something in the Pre-calculus or Calculus categories. Between 30% and 40% of the students in different regions of the state have completed coursework up to Geometry. Depending on the region of the state, between 23% and 37% have completed coursework up to Algebra II.

ATTENDANCE

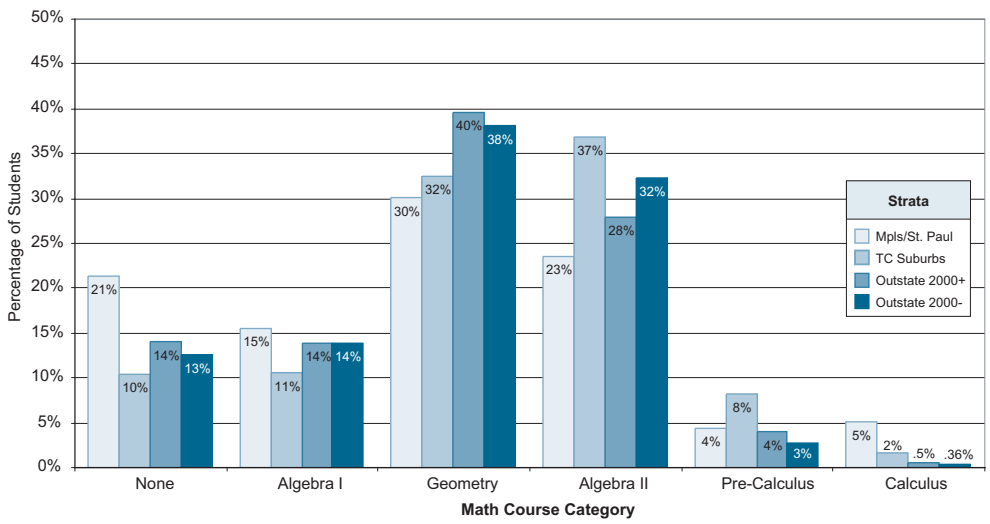
Table 4.2 (p. 47) shows the average attendance rate in Minnesota for grades 1–12, by student group, during academic year 2002–03. For the purpose of evaluating elementary, middle, and junior high schools for Adequate Yearly Progress (AYP), Minnesota has adopted an attendance rate target of 90%. Student groups with an attendance rate less than 90% are marked in bold. While high schools are evaluated for AYP on the basis of graduation rate rather than attendance, good attendance is no less important in high school than it is in earlier grades. Indeed, poor attendance tends to precede dropping

out. We have therefore boldfaced average attendance rates of less than 90% for high school student groups, even though high schools are not evaluated on attendance rate for AYP.

As in past years, Table 4.2 shows high rates of attendance in the elementary grades, with declining attendance from 6th grade through the end of high school. A pattern of declining attendance through the junior high and high school grades is characteristic of nearly every student group.

In the elementary grades, 1st through 6th, only two student groups in Table 4.2 fall below the 90% target: highly mobile 1st, 2nd, 5th, and 6th graders who transferred between schools two or more times during the year, and American Indian students (beginning with 6th grade). By the 7th grade, students who transfer between schools one or more times in the academic year are attending school at less than the target rate of 90%. Beginning in the 9th grade, three of the four minority ethnic groups in Table 4.2 (American Indian,

Figure 4.8 Highest Level Math Course Category Completed by 11th Grade Students, by Strata: 2003–04



Notes: Each math course category is named according to the most common math course taken at that level, although most categories include other courses that are considered to be at roughly the same level of difficulty. The categories contain the following possible coursework: Algebra I includes both Algebra I and Integrated Math I; Geometry includes both Geometry and Integrated Math II; Algebra II includes both Algebra II and Integrated Math III; Pre-calculus includes Pre-calculus, Integrated Math IV, and International Baccalaureate Math Studies; and Calculus includes Calculus, Advanced Placement Calculus, Advanced Placement Statistics, and International Baccalaureate Higher Level Mathematics.Students are included only in the category for the highest-level math coursework they have completed; therefore, a student who appears in the Algebra II category may have completed coursework at the lower levels, but that student is only included in the percentage for Algebra II.

Table 4.2 Average Attendance Rate for Grades 1 to 12: 2002–03

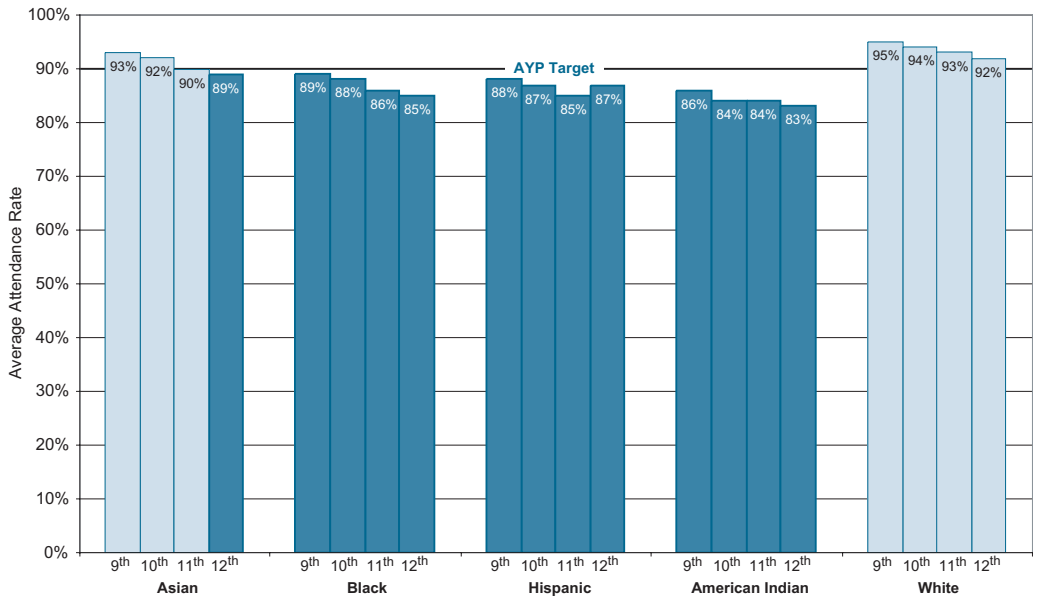
		GRADE											
		1	2	3	4	5	6	7	8	9	10	11	12
TOTAL		95	96	96	96	96	95	94	94	93	92	91	90
GENDER	**Female**	95	96	96	96	96	95	94	94	93	92	91	90
	Male	95	96	96	96	96	95	94	94	93	92	91	90
ETHNICITY	**Asian**	96	97	97	97	97	97	96	95	93	92	90	**89**
	Black	93	94	94	94	94	93	90	**89**	**87**	**86**	**85**	**84**
	Hispanic	93	94	95	95	94	93	92	90	**87**	**86**	**84**	**85**
	Amer. Indian	92	93	93	93	92	**89**	**87**	**86**	**84**	**82**	**82**	**81**
	White	96	96	96	96	96	96	95	94	94	93	92	91
STRATA	**Mpls/St. Paul**	94	95	95	95	95	94	91	90	**88**	**88**	**86**	**87**
	TC Suburbs	96	96	96	96	96	96	95	94	94	93	92	91
	Outstate 2000+	95	96	96	96	96	95	94	93	93	92	91	90
	Outstate 2000-	96	96	96	96	96	95	95	94	94	93	92	91
LEP		95	96	96	96	96	95	94	92	**89**	**88**	**86**	**86**
SPECIAL ED		94	95	95	95	94	93	92	91	90	**88**	**88**	**88**
F/R LUNCH		94	95	95	95	94	93	92	91	**89**	**88**	**87**	**86**
MIDYEAR SCHOOL TRANSFERS	**0**	96	96	96	96	96	96	95	95	95	94	93	91
	1	93	94	93	94	93	91	**89**	**87**	**86**	**84**	**82**	**80**
	2 or more	**89**	**89**	90	90	**89**	**87**	**82**	**83**	**82**	**83**	**83**	**82**
PUBLIC SCHOOLS	**Non-charter**	96	96	96	96	96	95	94	94	93	92	91	90
	Charter	94	94	95	95	95	95	93	93	**85**	**81**	**79**	**74**
ALCs		—	—	—	—	—	90	91	**87**	**83**	**79**	**80**	**81**

Note: Attendance rates in **bold face type** are below the AYP target.

Black, and Hispanic) students have attendance rates below the target, and these groups remain below the 90% target through 12th grade. Asian students fall below the 90% attendance rate in 12th grade. In 9th grade, attendance rates fall below the 90% target in the largest urban schools (Minneapolis/St. Paul), charter schools, and alternative learning centers (ALCs). They also fall below the target beginning in 9th grade for LEP students and low income students eligible for free or reduced-price lunch (F/R lunch). Special education students fall below the 90% target beginning in 10th grade.

Figure 4.9 shows attendance by ethnic group over the four high school grades. Improving high school graduation rates among Minnesota's minority groups will require improving their attendance throughout the high school years. The greatest need for improved attendance among all students, but especially minority students, continues to be in the high school grades. The need is greatest there partly because attendance rates are lowest in high school, but also because poor attendance in high school is so closely linked with dropping out. Improvements in attendance rate should positively affect minority graduation rates. It should also increase minority completion of challenging high school courses, since students with poor attendance in grades 9–12 may also have difficulty completing challenging high school coursework (see Figure 4.6, p. 46). This may result in their being assigned to (or electing) less rigorous classes, which in turn can limit their future college prospects.

Figure 4.9 Average Attendance Rate for Grades 9–12, by Ethnicity: 2003



Note: Groups that reached the AYP target for attendance (90%) are represented by the lighter bars; groups that did not reach the target are represented by the darker bars.

GRADUATION RATE AND DROPOUT DATA

In past years, Minnesota has used a true longitudinal approach to compute graduation rates. With this method of computation, all students who enter 9th grade in a given year are tracked for four years. Under NCLB, however, states were encouraged to adopt a simpler method of calculation, the "quasi-longitudinal approach," described in the accompanying sidebar. It is called the quasi-longitudinal approach because it does not require tracking students, but it is designed to give a good approximation of the graduation rate that would be obtained by tracking students over time.

The quasi-longitudinal approach is simpler than the true longitudinal approach because it does not require actually tracking students, which can be difficult in cases where

Computing Graduation Rates

To compute graduation rates for a given year—say 2004—the quasi-longitudinal approach uses the following five pieces of information that go back to the academic year 2000–01 (when the class of 2004 would have entered high school).

A = the number of 11th and 12th graders who graduated in academic year 2003–04

B = the number of 12th graders who dropped out in academic year 2003–04

C = the number of 11th graders who dropped out in academic year 2002–03

D = the number of 10th graders who dropped out in academic year 2001–02

E = the number of ninth graders who dropped out in academic year 2000–01

From the information above, the graduation rate is computed as follows:

$$\text{Graduation rate} = \frac{A}{A + B + C + D + E}$$

If no students transferred in or out of the high school over the four year period 2000–01 through 2003–04, then the quasi-longitudinal and longitudinal methods would give the same result so long as the same computational formula were used with both methods. Because students do transfer, the longitudinal and quasi-longitudinal approaches can give different results for school, district, and state graduation rates.

students change high schools and districts between 9th and 12th grade. Adopting the quasi-longitudinal approach will make our computed graduation rate more comparable to that in other states, since most other states are likely to adopt (or keep using) the quasi-longitudinal approach.[5] However, experience indicates that the quasi-longitudinal method of computation tends to give a somewhat higher figure than the calculation rate used in prior years. Because of this tendency, graduation rates based on the quasi-longitudinal approach should not be compared to rates reported in prior years, where the stated graduation rate was based on the true longitudinal approach.

Besides adopting the new method of computing graduation rates, the state has also adopted an expectation that schools will show an 80% annual graduation rate. This expectation has been stated as part of Minnesota's statewide plan for compliance with the requirements of the No Child Left Behind Act for Adequate Yearly Progress.

Table 4.3 contains graduation rate data for 2003, 2002, and 2001. For 2003 and 2001, the graduation rate was 87%. The 2002 graduation rate was 88%. These percentages are well above the AYP target (80%), and as the table shows, graduation rates for both boys and girls are well above the target.[6]

Gender Differences. Table 4.3, below, and Figure 4.10 (p. 50) show the graduation rate for boys and girls. As has historically been the case, the graduation rate for girls is higher. In 2003, the graduation rates for girls and boys were 90% and 85% respectively.

Table 4.3 High School Graduation and Dropout Data: 2001–03

		2003 No. of Students	2003 No. of Dropouts	2003 No. of Grads	2003 Grad Rate (%)	2002 Grad Rate (%)	2001 Grad Rate (%)
TOTAL		66,202	8,380	57,822	87	88	87
GENDER	**Male**	33,401	5,015	28,386	85	86	85
	Female	32,801	3,365	29,436	90	90	89
ETHNICITY	**Asian**	3,180	528	2,652	83	85	82
	Black	3,908	1,594	2,314	**59**	**60**	**55**
	Hispanic	2,161	1,079	1,082	**50**	**59**	**59**
	Am.Indian	1,200	513	687	**57**	**55**	**55**
	White	55,753	4,666	51,087	92	91	91
STRATA	**Mpls/St. Paul**	7,119	2,817	4,302	**60**	**65**	**63**
	TC Suburbs	25,015	1,935	23,080	92	92	91
	Outstate 2000+	15,788	1,880	13,908	88	89	88
	Outstate 2000-	16,146	1,016	15,130	94	94	93
LEP	**Yes**	2,446	880	1,566	**64**	**67**	**67**
	No	63,756	7,500	56,256	88	89	88
SPECIAL ED	**Yes**	6,338	1,290	5,048	80	81	**79**
	No	59,864	7,090	52,774	88	89	88
F/R LUNCH	**Yes**	11,437	2,807	8,630	**75**	**77**	**76**
	No	54,765	5,573	49,192	90	90	89
PUBLIC SCHOOL	**Non-charter**	63,498	7,341	56,157	88	89	88
	Charter	980	332	648	**66**	**63**	**59**
ALCs		7,078	4,149	2,929	**41**	**47**	**43**

Note: LEP = limited English proficiency; Special Ed. = students with an individual education plan (IEP); F/R lunch = eligible for free or reduced-price lunch. Graduation rates below the AYP graduation target rate (80%) are shown in **bold type**.

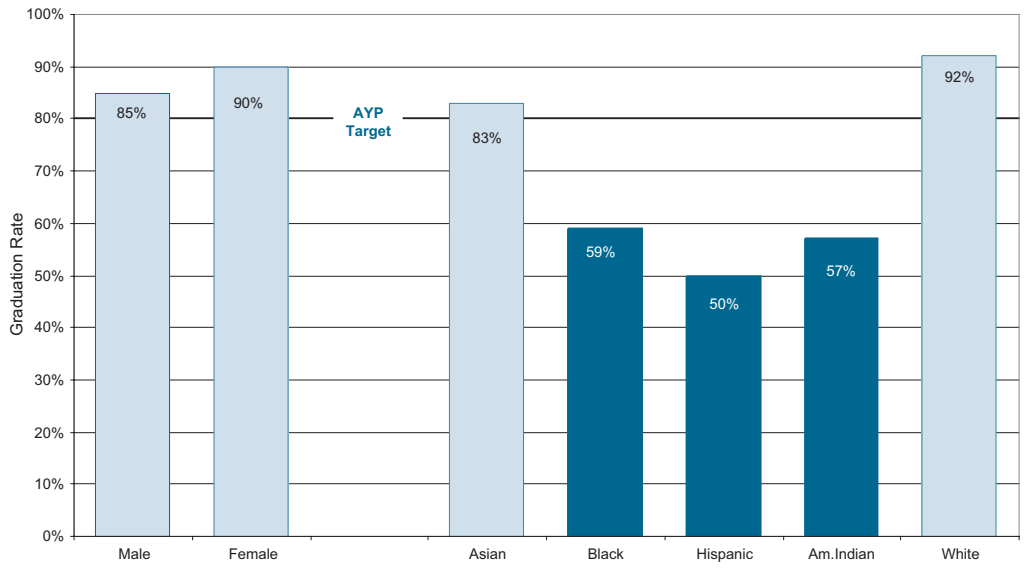
NOTES

[5] Results from Minnesota based on the quasi-longitudinal approach should be comparable to those from other states based on the same approach. However, data are sometimes reported from other states based on a different method. For instance, census data are often used. Because census data include private school and GED degrees in their count of graduates, graduation rates computed from census data are usually higher.

[6] This year, the data used in calculating graduation rate changed somewhat from last year's data. Last year, follow-up data on graduation rates were not available, so the graduation rate was calculated based solely on the number of students marked as having either graduated or dropped out at the end of the school year (2001 and 2002). This year, however, it was possible to compare the number of students marked as graduating or dropping out in 2003, 2002, and 2001 against the students enrolled in 2004, 2003, and 2002. Making this comparison identified approximately 5,000 students in each year who had returned to school after being marked "graduated" or "dropped out." The graduation rates reported in the 2003 *Yearbook* are therefore higher than those reported in 2002.

Ethnic Differences. Table 4.3 (p. 49) and Figure 4.10 show the graduation rate by ethnicity for 2003. Students in groups with graduation rates lower than the AYP target (80%) are shown in bold type in Table 4.3. White students had the highest graduation rate (92%), followed by Asian students (83%). The graduation rates for other minority students were all below the state target of 80%: 59% for Blacks, 50% for Hispanics, and 57% for American Indian students. Differences among ethnic groups in high school graduation rates tend to parallel those that appear in high school attendance rates: Black, Hispanic, and American Indian students' attendance rates in grades 10–12 are below the state expectation (see Table 4.2, p. 47), and low attendance may partially explain the low graduation rates. The same is true for graduation rate and achievement at the proficient level or above: student groups with high achievement levels tend to graduate at higher rates (see the sections on achievement in Chapter 5, beginning on p. 53).

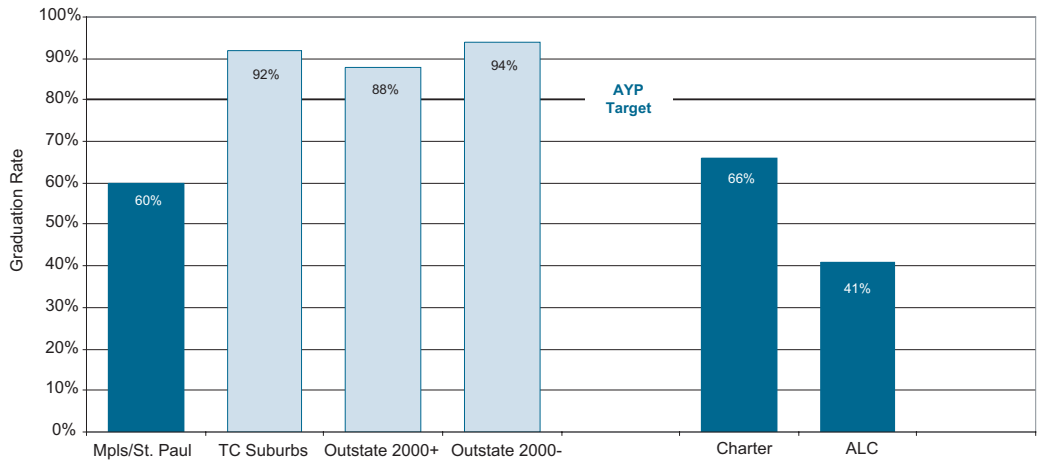
Figure 4.10 Graduation Rate, by Gender and Ethnicity: 2003



Note: Groups that met the AYP target for graduation (80%) are represented by the lighter bars; groups that did not reach the target are represented by the darker bars.

Strata and Charter Schools. Graduation results also vary by type of school district. Figure 4.11 shows the graduation rates for various types of districts that differ by location, size, and type of school. Graduation rates were above the 80% target for schools in suburban (92%), large outstate (88%), and small outstate (94%) high schools. Graduation rates were below the target in the urban schools of Minneapolis and St. Paul (60%), charter schools (66%), and ALCs (41%). Urban schools, charter schools, and ALCs also fall below the state expectation of 90% attendance (see Table 4.2, p. 47); again, low attendance rates in grades 9–12 may partially explain the low graduation rates.

Figure 4.11 Graduation Rate, by Region of the State and Charter/ALC Identification: 2003

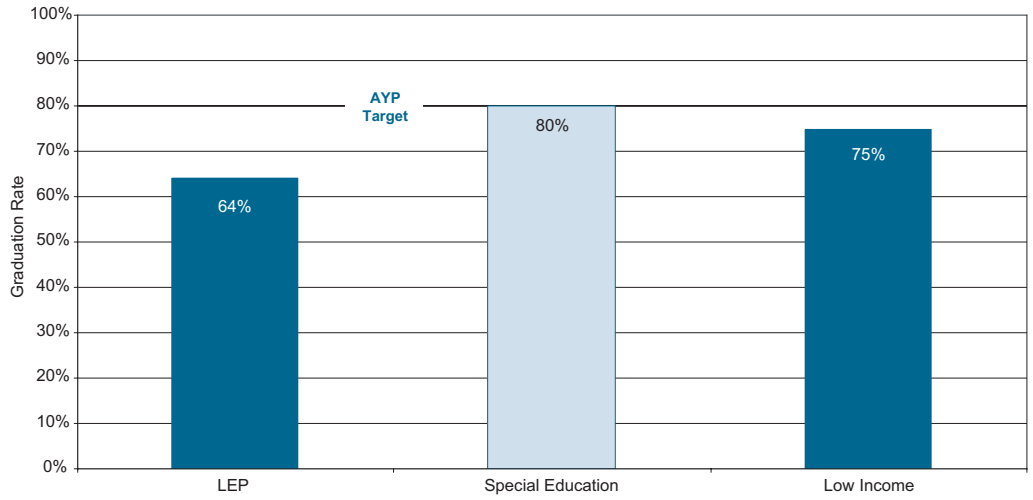


Note: Groups that reached the AYP target for graduation (80%) are represented by the lighter bars; groups that did not reach the target are represented by the darker bars.

Special Needs Students. Figure 4.12 (p. 51) shows the graduation rates for limited English proficiency students, special education students, and low income students (eligible for free or reduced-price lunch). Students in special education just reached the AYP target rate (80%), but two subgroups are still below the target: limited English proficiency students (64%) and low-income students (75%). After 10th grade, all of these groups have attendance rates below the state expectation of 90%

(see Table 4.2, p. 47), and low attendance in grades 10–12 may partially explain the low graduation rates.

Figure 4.12 Graduation Rate, by Limited English Proficiency, Special Education, and Low Income Classification: 2003



*** Note:** Groups that reached the AYP target for graduation (80%) are represented by the lighter bars; groups that did not reach the target are represented by the darker bars. Low Income = students eligible for free or reduced-price lunch.

SUMMARY AND CONCLUSIONS

In the survey of mathematics coursework that accompanied the 11th grade mathematics tests, 38% of students reported completing coursework at the level of Algebra II or above. This is the level of mathematics coursework recommended by many four-year colleges and it will be covered in both major college admissions tests by 2005. Another 35% had taken Geometry and, by the end of their senior year, could complete Algebra II. That is, 38% had completed the math coursework recommended for higher education by the end of 11th grade and another 35% could do so by the end of their senior year.

In the past, girls have taken less advanced high school mathematics coursework than boys. These differences have all but disappeared. Of the coursework recommended by many four year colleges and the college admissions testing organizations (Algebra I, Geometry, and Algebra II), more girls than boys reported completing coursework at the level of Algebra II or Geometry by the end of 11th grade, possibly reflecting the fact that more girls than boys enroll in four year colleges after high school.

Large ethnic differences in course-taking exist, not only in mathematics, but in other subject areas as well. On the ACT survey of course-taking, Whites and Asians had taken more of the recommended coursework than had American Indian, Black, and Hispanic students. Differences in high school achievement among ethnic groups seem unlikely to disappear until differences in their coursework disappear, specifically in the content of that coursework.

One obstacle to the completion of challenging high school coursework can be poor attendance. In elementary school, attendance rates were generally good, around 95%. By 10th grade, however, attendance rates had fallen below 90% for American Indian, Black, Hispanic, urban, LEP, special education, low income, charter school, and ALC students. Good attendance is associated with completion of challenging coursework (Figure 4.6, p. 46), high graduation rates, and high achievement (Figures 5.16–5.20, pp. 73–74). Particularly for American Indian, Black, and Hispanic students, closing gaps in achievement, graduation rates, and completion of challenging coursework will likely require improved high school attendance.

Minnesota's overall graduation rate for public schools was 87%. Girls completed high school at a higher rate than boys, 90% vs. 85%. Whites and Asians completed high school at a higher rate than American Indians, Blacks, and Hispanics. The urban schools have a far lower graduation rate than schools in the rest of the state. Across ethnic groups, regions of the state, and types of schools, graduation rates show many of the same patterns as data show for attendance and coursework. All three indicators covered in this chapter require a consistent, diligent effort on the part of students. High performance in one of these areas tends to be accompanied by high performance in the others, although this is not invariably the case. Improving attendance can be a first step in improving both graduation rates and success in challenging high school coursework.

CHAPTER 5: Achievement

In any educational system, one measure of success is student achievement. In this chapter, we examine achievement data to track progress over time in student performance, to compare our students to those in other states, and to examine equity of achievement across major subgroups targeted in NCLB (gender, ethnicity, limited English proficiency, special education, and socioeconomic status). With some of the data, we summarize the relationship of achievement to student attendance, school poverty concentration, and school funding. This chapter contains data from three sources:

- Minnesota students' performance on statewide tests in academic year 2004: the *Minnesota Comprehensive Assessments (MCAs)* in 3rd grade reading and mathematics, the *MCAs* in 5th grade reading, writing, and mathematics, the *MCAs* in 7th grade reading and mathematics, the 8th and 10th grade *Basic Skills Tests (BSTs)* in reading, mathematics, and writing, the 10th grade *MCAs* in reading, and the 11th grade *MCA* in mathematics.
- Minnesota's college bound students' performance during the past year on the *ACT Assessment,* which is the college entrance examination taken most frequently by Minnesota students.
- Minnesota 4th and 8th grade students' performance on the *National Assessment of Educational Progress (NAEP)* in reading and writing.

The data are examined with respect to three major questions. Has achievement been improving over time? How do Minnesota students compare to those from other states around the country? And are we moving toward greater equity of achievement levels across gender, ethnicity, and socioeconomic status? In short, to what extent does student achievement display both excellence and equity?

STUDENT PERFORMANCE IN THE MINNESOTA ACHIEVEMENT TESTING PROGRAMS

Performance in the Minnesota Achievement Testing Programs

Throughout the education literature, lower achievement test scores are statistically correlated with limited English proficiency, disabilities, mobility (frequent school or residence changes), and student poverty (eligibility for free or reduced-price lunch). Therefore, in this report we show achievement results along with information about student background factors associated with test performance.

In 1997–98, Minnesota began statewide testing in grades 3, 5, and 8 for all students. In 1998–99, a writing test was added in 10th grade. In 2002, a reading assessment was added in 10th grade and a mathematics assessment was added in 11th grade; and in 2004, reading and mathematics tests were added in 7th grade.

In 3rd and 5th grades, students take the *Minnesota Comprehensive Assessments (MCAs),* which are aligned with Minnesota's academic standards in reading, mathematics, and writing. In 8th grade, students take the multiple choice *Basic Skills Tests (BSTs),* the state's high school graduation tests that cover reading and mathematics content. The 8th grade test is the student's first chance to demonstrate mastery of the basic high school requirements in reading and mathematics. The 10th grade writing examination is the student's first opportunity to demonstrate mastery of the high school basic requirement in writing.

The new 7th grade reading and mathematics tests partially fulfill the No Child Left Behind requirement for testing, and NCLB will require additional tests in other grades. In addition to the writing test, 10th graders also take a reading test composed of both multiple choice and open ended items. This test is aligned with state academic standards in reading. In 11th grade, students take an *MCA* exam in mathematics composed of both multiple choice and open ended items, and aligned with the state's high school mathematics standards in algebra (e.g., algebraic patterns), geometry (e.g., space, shape, and measurement), and statistics and probability (e.g., chance and data).

The high school graduation tests (the 8th and 10th grade *BSTs* in reading, mathematics, and writing) have clear passing scores. However, the 3rd and 5th grade *MCAs* use achievement levels between 1 and 5. The various levels of student performance in the *MCA* testing program are explained in the box below.

ACHIEVEMENT LEVELS IN THE *MCA* TESTING PROGRAM

The achievement levels of the *MCA* describe students' progress toward the state's standards in reading, mathematics, and writing. Previously, *MCA* scores were grouped into five levels of performance (Levels I, IIa, IIb, III, and IV) used to report results to students and parents. For 2003–04, the nomenclature for the performance levels was changed again, and Levels IIa and IIb were given the numbers "2" and "3"; this in turn necessitated a change for Levels III and IV, which are now Levels 4 and 5. The descriptions of each level in the new numbering system remain the same as last year.

Minnesota Comprehensive Assessments
Achievement Level Definitions

Note: In 2004, the MCA Achievement Levels were renamed

Prior to 2004	I	IIa	IIb	III	IV
2004	**1**	**2**	**3**	**4**	**5**

Level 1 - Gaps in knowledge and skills

Students scoring in this level have gaps in the knowledge and skills necessary for satisfactory work in the state's content standards. Poor reading skills may impact math comprehension skills. Students at this level typically need additional instruction to progress beyond finding obvious answers and simple details. They are typically working significantly below grade-level in one or more content areas.

Level 2 - Partial knowledge and skills

Students scoring in Level 2 have partial knowledge and some of the skills necessary for achieving satisfactory work in the state's content standards. They are typically working at, or slightly below, grade-level material in one or more content areas. Additional instruction and homework in reading comprehension may be helpful to increase math comprehension skills.

Level 3 - Solid grade level skills

Most students in this level are working successfully on grade-level material and are on track to achieve satisfactory work in the state's content standards. Students scoring in Level 3 are progressing with their peers in understanding the content material at grade level.

Level 4 - Working above grade level

Students scoring in Level 4 are working above grade level. Many are proficient with challenging subject matter. Students at this level demonstrate solid performance and competence in the knowledge and skills necessary for satisfactory work in the state's content standards.

Level 5 - Superior performance beyond grade level

Students at this level demonstrate superior performance, well beyond what is expected at the grade level. Students scoring in Level 5 demonstrate advanced academic performance, knowledge, and skills that exceed the level necessary for satisfactory work in the state's content standards. Their performance is well above grade-level expectations; they can analyze and interpret complex problems and situations.

Retrieved from http://education.state.mn.us/content/072526.pdf on 9/15/04.

Statewide Trends in 3rd Grade *Minnesota Comprehensive Assessments* in Reading and Mathematics

Tables 5.1 and 5.2 (p. 56) show the 3rd grade reading and mathematics results. With the exception of the last line, labeled "Private Schools," all results are based only on public school students. Private schools participate in testing and data collection on a voluntary basis. Since some private schools elect to participate and others do not, the participating private schools' students may or may not be representative of all private school students. This creates potential interpretation problems when we seek to compare student achievement for private and public schools: aside from the obvious difficulties inherent in comparing student populations that may be very different, there are additional issues relating to possible differences in curriculum, teaching methods, availability of books and supplies, and even the learning environment. On the other hand, it is useful to have what data are available from private schools; but readers should be cautious about generalizing from the results reported here for the population of private school students.

Because the evaluation of schools under No Child Left Behind is based on a proficiency index, we have a column showing the proficiency index for the state as a whole and for each subgroup. If the proficiency index falls below the AYP target, the index is printed in bold type. The AYP target is also given in the footnote at the bottom of the table. The sidebar (p. 57) explains how proficiency indexes are calculated.

Table 5.1 2004 Grade 3: *Minnesota Comprehensive Assessment* Results in Reading

		No. Tested	% At or Above Level 4	% At or Above Level 3	% At or Above Level 2	Prof. Index	Mean Scale Score	% Enr. Stu. Tested	% Tested Students			
									LEP	Sp.Ed.	New	F/R
TOTAL		57,153	60 (57) [49]	73 (71) [67]	88 (87) [84]	79 (82)	1,535	98	8	13	3	32
GENDER	**Female**	27,946	64 (61) [52]	76 (75) [70]	90 (90) [87]	82 (85)	1,555	98	8	9	3	32
	Male	29,192	57 (53) [45]	70 (68) [64]	86 (85) [81]	77 (79)	1,516	97	8	17	3	32
ETHNICITY	**Asian**	3,225	40 (38) [26]	54 (52) [44]	80 (77) [68]	66 (70)	1,451	98	56	9	5	59
	Black	4,741	30 (27) [21]	46 (41) [37]	71 (66) [60]	**56** (**58**)	1,388	96	13	16	9	76
	Hispanic	3,008	30 (28) [22]	43 (44) [37]	69 (67) [61]	**54** (**59**)	1,383	96	60	12	8	76
	Am. Indian	1,164	40 (37) [26]	59 (54) [46]	80 (77) [71]	66 (68)	1,440	95	8	19	7	71
	White	44,863	68 (63) [55]	80 (78) [73]	92 (91) [89]	85 (87)	1,570	98	1	13	2	21
LEP		4,665	20 (17) [10]	34 (31) [24]	64 (59) [51]	**48** (**51**)	1,341	97	—	10	8	82
SPECIAL ED		6,740	29 (28) [22]	40 (40) [35]	60 (60) [54]	**45** (**49**)	1,361	88	6	—	3	44
NEW TO DISTRICT		1,663	37 (36) [38]	50 (51) [56]	72 (72) [76]	**59** (64)	1,414	93	20	14	—	64
MIGRANTS		210	17 (16) [11]	33 (31) [21]	62 (56) [45]	**46** (**47**)	1,330	95	82	11	7	93
F/R LUNCH		18,042	39 (37) [28]	54 (52) [46]	77 (75) [69]	64 (67)	1,431	96	21	18	6	—
ATTEN-DANCE RATE	**95-100%**	40,145	63 (59) [51]	76 (74) [69]	90 (89) [86]	82 (85)	1,549	98	8	12	1	27
	90-94%	11,428	57 (54) [47]	70 (69) [65]	86 (85) [82]	77 (79)	1,521	97	8	16	3	39
	0-89%	2,607	45 (43) [34]	59 (58) [51]	78 (78) [70]	65 (68)	1,456	94	10	21	7	61
MIDYEAR SCHOOL TRANSFERS	**0**	51,076	62 (59) [51]	75 (73) [69]	90 (89) [86]	81 (84)	1,545	98	7	13	2	29
	1	2,764	41 (39) [30]	56 (53) [46]	77 (77) [66]	64 (66)	1,445	96	20	16	8	64
	2 or more	340	24 (22) [16]	39 (34) [31]	64 (61) [56]	**49** (49)	1,354	93	18	26	16	90
STRATA	**Mpls/St. Paul**	5,854	38 (35) [27]	51 (48) [42]	74 (71) [64]	**61** (63)	1,431	96	29	14	6	69
	TC Suburbs	24,561	65 (62) [55]	77 (76) [73]	91 (90) [88]	83 (85)	1,560	98	6	12	3	20
	Outstate: 2000+	12,972	62 (58) [50]	75 (73) [68]	89 (89) [86]	81 (83)	1,540	98	5	14	3	31
	Outstate: 2000-	12,532	63 (58) [49]	77 (74) [68]	91 (90) [86]	82 (84)	1,544	97	3	14	2	37
CHARTER		1,088	35 (35) [27]	49 (47) [41]	71 (69) [62]	**59** (64)	1,407	97	25	11	5	63
PRIVATE SCHOOLS		1,410	69 (57) [57]	79 (71) [76]	91 (87) [92]	85 (82)	1,564	—	—	—	—	—

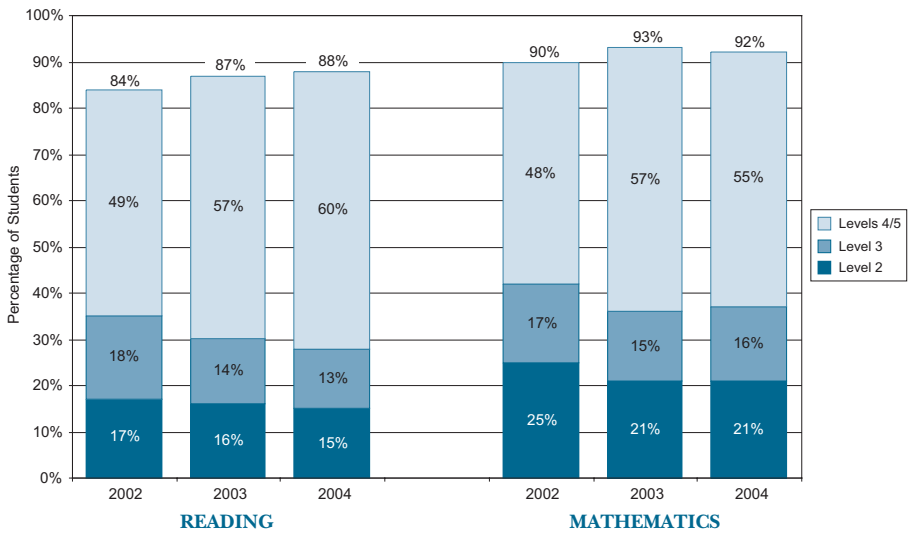
Note: The AYP school target for Grade 3 Reading is 63. Proficiency indexes in **bold face type** are below the AYP target. Percentages in parentheses ( ) are for the year 2003. Percentages in square brackets [ ] are for the year 2002.

Table 5.2 2004 Grade 3: *Minnesota Comprehensive Assessment* Results in Mathematics

		No. Tested	% At or Above Level 4	% At or Above Level 3	% At or Above Level 2	Prof. Index	Mean Scale Score	% Enr. Stu. Tested	% Tested Students			
									LEP	Sp.Ed.	New	F/R
TOTAL		57,170	55 (57) [48]	71 (72) [65]	92 (93) [90]	80 (83)	1,523	98	8	13	3	32
GENDER	**Female**	27,901	55 (58) [47]	70 (73) [64]	93 (93) [90]	80 (84)	1,522	98	8	9	3	32
	Male	29,254	56 (56) [48]	71 (72) [66]	92 (92) [90]	80 (82)	1,524	97	8	17	3	32
ETHNICITY	**Asian**	3,221	42 (47) [35]	57 (61) [50]	88 (89) [84]	71 (76)	1,465	98	56	9	5	59
	Black	4,765	25 (28) [19]	39 (42) [33]	75 (76) [70]	**55 (60)**	1,353	97	13	16	9	76
	Hispanic	2,997	29 (32) [22]	45 (47) [36]	80 (80) [76]	**60 (64)**	1,384	96	60	12	8	76
	Am. Indian	1,168	36 (37) [28]	52 (55) [43]	86 (85) [80]	66 (69)	1,424	95	8	19	7	71
	White	44,866	62 (62) [54]	77 (78) [71]	96 (96) [94]	85 (87)	1,557	98	1	13	2	21
LEP		4,659	23 (26) [17]	38 (42) [30]	78 (78) [72]	**57 (61)**	1,356	97	—	10	8	82
SPECIAL ED		6,827	31 (31) [24]	45 (46) [38]	77 (77) [71]	**55 (58)**	1,381	89	6	—	3	44
NEW TO DISTRICT		1,690	32 (35) [35]	46 (50) [52]	78 (80) [84]	**60** (66)	1,386	94	20	15	—	64
MIGRANTS		208	16 (23) [16]	32 (37) [24]	75 (73) [64]	**51 (55)**	1,326	94	82	11	7	93
F/R LUNCH		18,082	36 (38) [29]	52 (54) [45]	84 (85) [80]	66 (70)	1,421	97	21	18	6	—
ATTENDANCE RATE	**95–100%**	40,172	58 (60) [51]	74 (75) [68]	94 (94) [92]	83 (86)	1,541	98	8	12	1	27
	90–94%	11,421	52 (52) [44]	67 (68) [62]	91 (91) [89]	76 (80)	1,500	97	8	16	3	39
	0–89%	2,610	38 (40) [31]	53 (57) [47]	83 (85) [79]	**64** (69)	1,426	94	10	21	7	61
MIDYEAR SCHOOL TRANSFERS	**0**	51,090	57 (59) [50]	72 (74) [67]	93 (94) [92]	82 (85)	1,534	98	7	13	2	29
	1	2,771	37 (39) [29]	53 (54) [45]	83 (83) [78]	66 (69)	1,424	96	20	16	8	64
	2 or more	342	19 (23) [17]	34 (39) [29]	71 (74) [65]	**50 (56)**	1,321	94	18	26	17	90
STRATA	**Mpls/St. Paul**	5,855	37 (39) [30]	51 (53) [44]	82 (82) [77]	**64** (68)	1,422	96	29	14	6	69
	TC Suburbs	24,534	61 (63) [54]	75 (77) [71]	94 (95) [93]	83 (86)	1,552	98	6	12	3	20
	Outstate: 2000+	12,948	54 (57) [48]	70 (73) [66]	93 (94) [91]	80 (84)	1,519	98	5	14	3	31
	Outstate: 2000-	12,608	57 (57) [47]	73 (73) [66]	94 (94) [93]	82 (85)	1,533	98	3	14	2	37
CHARTER SCHOOLS		1,081	27 (33) [22]	41 (46) [38]	76 (78) [71]	**57 (65)**	1,362	97	25	11	6	62
PRIVATE SCHOOLS		1,409	55 (57) [47]	72 (72) [68]	93 (93) [93]	83 (83)	1,512	—	—	—	—	—

Note: The AYP school target for Grade 3 Math is 66. Proficiency indexes in **bold face type** are below the AYP target. Percentages in parentheses ( ) are for the year 2003. Percentages in square brackets [ ] are for the year 2002.

Figure 5.1 Percentage of Grade 3 Students at Level 2 and Level 3, and at or above Level 4 in Reading and Mathematics: 2002–04



Note: The value for the percentage of students with scores "Below Basic" is obtained by subtracting the percentage of students performing at or above Level 2 (to be found at the top of the bars) from 100%.

Tables 5.1 and 5.2 show that more than 57,000 3rd graders in public schools attempted the reading and mathematics examinations, or 98% of all 3rd graders enrolled at the time of testing. As compared to 2002–03, the percentage of students tested is 3% higher. This increase is almost certainly due to the testing participation requirements under No Child Left Behind.

Figure 5.1 shows the trend in 3rd grade reading and mathematics scores over the past three years. As shown in the figure, the percentage of students scoring at or above Level 2 in reading increased from 84% in 2002, to 87% in 2003, and then to 88% in 2004. Adding together the top two sections of the bars, we see that the percentage of 3rd grade stu-

dents scoring at or above level 3 in reading increased from 67% in 2002, to 71% in 2003, and then to 73% in 2004.

In mathematics, however, the percentage of students at or above Level 2 increased by 3% between 2002 and 2003, but then decreased by 1% between 2003 and 2004 (from 93% to 92%). Adding together the top two sections of the bars, we see that the percentage of students in Level 3 or above increased by 6% since 2002, although there was a 1% decrease between 2003 and 2004 (from 72% to 71%). Not all of these changes in mathematics performance from 2002 to 2004 are extremely large, but as we shall see when looking at national testing results, they are important, because they echo increases seen in other achievement testing data (see the section on *NAEP* testing, pp. 78–86).

Tables 5.1 and 5.2 show the average proficiency index for all public school 3rd graders, for all private school 3rd graders participating in testing, and for various public school student subgroups. If a student group failed to reach the Grade 3 AYP targets (63 in reading; 66 in math), the proficiency index has been boldfaced in the table. Seven subgroups did not reach the target in either reading or mathematics: Blacks, Hispanics, LEP students, special education students, students who were new to their districts, migrant students, and students who transferred between schools two or more times in the year. Additionally, schools in Minneapolis and charter schools had proficiency indexes below the target in both reading and mathematics.

How proficiency indexes are calculated:

Based on the student's *MCA* Level, each student is assigned a score. The student gets a score of 0 (no credit) if they score in Level 1. The student receives a score of .5 (half credit) if they score in Level 2. The student receives a score of 1 (full credit) if they score in Level 3 or higher.

The proficiency index for a school is the mean of these student scores. Technically, a proficiency index is a number between 0 and 1, but they are often written without decimals: e.g., 72 instead of .72 or 30 instead of .30. A school's proficiency index will equal 1.00 (or 100 if written without decimals) only if all students score at or above Level 3, the state's achievement target for all children.

Under NCLB, every school must keep raising its proficiency index, and by academic year 2013–14, the proficiency index must reach 100.

Statewide Trends in 5th Grade *Minnesota Comprehensive Assessments* in Reading and Mathematics

As shown in Tables 5.3, 5.4, and 5.5 (pp. 58–60), more than 60,000 5th grade public school students attempted the reading, mathematics, and writing tests. This translates to 98% of 5th graders enrolled at the time of testing for the reading test, and 97% for the math and writing tests. The percentage of students attempting the test is up from last year for reading and math but down slightly for writing. The increased participation in reading and mathematics, but not in writing, probably reflects the fact that NCLB's testing participation requirements apply to testing in reading and mathematics, but not writing.

Figure 5.2 (p. 59) shows the three-year trend in 5th grade reading, mathematics, and writing scores. The percentage of students scoring at or above Level 2 in reading has remained the same from last year to this (91%), but is 2% higher than in 2002. Adding together the upper two sections of the bars, the percentage of students scoring at or above Level 3 increased modestly, from 75% in 2002 and 2003 to 76% in 2004.

Mathematics results show both increases and decreases in student performance as compared to last year. Figure 5.2 shows that the percentage of students scoring at or above Level 2 in mathematics grew from 91% to 95% over the past year, a total of 5% higher than in 2002. Adding together the upper two sections of the bars, the percentage of students scoring at or above Level 3 increased by 4% from 70% in 2002 to 74% in both 2003 and 2004.

The 5th grade writing data in Figure 5.2 show a 5% increase over last year for students reaching Level 2 or higher, from 90% to 95%. This is, however, 2% lower than the 97% recorded in 2002. There was a much larger increase in the percentage of students performing at Level 3 and above (the upper two sections of the bars): from 68% in 2003 to 78% in 2004; however, there was no difference between 2002 and 2004. Because it is very difficult to maintain the difficulty of the writing test at a constant level from year to year

(more difficult than in reading and mathematics), some of this year's increase may be due to changes in the content or scoring of the writing examination this year.

Tables 5.3 and 5.4 show the proficiency indexes for all 5th grade public school students, all 5th grade private school students taking the test, and subgroups of 5th grade public students in reading and mathematics (writing does not carry a proficiency index). Proficiency indexes below the AYP targets (70 in reading; 65 in math) are shown in bold type. Several student subgroups were below the target for reading (Asian, Black, Hispanic, and American Indian students, students with limited English proficiency (LEP), special education students, students who were new to their districts, migrant students, and students eligible for free or reduced-price lunch). Many of the same student groups were below the target for mathematics: Black and Hispanic students, students with limited English proficiency (LEP), special education students, students who were new to their districts, and migrant students. Results were below the target in both subjects for students with two or more midyear transfers between schools. Results were below the reading target for students with one or more midyear transfers between schools, and for students in large urban districts (Minneapolis and St. Paul) and charter schools.

Table 5.3 2004 Grade 5: *Minnesota Comprehensive Assessment* Results in Reading

		No. Tested	% At or Above Level 4	% At or Above Level 3	% At or Above Level 2	Prof. Index	Mean Scale Score	% Enr. Stu. Tested	% Tested Students			
									LEP	Sp.Ed.	New	F/R
TOTAL		60,484	64 (65) [64]	76 (75) [75]	91 (91) [89]	81 (85)	1,579	98	7	14	3	32
GENDER	**Female**	29,441	69 (69) [68]	79 (79) [78]	93 (93) [92]	85 (88)	1,609	98	7	10	3	32
	Male	31,034	60 (61) [61]	72 (72) [72]	89 (89) [88]	78 (83)	1,551	97	7	19	3	32
ETHNICITY	**Asian**	3,424	42 (46) [38]	57 (58) [49]	83 (84) [75]	**69** (76)	1,476	98	55	9	4	64
	Black	4,822	34 (32) [29]	47 (45) [42]	76 (73) [70]	**59 (64)**	1,412	95	11	20	10	77
	Hispanic	2,841	35 (38) [33]	49 (50) [46]	74 (76) [70]	**59 (66)**	1,413	95	54	15	8	75
	Am. Indian	1,243	39 (42) [39]	55 (55) [53]	81 (82) [80]	**66** (73)	1,445	96	5	21	8	72
	White	48,031	71 (71) [71]	82 (81) [82]	94 (94) [93]	86 (89)	1,617	98	1	14	2	21
LEP		4,301	20 (21) [15]	35 (33) [25]	68 (68) [57]	**50** (**57**)	1,344	97	—	12	7	85
SPECIAL ED		7,942	30 (31) [29]	41 (42) [39]	66 (66) [62]	**48** (**54**)	1,378	89	6	—	4	45
NEW TO DISTRICT		1,643	37 (45) [52]	49 (57) [64]	74 (79) [83]	**57** (**69**)	1,419	92	18	18	—	67
MIGRANTS		182	20 (23) [17]	31 (34) [26]	63 (66) [48]	**40** (**54**)	1,325	83	78	14	9	92
F/R LUNCH		19,077	42 (44) [40]	56 (56) [54]	81 (81) [77]	**66** (73)	1,455	96	19	20	6	—
ATTENDANCE RATE	**95–100%**	42,934	67 (67) [67]	78 (78) [77]	92 (92) [91]	84 (88)	1,596	98	7	13	1	27
	90–94%	11,570	61 (63) [61]	73 (73) [72]	89 (90) [88]	79 (84)	1,562	97	6	17	3	38
	0–89%	2,889	50 (49) [47]	62 (61) [59]	83 (82) [80]	**68** (73)	1,492	93	7	24	6	60
MIDYEAR SCHOOL TRANSFERS	**0**	54,175	67 (67) [66]	78 (77) [77]	92 (92) [91]	83 (87)	1,592	98	6	14	1	29
	1	2,876	42 (44) [42]	55 (56) [54]	80 (81) [75]	**65** (72)	1,455	95	18	19	8	68
	2 or more	342	27 (28) [26]	42 (41) [37]	70 (68) [63]	**52** (**58**)	1,372	92	12	31	17	89
STRATA	**Mpls/St. Paul**	6,170	39 (39) [35]	52 (51) [46]	78 (77) [71]	**63** (**68**)	1,447	96	28	18	5	72
	TC Suburbs	25,675	71 (71) [71]	81 (81) [81]	93 (94) [93]	86 (89)	1,618	98	6	13	3	19
	Outstate: 2000+	13,719	66 (66) [66]	77 (77) [77]	92 (92) [91]	83 (87)	1,584	98	4	15	3	31
	Outstate: 2000-	13,823	64 (65) [65]	76 (77) [77]	91 (92) [91]	82 (86)	1,569	97	3	15	2	37
CHARTER SCHOOLS		937	44 (41) [34]	55 (51) [47]	77 (72) [74]	**64** (**66**)	1,452	96	20	14	6	60
PRIVATE SCHOOLS		1,398	71 (65) [72]	81 (75) [82]	93 (91) [95]	87 (85)	1,601	—	—	—	—	—

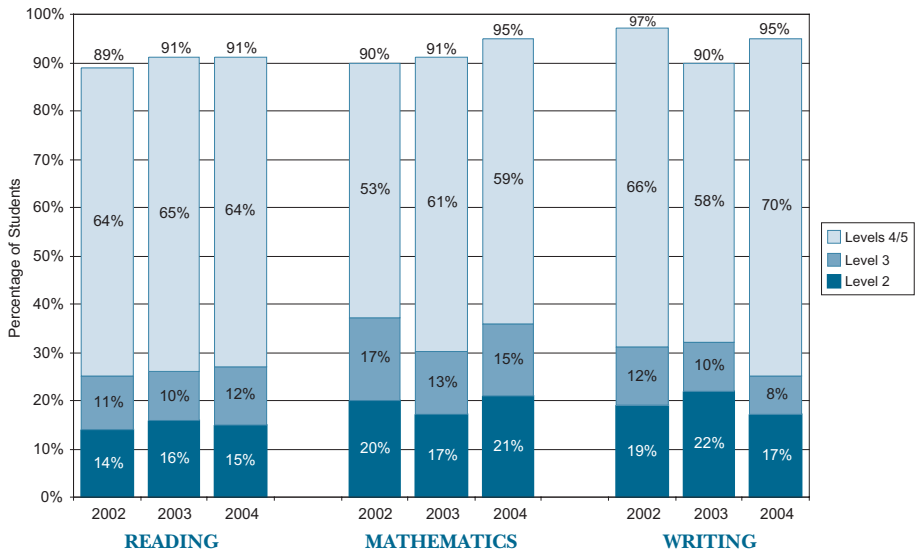
Note: The AYP school target for Grade 5 Reading is 70. Proficiency indexes in **bold face type** are below the AYP target. Percentages in parentheses ( ) are for the year 2003. Percentages in square brackets [ ] are for the year 2002.

Table 5.4 2004 Grade 5: *Minnesota Comprehensive Assessment* Results in Mathematics

		No. Tested	% At or Above Level 4	% At or Above Level 3	% At or Above Level 2	Prof. Index	Mean Scale Score	% Enr. Stu. Tested	% Tested Students			
									LEP	Sp.Ed.	New	F/R
TOTAL		60,314	59 (61) [53]	74 (74) [70]	95 (91) [90]	83 (84)	1,539	97	7	14	3	32
GENDER	**Female**	29,328	59 (60) [53]	75 (73) [71]	95 (91) [90]	84 (84)	1,540	98	7	10	3	32
	Male	30,977	59 (62) [52]	74 (74) [70]	95 (92) [89]	82 (84)	1,537	97	7	19	3	32
ETHNICITY	**Asian**	3,422	45 (48) [37]	63 (61) [54]	93 (86) [82]	76 (77)	1,491	98	55	9	4	64
	Black	4,836	27 (24) [18]	42 (37) [34]	83 (70) [66]	**60** (**58**)	1,392	96	11	20	10	77
	Hispanic	2,838	28 (32) [24]	47 (46) [41]	86 (76) [73]	**64** (**64**)	1,409	95	54	15	8	75
	Am. Indian	1,249	33 (37) [26]	52 (51) [47]	90 (82) [78]	69 (69)	1,437	97	5	21	8	72
	White	47,844	66 (67) [59]	81 (80) [77]	97 (95) [94]	87 (88)	1,567	98	1	14	2	21
LEP		4,310	23 (21) [15]	40 (35) [30]	84 (70) [66]	**60** (**58**)	1,384	97	—	12	7	85
SPECIAL ED		7,963	30 (31) [23]	45 (43) [37]	81 (70) [66]	**57** (**56**)	1,404	89	6	—	4	45
NEW TO DISTRICT		1,681	30 (37) [39]	45 (51) [57]	82 (78) [82]	**60** (66)	1,404	93	18	19	—	67
MIGRANTS		181	18 (14) [10]	30 (32) [23]	75 (65) [57]	**44** (**52**)	1,344	83	78	14	9	92
F/R LUNCH		19,071	37 (39) [30]	55 (53) [49]	89 (81) [78]	70 (70)	1,444	96	19	20	6	—
ATTENDANCE RATE	**95-100%**	42,832	63 (64) [56]	77 (77) [74]	96 (93) [92]	85 (86)	1,555	98	7	13	1	27
	90-94%	11,500	55 (57) [48]	71 (71) [66]	94 (90) [88]	80 (82)	1,518	97	6	17	3	38
	0-89%	2,873	41 (42) [33]	57 (56) [51]	89 (82) [78]	68 (70)	1,455	92	7	24	6	60
MIDYEAR SCHOOL TRANSFERS	**0**	53,981	61 (63) [55]	76 (76) [72]	96 (92) [91]	84 (85)	1,549	98	6	14	1	29
	1	2,880	37 (38) [32]	54 (53) [49]	88 (79) [76]	68 (68)	1,440	96	18	19	8	68
	2 or more	344	22 (22) [16]	42 (33) [32]	81 (66) [60]	**58** (**52**)	1,380	93	12	31	17	89
STRATA	**Mpls/St. Paul**	6,164	38 (37) [30]	53 (50) [46]	88 (78) [75]	68 (67)	1,450	96	28	18	5	72
	TC Suburbs	25,593	66 (68) [60]	80 (80) [77]	97 (94) [93]	87 (88)	1,573	98	6	13	3	19
	Outstate: 2000+	13,666	59 (61) [53]	75 (74) [71]	95 (92) [91]	83 (85)	1,538	97	4	15	3	31
	Outstate: 2000-	13,794	56 (59) [51]	74 (73) [71]	96 (92) [91]	83 (84)	1,522	97	3	15	2	37
CHARTER		935	36 (35) [26]	51 (46) [38]	84 (73) [69]	66 (**64**)	1,425	95	20	14	6	60
PRIVATE SCHOOLS		1,372	61 (61) [53]	77 (74) [74]	95 (91) [93]	86 (84)	1,532	—	—	—	—	—

Note: The AYP school target for Grade 5 Math is 65. Proficiency indexes in **bold face type** are below the AYP target. Percentages in parentheses ( ) are for the year 2003. Percentages in square brackets [ ] are for the year 2002.

Figure 5.2 Percentage of Grade 5 Students at Level 2 and Level 3, and at or above Level 4 in Reading, Mathematics, and Writing: 2002–04



Note: The value for the percentage of students with scores "Below Basic" is obtained by subtracting the percentage of students performing at or above Level 2 (to be found at the top of the bars) from 100%.

Table 5.5 2004 Grade 5: *Minnesota Comprehensive Assessment* Results in Writing

		No. Tested	% At or Above Level 4	% At or Above Level 3	% At or Above Level 2	Mean Scale Score	% Enr. Stu. Tested	% Tested Students			
								LEP	Sp.Ed.	New	F/R
TOTAL		60,275	70 (58) [66]	78 (68) [78]	95 (90) [97]	1,672	97	7	14	3	32
GENDER	**Female**	29,364	78 (68) [74]	85 (77) [84]	97 (94) [98]	1,758	98	7	10	3	32
	Male	30,893	62 (49) [59]	71 (60) [72]	93 (86) [95]	1,590	97	7	19	3	32
ETHNICITY	**Asian**	3,412	64 (52) [58]	74 (62) [72]	95 (87) [95]	1,616	98	55	9	4	64
	Black	4,805	48 (36) [42]	59 (45) [55]	88 (76) [89]	1,470	95	11	20	10	77
	Hispanic	2,827	49 (38) [47]	59 (48) [60]	88 (79) [91]	1,456	95	54	15	8	75
	Am. Indian	1,236	49 (37) [46]	60 (48) [61]	91 (79) [93]	1,483	96	5	21	8	72
	White	47,856	74 (62) [70]	82 (72) [82]	97 (92) [98]	1,715	98	1	14	2	21
LEP		4,287	43 (30) [40]	55 (40) [55]	87 (75) [88]	1,410	96	—	12	7	85
SPECIAL ED		7,911	38 (27) [36]	47 (36) [49]	81 (67) [86]	1,374	88	6	—	4	45
NEW TO DISTRICT		1,621	48 (42) [56]	59 (51) [69]	88 (80) [94]	1,459	91	18	18	—	67
MIGRANTS		181	29 (19) [39]	43 (28) [53]	80 (66) [87]	1,283	83	78	14	9	92
F/R LUNCH		19,007	53 (41) [50]	64 (51) [64]	91 (81) [93]	1,510	96	19	20	6	—
ATTENDANCE RATE	**95–100%**	42,800	72 (61) [68]	80 (70) [80]	96 (91) [97]	1,699	98	7	13	1	27
	90–94%	11,520	66 (55) [64]	75 (65) [76]	94 (88) [96]	1,640	97	6	17	3	38
	0–89%	2,877	57 (43) [51]	66 (54) [64]	90 (81) [92]	1,547	92	7	24	6	60
MIDYEAR SCHOOL TRANSFERS	**0**	53,991	72 (60) [67]	80 (69) [79]	96 (91) [97]	1,690	98	6	14	1	29
	1	2,886	53 (41) [50]	63 (51) [64]	90 (80) [90]	1,508	95	18	19	8	68
	2 or more	340	42 (27) [34]	55 (35) [45]	84 (70) [86]	1,412	92	12	31	17	89
STRATA	**Mpls/St. Paul**	6,148	53 (41) [48]	63 (51) [62]	90 (80) [91]	1,507	96	28	18	5	72
	TC Suburbs	25,595	78 (66) [71]	84 (75) [81]	97 (93) [97]	1,756	98	6	13	3	19
	Outstate: 2000+	13,673	70 (59) [68]	79 (69) [80]	96 (90) [98]	1,663	97	4	15	3	31
	Outstate: 2000-	13,768	64 (53) [65]	74 (64) [79]	95 (89) [97]	1,612	97	3	15	2	37
CHARTER		930	48 (36) [42]	58 (45) [59]	87 (78) [93]	1,470	95	20	14	6	60
PRIVATE SCHOOLS		1,356	72 (56) [69]	80 (67) [82]	96 (90) [97]	1,692	—	—	—	—	—

Note: Percentages in parentheses ( ) are for the year 2003. Percentages in square brackets [ ] are for the year 2002.

Table 5.6 2004 Grade 7: *Minnesota Comprehensive Assessment* Results in Reading

		No. Tested	% At or Above Level 4	% At or Above Level 3	% At or Above Level 2	Prof. Index	Mean Scale Score	% Enr. Stu. Tested	% Tested Students			
									LEP	Sp.Ed.	New	F/R
TOTAL		63,753	39	70	95	80	1,461	98	6	13	2	30
GENDER	**Female**	30,967	43	74	96	84	1,474	98	5	9	2	30
	Male	32,777	34	66	93	77	1,449	97	6	18	3	30
ETHNICITY	**Asian**	3,371	21	48	91	**68**	1,416	98	52	9	3	64
	Black	4,738	12	35	81	**56**	1,380	96	11	22	7	77
	Hispanic	2,566	15	39	81	**58**	1,388	96	47	15	6	73
	Am. Indian	1,483	17	46	89	**64**	1,405	94	0	21	7	67
	White	51,480	44	77	97	85	1,477	98	0	12	2	20
LEP		3,688	5	21	76	**47**	1,353	97	—	12	5	86
SPECIAL ED		7,748	9	28	74	**46**	1,360	89	5	—	4	47
NEW TO DISTRICT		1,449	18	47	84	**61**	1,399	92	11	21	—	57
MIGRANTS		169	5	17	70	**38**	1,345	89	71	12	6	93
F/R LUNCH		18,864	18	47	87	**65**	1,406	96	17	21	5	—
ATTEN-DANCE RATE	**95–100%**	41,728	42	73	96	83	1,470	99	6	11	1	25
	90–94%	13,442	35	67	94	79	1,452	98	5	16	2	34
	0–89%	4,603	25	53	88	**66**	1,419	93	6	25	5	56
MIDYEAR SCHOOL TRANSFERS	**0**	56,838	40	72	95	82	1,466	98	5	13	1	28
	1	2,570	18	45	84	**62**	1,398	95	16	22	6	66
	2 or more	365	9	28	72	**46**	1,357	90	11	41	16	82
STRATA	**Mpls/St. Paul**	6,220	19	42	84	**61**	1,399	96	27	18	4	72
	TC Suburbs	26,582	45	76	96	85	1,477	98	4	12	2	18
	Outstate: 2000+	14,902	39	72	95	82	1,464	98	3	14	2	28
	Outstate: 2000-	15,114	36	69	95	80	1,457	97	2	13	2	35
CHARTER		768	30	56	88	**70**	1,430	97	15	20	6	50
PRIVATE SCHOOLS		855	37	68	91	79	1,452	—	—	—	—	—

Note: The AYP school target for Grade 7 Reading is 75. Proficiency indexes in **bold face type** are below the AYP target.

Tables 5.6 and 5.7 (pp. 61–62) show the 7th grade *MCA* results in reading and mathematics for all public schools tested and for all participating private schools. More than 63,500 students were tested in all public schools for both reading and mathematics, or 98% of all students enrolled. In the reading test, 95% of students reached Level 2 or above, but only 70% reached Level 3, the AYP student target for reading. In the mathematics test, 93% reached Level 2 or above, but only 67% reached Level 3 or above.

All of the ethnic minority subgroups fell below the required AYP proficiency index. Only White students had a proficiency index above the target for reading or mathematics. Students with LEP, students in special education, students new to their districts, migrant students, and low income students failed to reach the target. Similarly, students with the lowest attendance rates, students with one or more midyear school transfers, and students in large urban schools and charter schools also fell below the target for both subjects.

Table 5.7 2004 Grade 7: *Minnesota Comprehensive Assessment* Results in Mathematics

		No. Tested	% At or Above Level 4	% At or Above Level 3	% At or Above Level 2	Prof. Index	Mean Scale Score	% Enr. Stu. Tested	% Tested Students			
									LEP	Sp.Ed.	New	F/R
TOTAL		63,681	28	67	93	78	1,452	98	6	13	2	30
GENDER	**Female**	30,907	28	68	94	80	1,454	98	5	9	2	30
	Male	32,764	28	66	92	77	1,451	97	6	18	3	30
ETHNICITY	**Asian**	3,376	18	53	91	**71**	1,431	98	52	9	3	64
	Black	4,735	6	28	76	**50**	1,384	96	11	22	7	77
	Hispanic	2,566	8	37	83	**57**	1,400	96	47	15	6	73
	Am. Indian	1,469	7	39	83	**57**	1,401	93	0	21	7	67
	White	51,417	32	74	96	83	1,464	98	0	12	2	20
LEP		3,691	3	26	79	**51**	1,384	97	—	12	5	86
SPECIAL ED		7,740	6	25	72	**44**	1,380	89	5	—	4	47
NEW TO DISTRICT		1,450	10	39	80	**55**	1,402	92	11	21	—	56
MIGRANTS		169	2	22	78	**45**	1,378	89	71	12	6	93
F/R LUNCH		18,857	10	43	85	**62**	1,408	96	17	21	5	—
ATTENDANCE RATE	**95–100%**	41,676	31	72	95	82	1,462	98	6	11	1	25
	90–94%	13,433	23	62	92	75	1,443	98	5	16	2	34
	0–89%	4,595	14	45	84	**60**	1,413	93	6	25	5	56
MIDYEAR SCHOOL TRANSFERS	**0**	56,773	29	69	94	80	1,456	98	5	13	1	28
	1	2,561	10	39	82	**58**	1,403	95	16	22	6	66
	2 or more	370	4	23	69	**43**	1,372	91	11	41	15	82
STRATA	**Mpls/St. Paul**	6,222	13	40	82	**59**	1,407	96	27	18	4	72
	TC Suburbs	26,529	34	73	95	83	1,467	98	4	12	2	18
	Outstate: 2000+	14,886	28	68	94	80	1,454	98	3	14	2	28
	Outstate: 2000-	15,108	23	66	94	78	1,446	97	2	13	2	35
CHARTER		770	19	49	85	**65**	1,423	97	15	20	6	50
PRIVATE SCHOOLS		856	25	60	87	73	1,439	—	—	—	—	—

Note: The AYP school target for Grade 7 Math is 73. Proficiency indexes in **bold face type** are below the AYP target.

STATEWIDE TRENDS ON HIGH SCHOOL GRADUATION TESTS

For the class of 2001 and beyond, any student scoring at least 600 (approximately 75% of the items correct) on the *Basic Skills Test (BST)* meets this high school requirement (mastery of basic skills). Students who do not meet the minimum graduation standard in reading or mathematics on their first attempt in 8th grade will have additional opportunities to retake the test in later grades. Tables 5.8 and 5.9 (pp. 63–64) show the 8th grade *BST* results in reading and mathematics for all public school students tested. Table 5.10 (p. 65) shows the public school results for the 10th grade writing test. The tables also include data for students in those private schools that participated in the testing on a voluntary basis; however, students from the participating private schools may or may not be representative of all private school students. For public school students, these tests provide the first opportunity to pass the required high school graduation tests. Private school students are not required to pass the state's high school graduation tests.

More than 65,500 public school 8th graders participated in the reading and mathematics tests, and more than 64,800 students participated in the writing exams—or 97% of all 8th and 10th graders enrolled on the day of the tests. In other words, almost all students are taking the tests.

Table 5.8 2004 Grade 8: *Basic Skills Test* Results in Reading for All Public School Students Tested

		No. Tested	% Meeting Minimum Standard			Mean No. Correct	Mean Scale Score	% Enr. Stu. Tested	% Tested Students			
									LEP	Sp.Ed.	New	F/R
TOTAL		65,553	81	(81)	[80]	34	646	97	5	13	2	28
GENDER	**Female**	31,975	84	(83)	[83]	35	651	98	5	8	2	28
	Male	33,564	79	(79)	[77]	33	641	97	6	17	2	28
ETHNICITY	**Asian**	3,460	63	(62)	[61]	31	619	98	48	10	3	63
	Black	4,601	50	(49)	[46]	28	600	95	12	21	7	76
	Hispanic	2,357	52	(55)	[52]	29	605	95	44	14	6	66
	Am. Indian	1,332	56	(59)	[54]	29	609	94	1	22	8	67
	White	53,206	87	(87)	[86]	35	654	98	0+	12	2	19
LEP		3,442	36	(35)	[31]	26	583	95	—	12	5	84
SPECIAL ED		7,671	40	(42)	[40]	26	588	90	5	—	5	45
NEW TO DISTRICT		1,525	60	(59)	[64]	30	613	92	10	24	—	60
MIGRANTS		156	38	(28)	[26]	26	588	98	71	8	4	88
F/R LUNCH		17,856	61	(60)	[59]	30	613	95	16	21	5	—
ATTENDANCE RATE	**95–100%**	42,019	85	(85)	[84]	35	652	98	5	10	1	22
	90–94%	14,807	79	(79)	[79]	34	642	97	5	14	2	31
	0–89%	5,828	64	(65)	[63]	30	618	93	7	25	7	56
MIDYEAR SCHOOL TRANSFERS	**0**	59,438	83	(83)	[82]	34	649	98	5	12	1	25
	1	2,728	57	(56)	[55]	29	609	94	15	22	8	66
	2 or more	488	41	(41)	[42]	26	590	90	9	44	25	82
STRATA	**Mpls/St. Paul**	6,180	55	(55)	[54]	29	609	95	26	17	3	70
	TC Suburbs	27,514	86	(86)	[85]	35	654	97	4	11	2	17
	Outstate: 2000+	15,348	83	(83)	[82]	34	648	98	3	13	2	26
	Outstate: 2000-	15,652	82	(82)	[81]	34	645	98	1	13	2	32
CHARTER		705	61	(65)	[68]	30	619	96	14	19	5	49
PRIVATE SCHOOLS		5,027	90	(94)	[93]	36	666	—	—	—	—	—

Note: Percentages given for achievement (% Meeting Minimum Standard) correspond to the following: Percentages in plain text = 2004 percentage; text in parentheses ( ) = 2003 percentage; text in square brackets [ ] = 2002 percentage.

Table 5.9 2004 Grade 8: *Basic Skills Test* Results in Mathematics for All Public School Students Tested

		No. Tested	% Meeting Minimum Standard	Mean No. Correct	Mean Scale Score	% Enr. Stu. Tested	% Tested Students			
							LEP	Sp.Ed.	New	F/R
TOTAL		65,645	71 (72) [74]	60	631	97	5	13	2	28
GENDER	**Female**	32,011	69 (72) [74]	59	627	98	5	8	2	28
	Male	33,621	73 (72) [75]	61	635	97	6	17	2	28
ETHNICITY	**Asian**	3,475	58 (61) [62]	57	617	98	48	10	3	63
	Black	4,619	31 (33) [33]	47	579	95	12	21	7	76
	Hispanic	2,357	38 (43) [43]	50	589	95	44	14	6	66
	Am. Indian	1,354	43 (43) [46]	51	593	95	1	22	8	67
	White	53,245	78 (78) [80]	62	640	98	0+	12	2	19
LEP		3,449	29 (34) [32]	47	578	96	—	12	5	84
SPECIAL ED		7,678	29 (30) [33]	45	574	90	5	—	5	45
NEW TO DISTRICT		1,530	43 (44) [55]	51	595	92	10	24	—	60
MIGRANTS		152	26 (30) [22]	47	577	95	71	8	4	88
F/R LUNCH		17,898	47 (49) [52]	53	599	96	16	21	5	—
ATTENDANCE RATE	**95–100%**	42,022	77 (78) [80]	62	639	98	5	10	1	22
	90–94%	14,840	67 (69) [72]	59	625	98	5	14	2	31
	0–89%	5,845	49 (50) [52]	53	599	93	7	25	7	56
MIDYEAR SCHOOL TRANSFERS	**0**	59,486	74 (75) [77]	61	634	98	5	12	1	25
	1	2,736	42 (42) [45]	51	593	94	15	22	8	66
	2 or more	485	27 (25) [30]	45	573	89	9	44	25	82
STRATA	**Mpls/St. Paul**	6,192	42 (46) [48]	51	595	96	26	17	3	70
	TC Suburbs	27,556	76 (75) [79]	61	638	98	4	11	2	17
	Outstate: 2000+	15,362	74 (74) [77]	61	634	98	3	13	2	26
	Outstate: 2000-	15,663	73 (74) [76]	60	632	98	1	13	2	32
CHARTER		718	49 (58) [57]	53	604	98	14	19	5	49
PRIVATE SCHOOLS		5,027	81 (85) [85]	63	645	—	—	—	—	—

Note: Percentages given for achievement (% Meeting Minimum Standard) correspond to the following: Percentages in plain text = 2004 percentage; text in parentheses ( ) = 2003 percentage; text in square brackets [ ] = 2002 percentage.

Figure 5.3 Percentage of Grade 8 and Grade 10 Students Meeting High School Graduation Standards in Reading, Mathematics, and Writing, by School Year: 2000–04

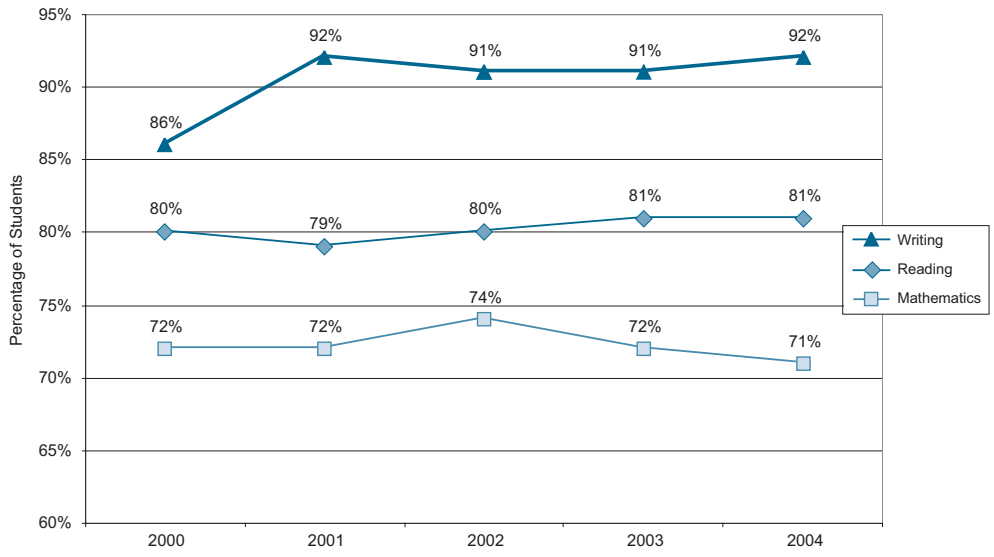


Figure 5.3 shows the trend in 8th grade reading and mathematics pass rates and the 10th grade writing results for each of the past five years. In reading, the overall percentage of students passing stayed the same from 2003 to 2004 (81%). The mathematics pass rate fell slightly, from 72% in 2003 to 71% in 2004. The percentage of students passing the writing test fell from 91% in 2003 to 89% in 2004. The mathematics test remains the most difficult high school graduation examination for students to pass on their first attempt. It follows that improvement of students' basic skills in mathematics requires the most attention. Not only are the initial pass rates lower in mathematics than in reading or writing, but also pass rates in mathemat-

Table 5.10 2004 Grade 10: *Basic Skills Test* Results in Writing for All Public School Students Tested

		No. Tested	% Meeting Minimum Standard			Mean Scale Score	% Enr. Stu. Tested	% Tested Students			
								LEP	Sp.Ed.	New	F/R
TOTAL		64,828	89	(91)	[91]	3.09	97	5	12	3	24
GENDER	Female	31,484	92	(94)	[94]	3.19	97	5	8	3	24
	Male	33,309	86	(87)	[88]	2.99	97	5	16	3	24
ETHNICITY	Asian	3,387	82	(80)	[80]	2.97	98	41	8	3	56
	Black	4,016	64	(66)	[62]	2.56	93	15	20	8	71
	Hispanic	2,003	64	(66)	[70]	2.54	93	41	14	7	62
	Am. Indian	1,135	74	(80)	[81]	2.63	90	0+	25	9	58
	White	53,648	93	(94)	[94]	3.17	98	0+	11	2	16
LEP		2,964	53	(48)	[48]	2.39	94	—	8	6	82
SPECIAL ED		7,254	59	(63)	[63]	2.41	90	3	—	6	40
NEW TO DISTRICT		1,613	66	(74)	[78]	2.50	90	10	29	—	54
MIGRANTS		94	50	(49)	[51]	2.29	90	68	11	2	88
F/R LUNCH		15,174	75	(77)	[77]	2.74	94	16	20	6	—
ATTENDANCE RATE	95-100%	40,970	93	(94)	[94]	3.20	99	4	9	1	19
	90-94%	13,634	89	(91)	[91]	3.06	97	4	14	2	26
	0-89%	6,916	75	(81)	[82]	2.71	92	7	24	8	47
MIDYEAR SCHOOL TRANSFERS	0	57,883	92	(93)	[93]	3.15	98	4	11	1	21
	1	2,840	69	(74)	[72]	2.61	92	16	23	10	59
	2 or more	797	61	(67)	[68]	2.41	88	8	42	25	71
STRATA	Mpls/St. Paul	5,687	72	(73)	[72]	2.73	95	27	14	4	63
	TC Suburbs	26,779	91	(93)	[93]	3.18	97	3	11	2	14
	Outstate 2000+	15,593	90	(92)	[92]	3.07	97	3	13	2	23
	Outstate 2000-	15,655	91	(92)	[93]	3.10	98	1	13	2	28
CHARTER		935	75	(77)	[82]	2.80	97	6	17	16	47
PRIVATE SCHOOLS		2,400	91	(97)	[97]	3.28	—	—	—	—	—

Note: Percentages given for achievement (% Meeting Minimum Standard) correspond to the following: Percentages in plain text = 2004 percentage; text in parentheses ( ) = 2003 percentage; text in square brackets [ ] = 2002 percentage.

ics have decreased by 1% since 2000, whereas pass rates for reading and writing are higher than those recorded in 2000 (by 1% and 3%, respectively).

STATEWIDE RESULTS ON THE *MCAs* IN READING AND MATHEMATICS FOR HIGH SCHOOL STUDENTS

Tables 5.11 and 5.12 (pp. 66–67) show the 10th and 11th grade *MCA* results in reading and mathematics for all public school students, and for all private school students who participated in testing on a voluntary basis (as with the other private school test-takers, it cannot be assumed that these students are representative of all private school students). Since the performance levels were changed in 2003–04, results cannot be compared to those years prior to 2002–03, and therefore only the 2003–04 percentages appear in Tables 5.11 and 5.12. (For more details on the high school performance levels, see Appendix B, beginning on p. 107, which contains the Minnesota Department of Education's reading and mathematics achievement level descriptive grids.)

More than 64,500 public school 10th graders attempted the reading test, or 96% of all public school students enrolled on the day of testing. This is a slightly higher participation rate than the 94% who attempted the test last year. Ninety-five percent of the students scored at or above Level 2, and 78% scored at or above Level 3. As Table 5.11 shows, various student

subgroups were below the target for reading (Asian, Black, Hispanic, and American Indian students, and students with limited English proficiency [LEP], special education students, students who were new to their districts, migrant students, and students receiving free or reduced-price lunch).

Results were below the target for students in the lowest attendance category. Students with one or more midyear transfers between schools fell below the target for reading. Students in large urban districts (Minneapolis and St. Paul), students in charter schools, and students in participating private schools also fell below the target in reading.

Table 5.11 2004 Grade 10: *Minnesota Comprehensive Assessment* Results in Reading

		No. Tested	% At or Above Level 4	% At or Above Level 3	% At or Above Level 2	Prof. Index	Mean Scale Score	% Enr. Stu. Tested	% Tested Students			
									LEP	Sp.Ed.	New	F/R
TOTAL		64,582	42	78	95	83	1,588	96	5	12	3	25
GENDER	**Female**	31,418	46	83	96	86	1,618	96	5	8	3	25
	Male	33,136	38	74	93	80	1,561	96	5	16	4	25
ETHNICITY	**Asian**	3,396	26	66	93	**77**	1,512	96	42	8	5	57
	Black	4,032	12	41	78	**53**	1,373	89	16	20	11	72
	Hispanic	2,078	14	46	83	**59**	1,404	92	43	14	8	63
	Am. Indian	1,128	20	58	88	**65**	1,458	89	0+	24	11	57
	White	53,350	47	84	97	88	1,621	97	0+	11	2	16
LEP		3,145	3	31	78	**51**	1,325	93	—	8	8	81
SPECIAL ED		7,012	8	34	77	**48**	1,347	87	4	—	7	41
NEW TO DISTRICT		1,916	14	47	83	**56**	1,404	86	13	27	—	55
MIGRANTS		107	7	34	79	**50**	1,340	90	66	8	10	82
F/R LUNCH		15,180	20	57	87	**67**	1,457	92	17	20	7	—
ATTENDANCE RATE	**95–100%**	40,855	47	84	97	89	1,624	98	4	9	1	19
	90–94%	13,551	38	76	94	82	1,569	96	4	14	3	27
	0–89%	6,701	23	59	88	**65**	1,470	89	8	24	9	48
MIDYEAR SCHOOL TRANSFERS	**0**	57,587	44	81	96	86	1,607	97	4	11	2	21
	1	2,779	16	49	84	**60**	1,417	90	17	23	12	60
	2 or more	741	8	38	78	**48**	1,356	82	10	41	28	74
STRATA	**Mpls/St. Paul**	5,794	21	52	83	**62**	1,442	91	28	15	6	65
	TC Suburbs	26,539	47	82	96	87	1,620	97	3	11	3	14
	Outstate: 2000+	15,521	43	80	95	85	1,596	96	3	12	3	22
	Outstate: 2000-	15,544	40	81	96	86	1,590	97	1	13	3	27
CHARTER		1,007	22	55	85	**57**	1,448	81	8	15	22	52
PRIVATE SCHOOLS		721	12	45	86	**66**	1,405	—	—	—	—	—

Note: The AYP school target for Grade 10 Reading is 80. Proficiency indexes in **bold face type** are below the AYP target.

Table 5.12 (p. 67) shows the 11th grade results in mathematics for public school students and for various subgroups of public school students. More than 60,500 students attempted the test, 95% of the students enrolled on the day of testing. This is well above the percentage who attempted the test last year (90%), and equals the 95% participation required under NCLB. Ninety-six percent of the students attempting the math test scored at or above Level 2. By 2013–14, the goal is to have all students scoring at or above Level 3. In the current year, 29% of those attempting the test scored below the expected level (Level 3). Various student groups were below the target for mathematics: Black, Hispanic, and American Indian students, LEP students, special education students, students new to their district, migrant students, and students eligible for free and reduced-price lunch. Students in the lowest attendance category fell below the target. Students with one or more midyear transfers between schools also fell below the target. Students in large urban districts (Min-

neapolis and St. Paul), charter schools, and participating private schools also fell below the target in mathematics.

Mathematics test results, predictably, are related to students' exposure to mathematics before they take the test. Figure 5.4 (p. 68) shows how the mean scale score on the 11th grade *MCA* math test varies with the highest-level math course the student has taken. From lowest to highest, we have ranked the highest reported math course categories as follows: Algebra I, Geometry, Algebra II, Pre-calculus, and Calculus. Some aspects of this ordering are debatable. For instance, Geometry may be taught at just as high a level as Algebra II, though most students seem to take Algebra II after completing Geometry. Also, we have called the last category "Calculus"; however, the category includes Calculus, Advanced Placement Calculus, Advanced Placement Statistics, and the International Baccalaureate Higher Level Mathematics courses. Only Calculus and AP Calculus in this highest category are clearly above Pre-calculus.

Despite these questions concerning the ranking of math course categories, Figure 5.4 shows that the mean scale score increases as a function of highest course taken. Students stating that they completed no high school mathematics courses at a higher level than Geometry posted mean scale scores below the state average of 1539. Only students who completed Algebra II (or a course at a higher level) had mean scale scores above the state

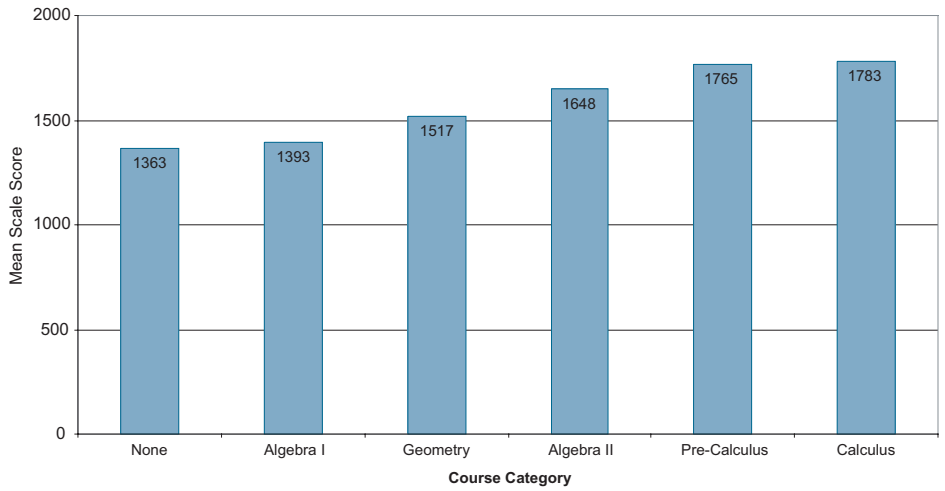
Table 5.12 2004 Grade 11: *Minnesota Comprehensive Assessment* Results in Mathematics

		No. Tested	% At or Above Level 4	% At or Above Level 3	% At or Above Level 2	Prof. Index	Mean Scale Score	% Enr. Stu. Tested	% Tested Students			
									LEP	Sp.Ed.	New	F/R
TOTAL		60,616	29	71	96	79	1,539	95	4	11	3	21
GENDER	**Female**	29,657	28	73	96	80	1,540	95	4	7	3	21
	Male	30,939	30	69	95	78	1,539	94	5	15	3	22
ETHNICITY	**Asian**	3,014	22	67	96	77	1,514	95	38	6	4	56
	Black	3,398	5	29	81	**47**	1,352	86	18	18	10	68
	Hispanic	1,558	8	40	89	**58**	1,405	90	38	13	8	56
	Am. Indian	910	11	48	90	**59**	1,426	86	1	21	8	55
	White	51,214	32	76	97	83	1,561	96	0+	11	2	14
LEP		2,558	3	30	82	**52**	1,353	92	—	7	7	81
SPECIAL ED		5,974	4	24	81	**44**	1,341	82	3	—	6	37
NEW TO DISTRICT		1,623	6	36	87	**52**	1,383	84	10	23	—	51
MIGRANTS		68	0	29	90	**58**	1,354	97	61	6	15	83
F/R LUNCH		12,288	11	47	90	**62**	1,426	90	17	20	7	—
ATTENDANCE RATE	**95–100%**	35,758	35	79	97	86	1,578	97	3	9	1	16
	90–94%	13,902	24	68	96	78	1,518	95	4	12	2	21
	0–89%	7,415	13	49	91	**61**	1,436	87	7	20	8	40
MIDYEAR SCHOOL TRANSFERS	**0**	53,900	31	74	97	82	1,554	96	3	10	1	18
	1	2,462	9	41	88	**57**	1,405	87	12	22	11	47
	2 or more	713	4	25	83	**43**	1,346	79	7	37	25	63
STRATA	**Mpls/St. Paul**	4,904	14	47	88	**60**	1,433	88	27	13	6	62
	TC Suburbs	24,804	34	76	97	83	1,569	96	3	10	3	12
	Outstate: 2000+	14,670	29	72	96	80	1,542	94	2	12	3	19
	Outstate: 2000-	15,077	25	72	97	81	1,531	96	1	11	2	23
CHARTER		1,011	9	38	88	**52**	1,401	81	6	14	18	48
PRIVATE SCHOOLS		1,135	7	36	88	**62**	1,384	—	—	—	—	—

Note: The AYP school target for Grade 11 Math is 74. Proficiency indexes in **bold face type** are below the target.

average. One way to increase the mathematics achievement of high school graduates may be to increase the highest level of mathematics course that students complete, rather than just the number of math courses completed (Davenport, et al., 1998; Singham, 2003; Teitelbaum, 2003).

Figure 5.4 Mean Scale Score on the 11th Grade Mathematics Test, by Highest Mathematics Course Category* Completed: 2003–04



** Mathematics course categories are named for the most common course that students take in the category; however, most categories include other courses considered to be at roughly the same level of difficulty. Course categories include the following: Algebra I: Algebra I, Integrated Math; Geometry: Geometry, Integrated Math II; Algebra II: Algebra II, Integrated Math III; Pre-calculus: Pre-calculus, Integrated Math IV, International Baccalaureate Math Studies; Calculus: Calculus, Advanced Placement Calculus, Advanced Placement Statistics, and International Baccalaureate Higher Level Mathematics.*

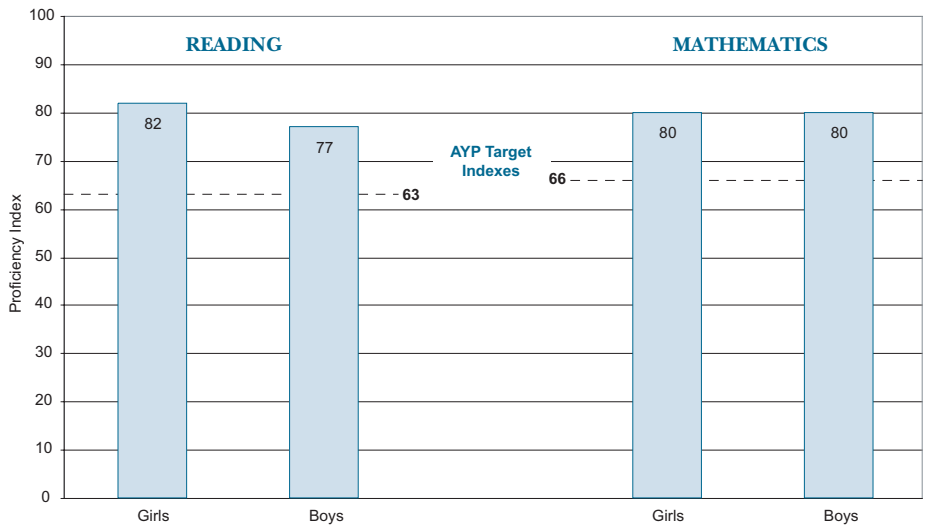
Proficiency Index and Gender

Figures 5.5–5.9 contrast the performance of boys and girls on the various Minnesota statewide assessments. Figure 5.5 shows the proficiency index in 3rd grade reading and mathematics for boys and girls. Girls have a higher proficiency index in reading and there is no difference in the mathematics proficiency indexes, but both boys and girls met the AYP targets (63 in reading; 66 in math) for this year.

Figure 5.6 (p. 69) shows the proficiency index in 5th grade reading and mathematics for boys and girls. While girls have a higher index in both reading and mathematics, boys and girls met the state's proficiency index targets in reading (70) and mathematics (65).

Figure 5.7 (p. 69) shows the proficiency index in 7th grade reading and mathematics for

Figure 5.5 Grade 3 Proficiency Indexes in Reading and Mathematics, by Gender: 2003–04



boys and girls. Again, girls have a higher proficiency index in both subjects, and boys and girls met the state's proficiency index targets in reading (75) and mathematics (73).

Figure 5.8 shows the first-time pass rates for boys and girls on the state's high school graduation tests: the 8th grade reading and mathematics tests and the 10th grade writing test. In mathematics, boys had a higher pass rate (73%) than girls (69%), but 8th grade mathematics is the only subject and grade in which boys did better than girls. In reading, 84% of the girls passed on their first try, compared to only 79% of the boys. On their first attempt at the writing test, 92% of the girls passed, compared to only 86% of the boys.

Figure 5.6 Grade 5 Proficiency Indexes in Reading and Mathematics, by Gender: 2003–04

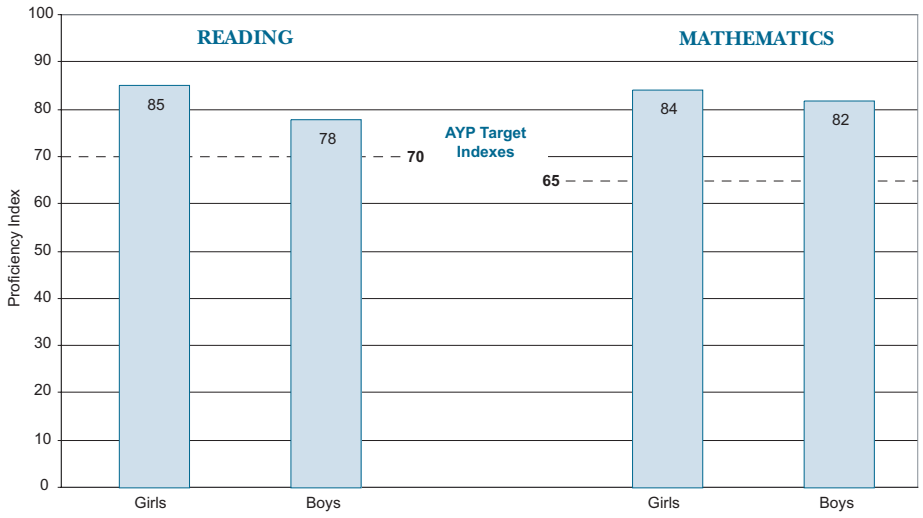


Figure 5.7 Grade 7 Proficiency Indexes in Reading and Mathematics, by Gender: 2003–04

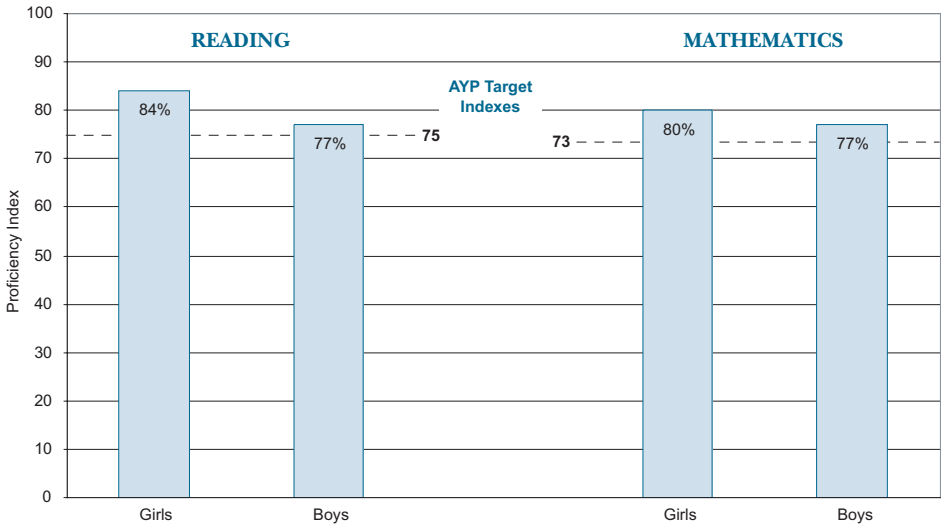


Figure 5.9 (p. 70) compares the performance of boys and girls on the 10th grade *MCA* in reading and the 11th grade *MCA* in mathematics. The average proficiency index in reading for girls (86%) was higher than that for boys (80%). In the 11th grade *MCA* in mathematics, girls also had a higher proficiency index (80% compared with 78% for boys).

In general, for all statewide tests, boys and girls are meeting the AYP targets. Several trends from past years appear in the current data. In reading and writing, girls consistently outperformed boys at every grade. However, while girls had a higher proficiency index in mathematics in 3rd, 5th, and 11th grades, more 8th grade boys passed the high school mathematics graduation test on their first try.

Figure 5.8 Percentage of Grade 8 and Grade 10 Students Meeting High School Graduation Standards in Reading, Mathematics, and Writing, by Gender: 2003–04

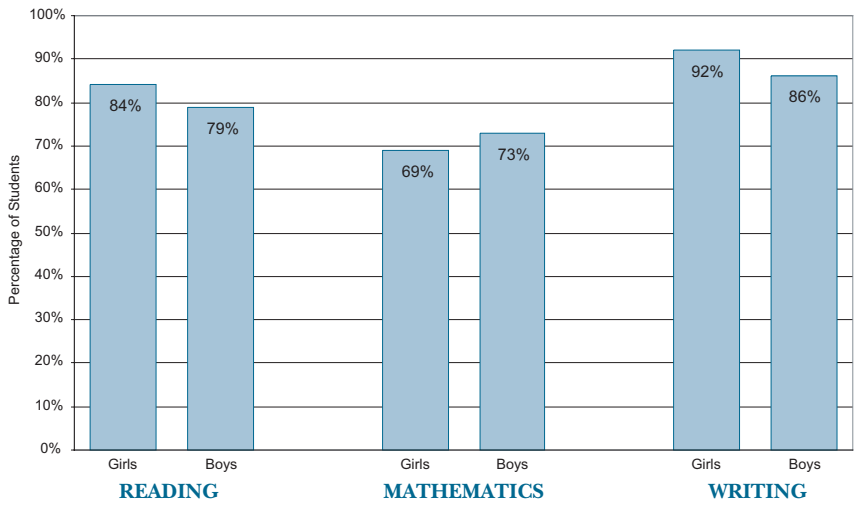
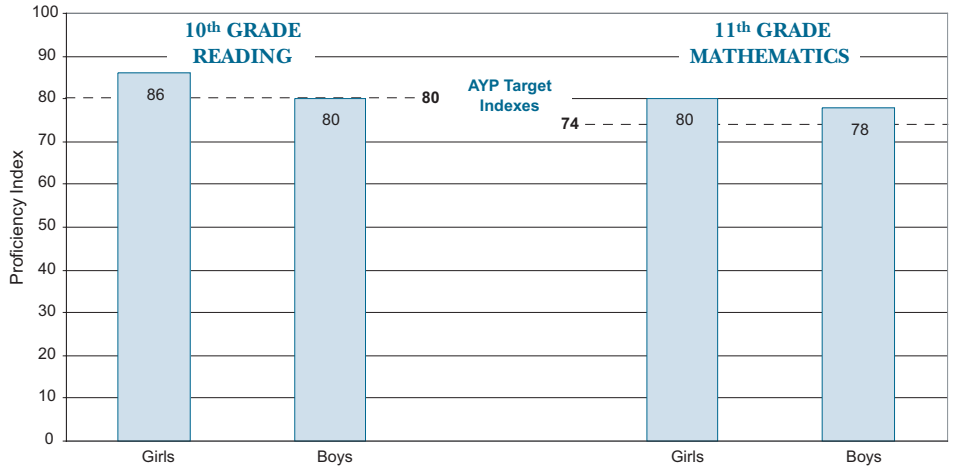


Figure 5.9 Grade 10 and Grade 11 Proficiency Indexes in Reading and Mathematics, by Gender: 2003–04



Proficiency Index and Ethnicity

Figures 5.10–5.15 show the all-too-familiar ethnic differences in achievement on the various Minnesota statewide assessments. Light-colored bars represent groups whose proficiency indexes are at or above this year's target. Darker bars represent ethnic groups whose proficiency index is below this year's target.

Figure 5.10 Grade 3 Proficiency Indexes in Reading and Mathematics, by Ethnicity: 2003–04

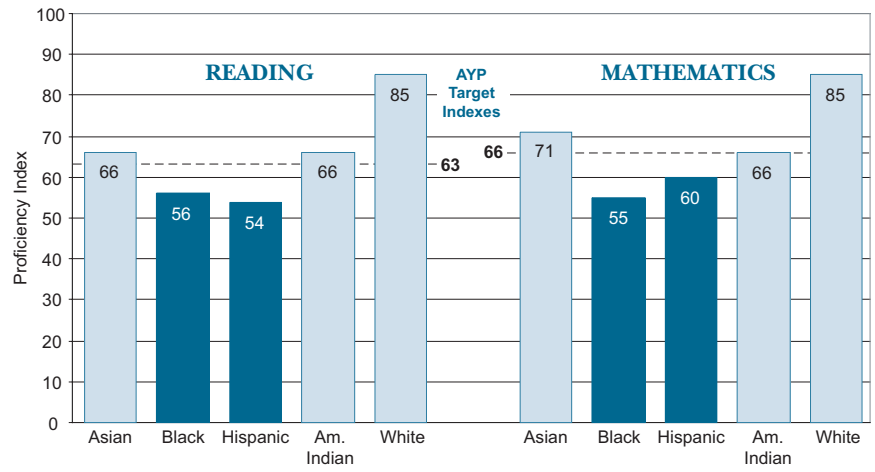
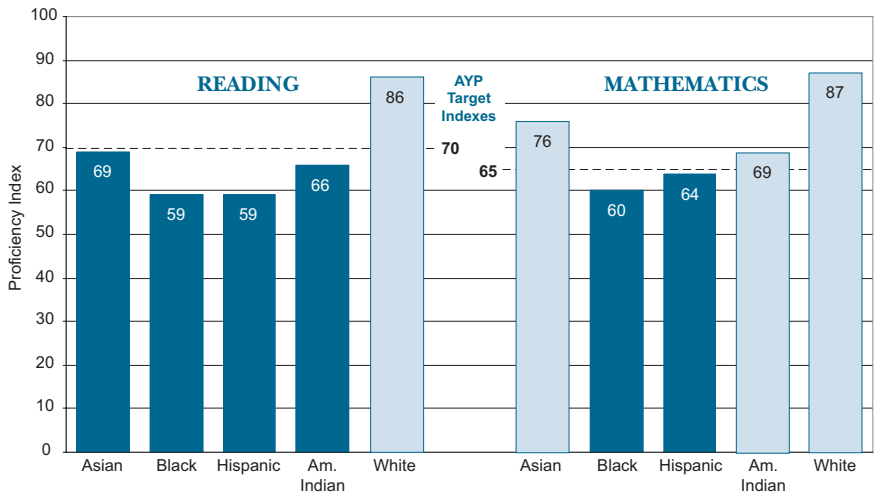


Figure 5.11 Grade 5 Proficiency Indexes in Reading and Mathematics, by Ethnicity: 2003–04



For 3rd grade reading and mathematics, Figure 5.10 shows the proficiency index for each ethnic group. Asian, American Indian, and White students all had proficiency indexes above the target for 3rd grade reading (63) and math (66). Black and Hispanic students did not. It is notable that even though more than 70% of Minnesota's American Indian test-takers were eligible for free or reduced-price lunch, and more than 50% of the Asian test-takers were in limited English proficiency programs, both Asian and American Indian students had proficiency indexes above this year's state target for 3rd grade. However, it should also be noted that poverty rates are highest for the two ethnic groups who did not meet the AYP targets: 76% for Black and Hispanic students, compared with 71% for American Indian students, 59% for Asian students, and 21% for White students (see Tables 5.1 and 5.2, pp. 55–56).

Figure 5.11 shows the proficiency index in 5th grade reading and mathematics for the five major ethnic groups. Again, lighter bars represent student groups whose proficiency indexes were at or above the state target for 5th grade reading (70) or mathematics (65). Darker bars represent groups with proficiency indexes below the target.

Only White students were above the target in reading, while in math, Asian, American Indian, and White students were above the target. Black and Hispanic students have the highest poverty rates among the ethnic groups (77% and 75%, respectively) and over half of the Hispanic students are in limited English proficiency programs (54%). Despite their high rate of poverty (72%), American Indian students reached the proficiency target in mathematics. Despite both high rates of poverty (64%) and limited English proficiency (55%), Asian students reached the proficiency index target in mathematics.

Figure 5.12 Grade 7 Proficiency Index in Reading and Mathematics, by Ethnicity: 2003–04

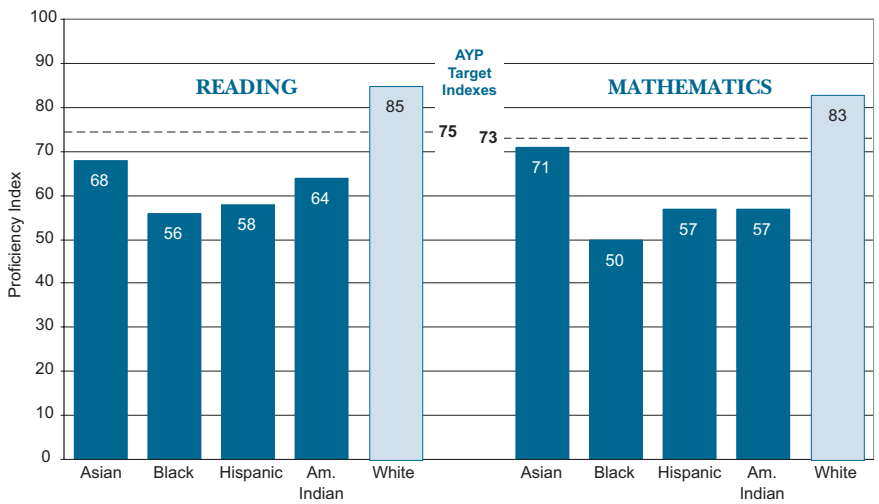
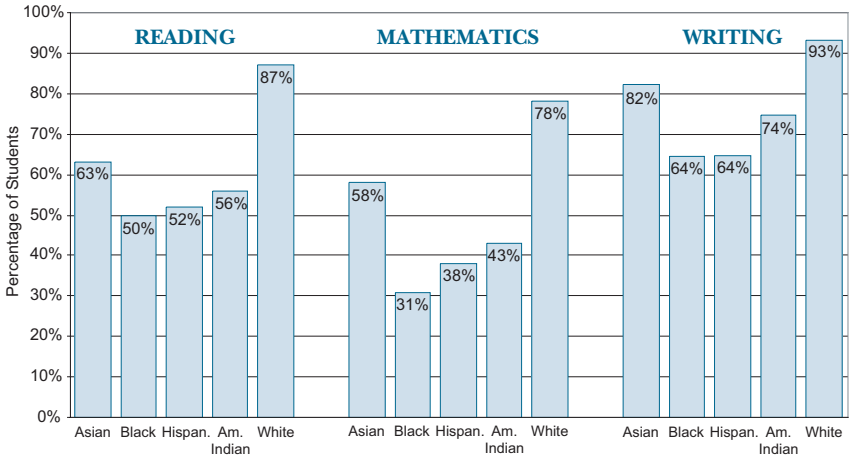


Figure 5.12 shows the proficiency index in 7th grade reading and mathematics for each of the five major ethnic groups. Again, lighter bars represent student groups whose proficiency index was at or above the state target for 7th grade reading (75) or mathematics (73). Only White students reached the target in both subjects. Students in all minority groups were below the state targets in both mathematics and reading. As with the younger students, high percentages of Black, Hispanic, American Indian, and Asian students are eligible for free or reduced-price lunch, and high percentages of Asian and Hispanic students are classified as having limited English proficiency.

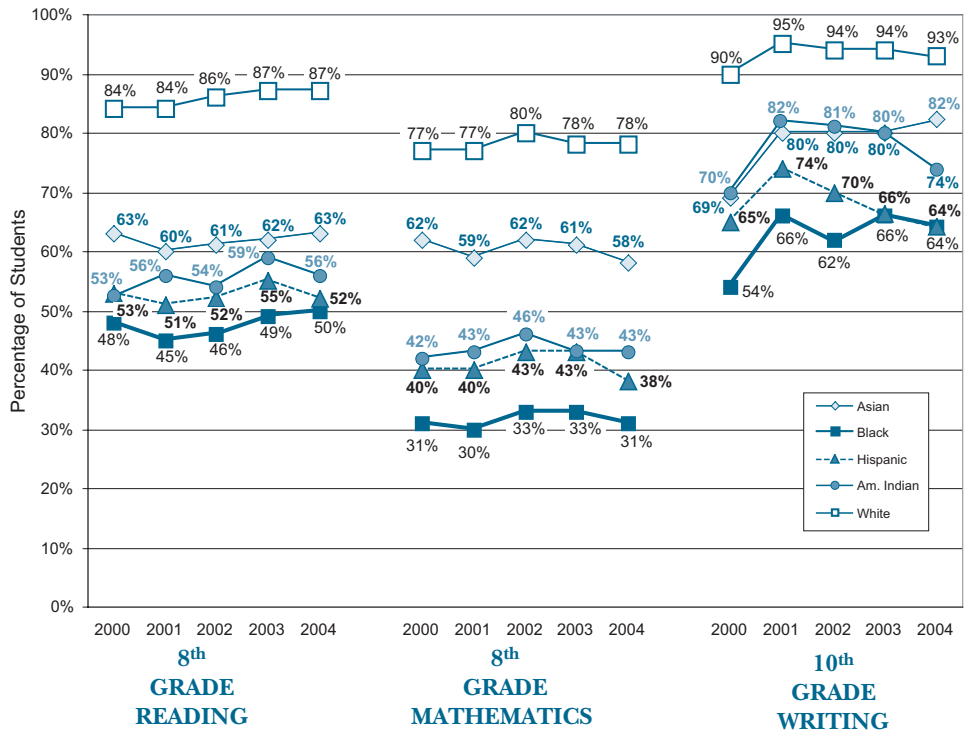
Figure 5.13 Percentage of Grade 8 and Grade 10 Students Meeting High School Graduation Standards in Reading, Mathematics, and Writing, by Ethnicity: 2003–04



This pattern of lower achievement among ethnic minority students carries on through the upper grades, as well. Figure 5.13 shows the percentage of 8th and 10th grade students passing the high school graduation tests, by ethnicity. Whites have the highest first time pass rate on all three tests (87% for reading; 78% for math; and 93% for writing), followed by Asians (63% for reading; 58% for mathematics; and 82% for writing). American Indians are in the middle, followed by Hispanics and Blacks. Students taking the writing test showed the highest percentages for all subgroups, although the pattern was the same, with Blacks and Hispanics showing the lowest first-time pass rates, Asians and Whites with the highest first-time pass rates, and American Indian students in the middle.

Figure 5.14 (p. 72) shows the changes in 8th and 10th grade pass rates on the high school graduation tests by ethnic group for the past five years. Over the first four years, pass rates increased for every ethnic group in all three subject areas, except for Asians in reading

Figure 5.14 Percentage of Students Passing the *Basic Skills Tests* in Reading, Mathematics, and Writing, by Ethnicity: 2000–04



and mathematics. That is, the pass rate in 2003 was higher than that for 2000. However, between 2003 and 2004, pass rates have declined or stayed constant for almost every group; the exceptions are Asian students in reading and writing (increases of 1% and 2% respectively), and Black students in reading(an increase of 1%). This means that for most minority students, the gaps between the highest- and lowest-achieving groups have increased somewhat between 2003 and 2004; this is the case even though there has been little or no change in White students' pass rates. Over the five year period, minority students seldom increased pass rates in reading and mathematics more than Whites, as they must if achievement gaps are to close.

Figure 5.15 Grade 10 and Grade 11 Proficiency Indexes in Reading and Mathematics, by Ethnicity: 2003–04

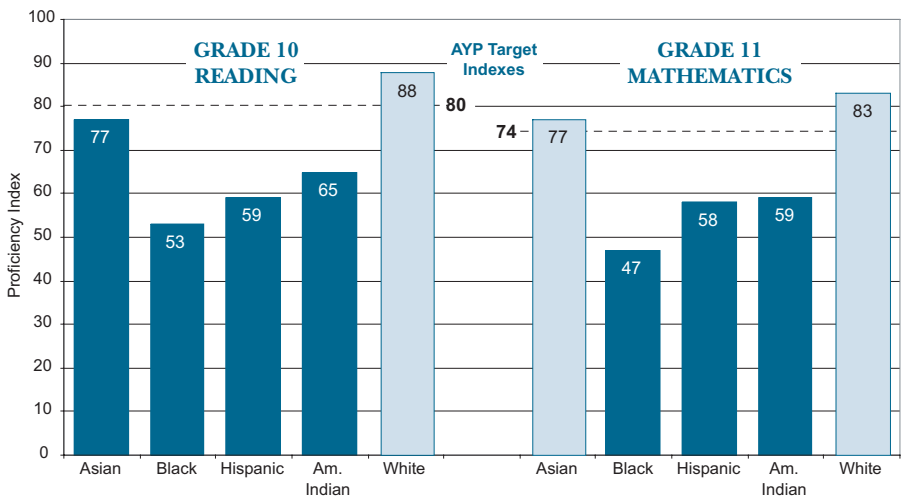


Figure 5.15 shows the proficiency indexes by ethnicity for the 10th grade *MCA* in reading and the 11th grade *MCA* in mathematics. Differences among ethnic groups are similar to those for other grades, with White students having the highest proficiency indexes, and meeting the targets, in both reading (a proficiency index of 80 or above) and math (a proficiency index of 74 or above). Asian students have the next highest proficiency indexes in both reading and math. American Indians have the third highest proficiency indexes in both subjects, but did not meet either the reading or the mathematics target. For the state overall, there are enough students

who are meeting the AYP targets to mask the much lower achievement levels of subgroups categorized by ethnicity.

Attendance

Student achievement on statewide tests also varies according to attendance level (see Figures 5.16–5.20, pp. 73–74). These differences are consistent across subject areas and grade levels; a higher attendance rate is associated with higher percentages of students reaching the target proficiency level on the 3rd and 5th grade *MCAs* in reading and mathematics. Higher attendance rates are also associated with higher pass rates on the high school graduation tests for 8th and 10th graders. And it is associated with higher levels of performances on the 10th grade reading test and the 11th grade math test. Student groups with less than a 90% attendance rate, the state target, did not meet the AYP targets in 7th, 10th, and 11th grades (see Figures 5.18, at right, and 5.20, p. 74). Improved achievement may depend, in part, on improved attendance in middle school, junior high, and high school.

Figure 5.16 Grade 3 Proficiency Indexes in Reading and Mathematics, by Attendance Rate: 2003–04

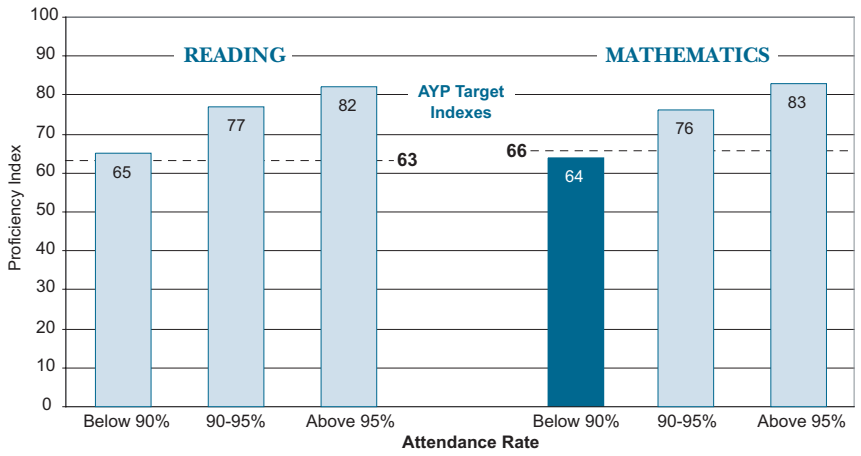


Figure 5.17 Grade 5 Proficiency Indexes in Reading and Mathematics, by Attendance Rate: 2003–04

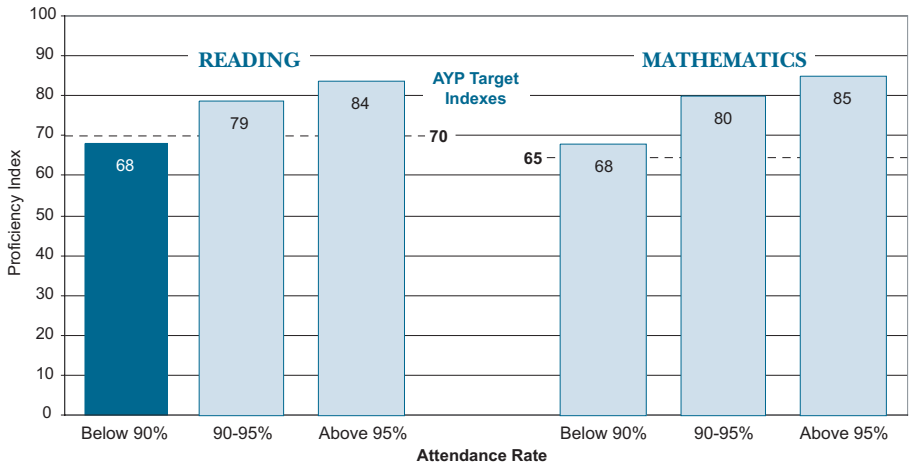


Figure 5.18 Grade 7 Proficiency Indexes in Reading and Mathematics, by Attendance Rate: 2003–04

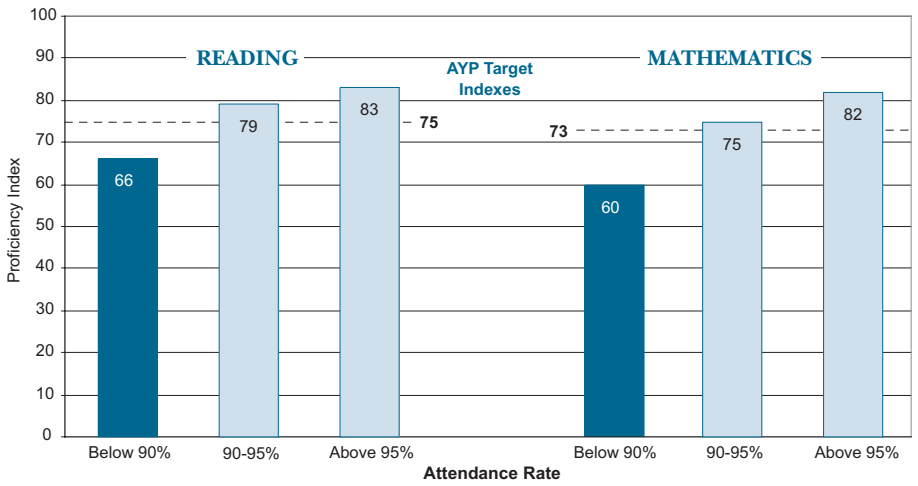


Figure 5.19 Percentage of Grade 8 and Grade 10 Students Meeting High School Graduation Standards in Reading, Mathematics, and Writing, by Attendance Rate: 2003–04

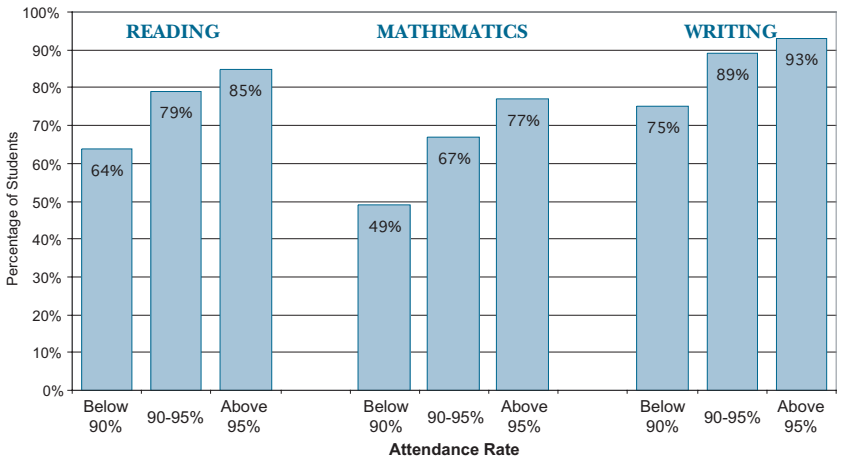


Figure 5.20 Grade 10 and Grade 11 Proficiency Indexes in Reading and Mathematics, by Attendance Rate: 2003–04

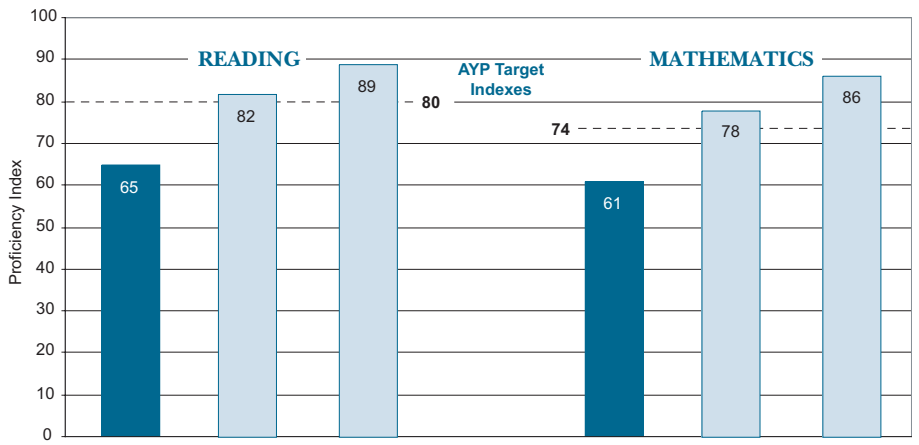
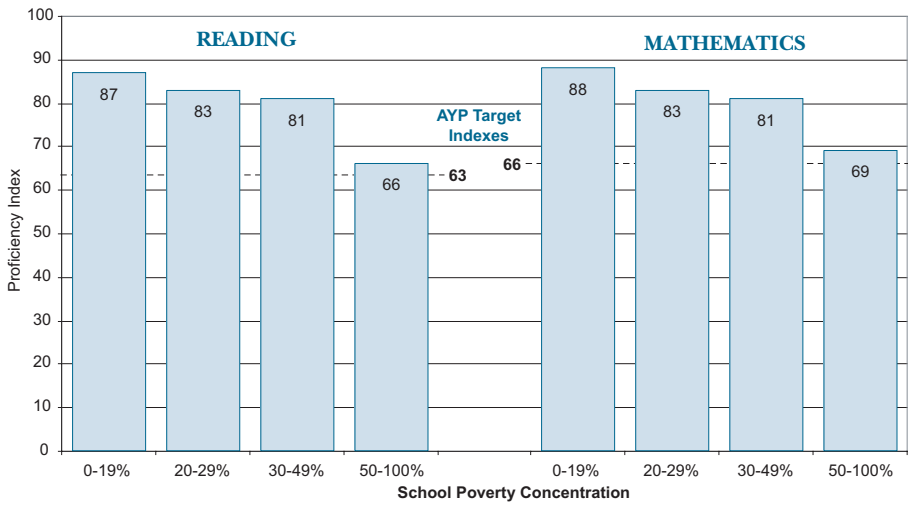


Figure 5.21 Grade 3 Proficiency Indexes in Reading and Mathematics, by School Poverty Concentration: 2003–04



Achievement and Poverty Levels

Figures 5.21–5.25 (pp. 74–76) show how student achievement varies among schools with differing poverty concentrations.[7] Schools with lower poverty concentrations display higher student achievement across all grade levels and subject areas. The proficiency index decreases most significantly in schools with poverty concentrations of 50–100% of the students in the school. At grades 7, 10, and 11, the proficiency index is below the AYP target in both reading and mathematics in schools with 50–100% poverty concentrations. For students in grades 8 and 10, the effect of student economic level on first-time pass rates on the graduation tests is similar. In the elementary grades, however, even schools with the highest poverty concentration had a proficiency index above the AYP target, except in 5th grade reading.

NOTES

[7] A school's poverty concentration is the percentage of students in the school who are eligible for free or reduced-price lunch.

Figure 5.22 Grade 5 Proficiency Indexes in Reading and Mathematics, by School Poverty Concentration: 2003–04

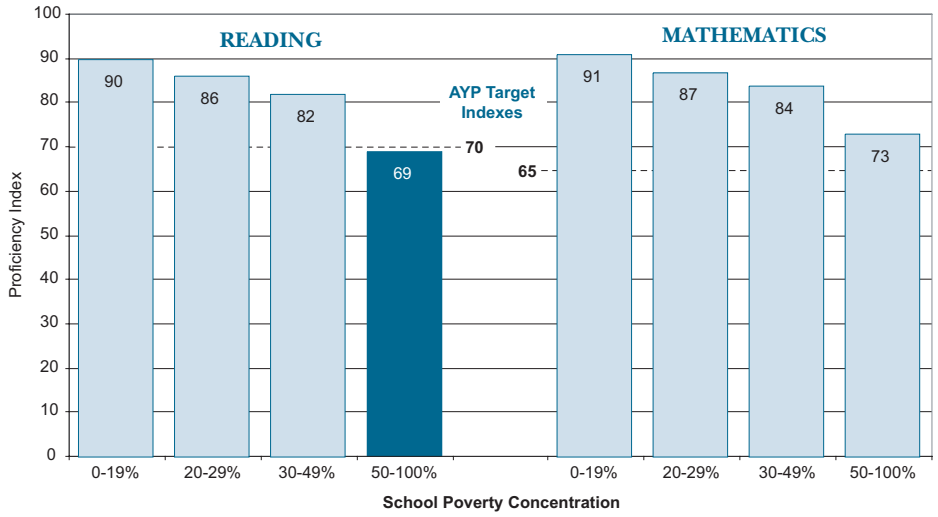


Figure 5.23 Grade 7 Proficiency Indexes in Reading and Mathematics, by School Poverty Concentration: 2003–04

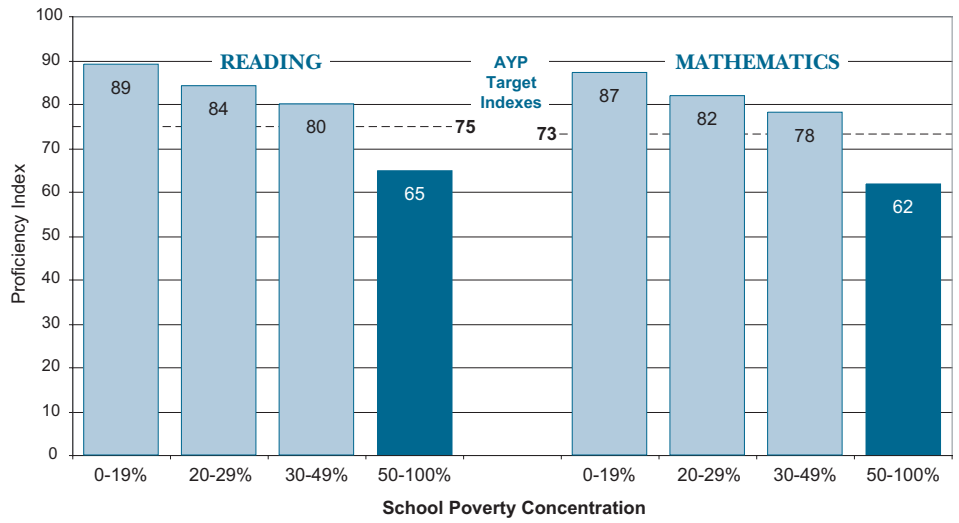


Figure 5.24 Percentage of Grade 8 and Grade 10 Students Meeting High School Graduation Standards in Reading, Mathematics, and Writing, by School Poverty Concentration: 2003–04

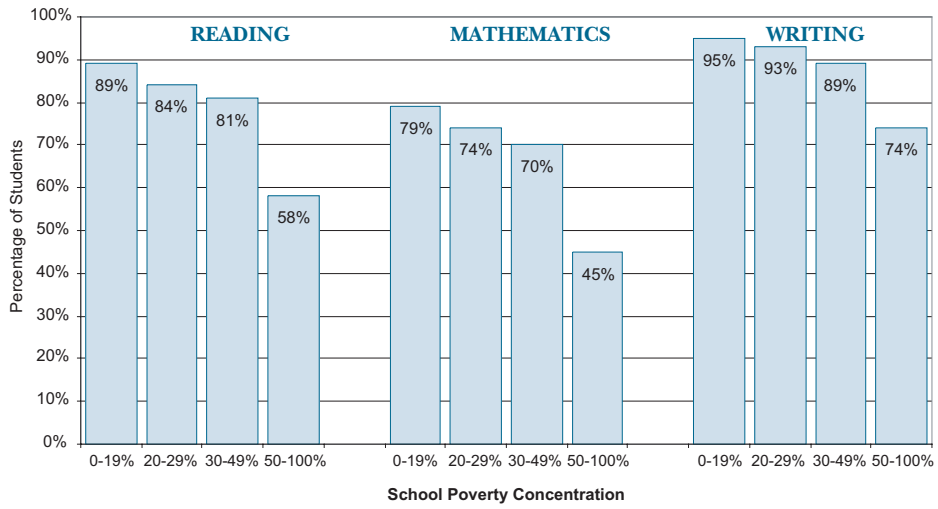
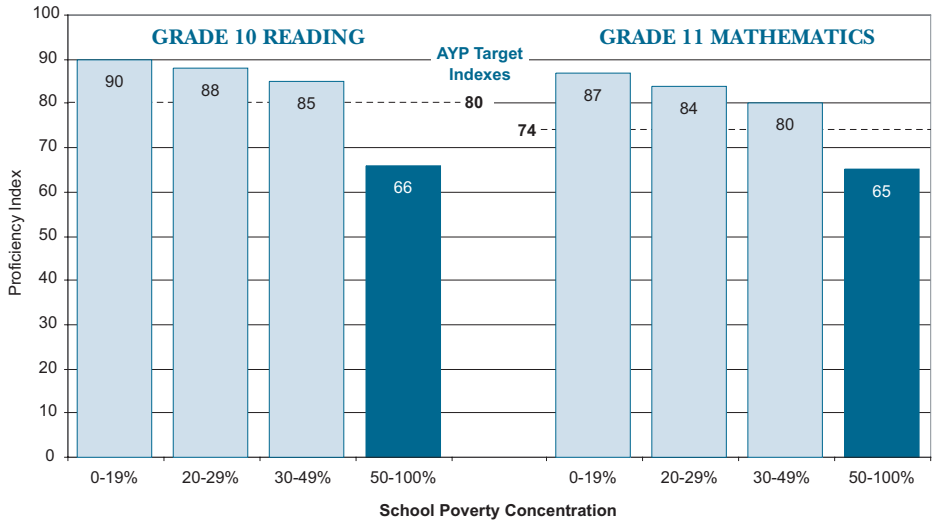


FIgure 5.25 Grade 10 and Grade 11 Proficiency Indexes in Reading and Mathematics, by School Poverty Concentration: 2003–04



THE PERFORMANCE OF MINNESOTA STUDENTS IN COLLEGE ADMISSIONS TESTING

In addition to examining data from Minnesota's 3rd, 5th, 7th, 8th, 10th, and 11th grade testing programs, it is also important to know how well Minnesota's college-bound students are performing as they approach the end of high school. College admissions exams can provide one measure of this performance. Of the two popular college admissions tests, more Minnesota students take the *ACT* (formerly known as the *American College Test)* than the *SAT* (formerly known as the *Scholastic Assessment Test)*. Therefore, we have chosen to report *ACT* scores.

Figure 5.26 shows the trend in national and Minnesota *ACT* composite scores over the past decade. The national trend shows a very small, steady increase through 1996–97, and a leveling off between 1996–97 and 2000–01. For the next two years, 2001–02 and 2002–03, the mean *ACT* composite score at the national level stayed at 20.8, and in 2003–04 it rose very slightly, to 20.9. Average composite scores for Minnesota's students varied up and down in small increments, but show an overall increase from 21.9 in 1994–95 to 22.2 in 2003–04. This year's mean *ACT* composite score tied that of 1997–98, and was the highest of the last decade. Minnesota students tied with Wisconsin's students for the highest mean composite score among states in which the ACT is the primary admissions test.

Figure 5.26 Minnesota and National *ACT* Composite Scores, by School Year: 1995–04

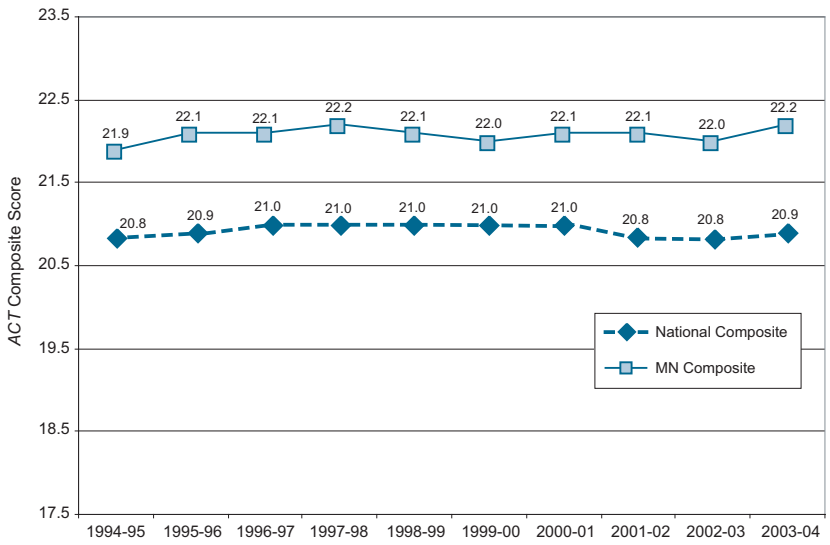


Figure 5.27 (p. 77) illustrates the association between scores on the *ACT* and completion of the ACT-recommended core courses. Minnesota students taking the *ACT* who had completed the recommended courses had an average composite score of 22.9 in 2003–04. Those who had not completed the core had a composite score of 20.6. In the four content areas covered by the *ACT* (English, mathematics, reading, and

science reasoning), students who had taken the recommended coursework had mean scores from 2.0 to 2.7 points higher than students who did not complete the suggested coursework. The association between recommended course completion and composite *ACT* score also holds for all five major ethnic groups (see Figure 5.28). Completing the recommended coursework is associated with doing well on the *ACT;* unfortunately, the percentage of test-takers completing the recommended coursework appears to be declining, if only slowly, and minority test-takers are less likely than Whites to complete the coursework (see Chapter 4, ACT Survey of Recommended Coursework Completion).

Figure 5.27 Average *ACT* Scores for Minnesota Students Who Are and Are Not Taking the ACT Recommended Core Coursework: 2003–04

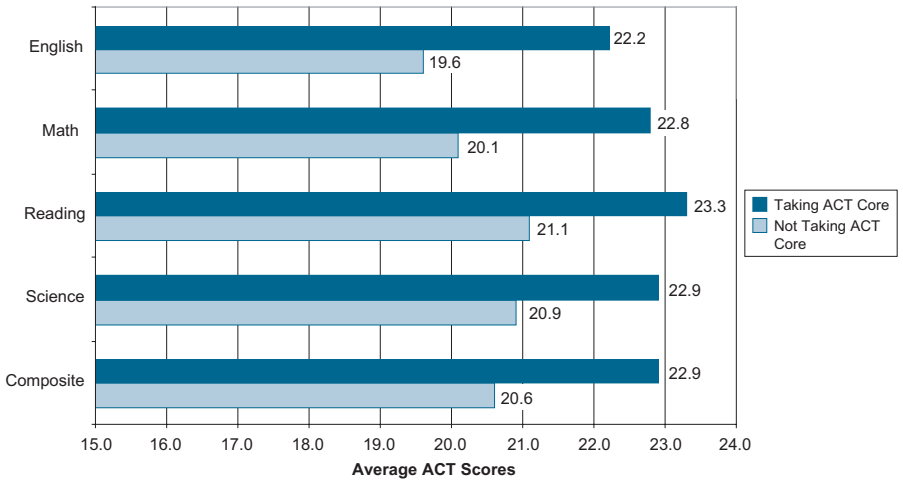


Figure 5.28 Average *ACT* Scores for Minnesota Students Who Are and Are Not Taking the ACT Recommended Core Coursework, by Ethnicity: 2003–04

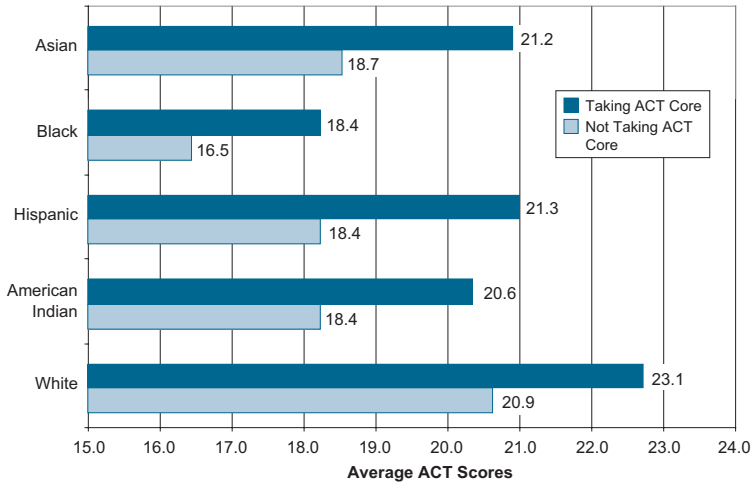
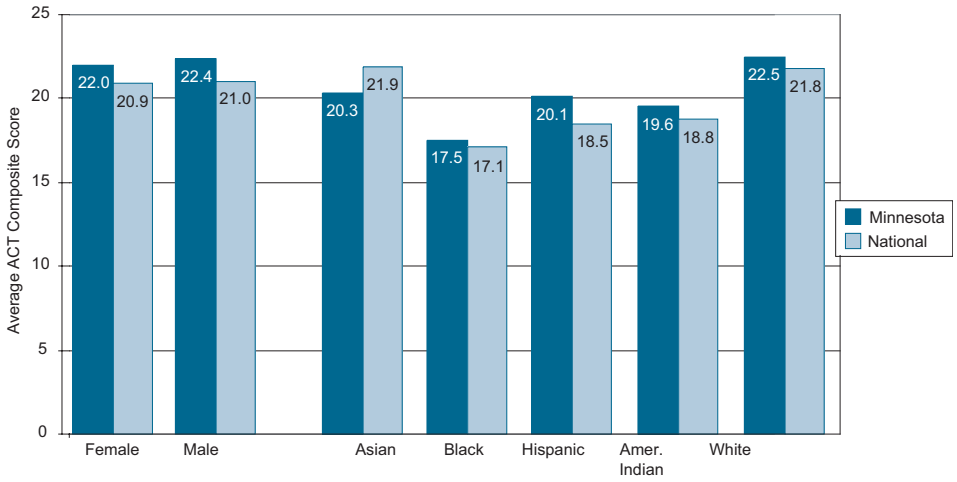


Figure 5.29 compares *ACT* composite scores by gender and ethnicity. Each Minnesota gender or ethnic group (dark bar) is compared to its national counterpart (light bar). There is a small gender difference that favors males, both in Minnesota and nationally. There are marked differences between the Minnesota ethnic groups. Whites have the highest mean score (22.5), Blacks the lowest (17.5), and the other Minnesota ethnic groups have nearly equal mean composite scores midway between the Black and White means (Asians, 20.3; American Indians, 19.6; Hispanics, 20.1). Only Minnesota's Asian test-takers had a mean score below that of their ethnic peers nationally, possibly due to higher rates of limited English proficiency among Minnesota's Asian students than among Asian students nationwide. In part, these ethnic achievement differences reflect differences in completion of recommended coursework shown in Figure 4.3 (p. 44). It seems unlikely that ethnic differences in college admission scores will disappear until differences in high school coursework preparation also disappear. Unfortunately, as mentioned in Chapter 4, those gaps in

Figure 5.29 Minnesota and National Average *ACT* Composite Scores, by Gender and Ethnicity: 2003-04



preparation do not appear to be closing for Asian, Black, and Hispanic students, and may even be widening.

THE PERFORMANCE OF MINNESOTA 4th AND 8th GRADE STUDENTS ON THE 2003 *NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS* READING AND MATHEMATICS EXAMINATIONS

The *National Assessment of Educational Progress (NAEP)* is also known as "the Nation's Report Card." *NAEP* results are important for three reasons. First, the assessments are taken by a sample of students from around the nation and in every state. Therefore, the results provide a comparison of Minnesota student achievement to that of students around the country and in other states. Second, the data provide an independent confirmation (or disconfirmation) of trends in statewide testing. If Minnesota classrooms have been too narrowly focusing on the content of Minnesota tests, we might see rising scores on statewide tests without seeing a corresponding rise in scores on other tests, such as the *NAEP* tests. On the other hand, if student performance is improving generally, and not just on the content of Minnesota tests, then we would expect Minnesota student scores to rise on both the Minnesota statewide assessments and on the *NAEP* and other tests as well. Third, comparing the achievement gaps between Minnesota's majority and minority students, and between majority and minority students nationally, allows us to assess whether those gaps are as big in Minnesota as they are for the nation as a whole. The data reported below tell us how Minnesota students compare to other students around the country, whether the achievement increases seen on statewide tests can be confirmed by independent evidence from another testing program, and whether achievement gaps are wider in Minnesota than in the nation as a whole.

While this year's *NAEP* data are important, they have limitations. For example, *NAEP* tests are not administered in every subject or in every grade. In 2003, *NAEP* tests were administered in reading and mathematics at the 4th and 8th grade levels. The data were released in 2004. Therefore, this section covers 4th and 8th grade reading and mathematics data. Furthermore, in the 2003 testing, the number of American Indians included in the Minnesota sample was too small to yield good estimates of score means for this group. Therefore, in reporting results for Minnesota's ethnic minority groups, *NAEP* did not provide a breakdown of results for American Indians, and none were reported in this *Yearbook*.

NAEP divides achievement into three levels: Basic, Proficient, and Advanced. The levels are described in the accompanying sidebar, and we have used those levels in describing results. Following the reporting practice of *NAEP* itself, in this text, we have focused on the percentage of students scoring in the top two levels (Proficient and Advanced). However, the figures contain more complete data, showing both the percentage of students in the top two levels, and the percentage scoring in the top three levels (Basic and above). Not all students fall into one of these three categories. Students who have not yet reached the Basic level can be grouped into a fourth category, Below Basic.[8]

Overall Comparisons: Minnesota and Other States

Table 5.13 (p. 79) shows the states with mean scores higher than Minnesota's on the *NAEP* 4th and 8th grade reading and mathematics assessments. When differences in the average scale scores are statistically significant ($p = < .05$), the state is shown in bold letters. When the state has scored higher than Minnesota, but the difference is not statistically significant, the state is shown in plain text.

Description of *NAEP* Achievement Levels

Basic Level. This level denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade.

Proficient Level. This level represents solid academic performance for each grade assessed. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.

Advanced Level. This level signifies superior performance.

NOTES

[8] The figures do not actually show the "Below Basic" percentages for this time period. Percentages of students scoring below Basic are obtained by subtracting the combined percentage of students who scored at Basic and at the Proficient or Advanced levels from 100%. For example, for 2003, 69% of Minnesota students scored at Basic, Proficient, or Advanced. Subtracting this from 100% gives the 31% of Minnesota students who scored Below Basic for 2003.

Reading: National Comparisons and Longitudinal Trends

For 4th grade reading, there were four states with a significantly higher mean score than Minnesota's in 2003–04. Particularly in 4th grade, states with higher mean scale scores than Minnesota's were concentrated in New England (Connecticut, Massachusetts, New Hampshire, and Vermont had significantly higher mean scores than Minnesota's; Delaware, Maine, New Jersey, and Colorado had mean scores higher than Minnesota's, but not significantly higher). In examining its elementary level reading programs, Minnesota should look beyond its immediate neighbors in the upper Midwest to states in New England for models of reading standards, curricula, and instructional methods, even though standards and curricula may not be the sole explanation for high performance in the New England states.

Table 5.13 States with *National Assessment of Educational Progress* 4th and 8th Grade Reading and Mathematics Mean Scale Scores Above Minnesota's: 2003–04

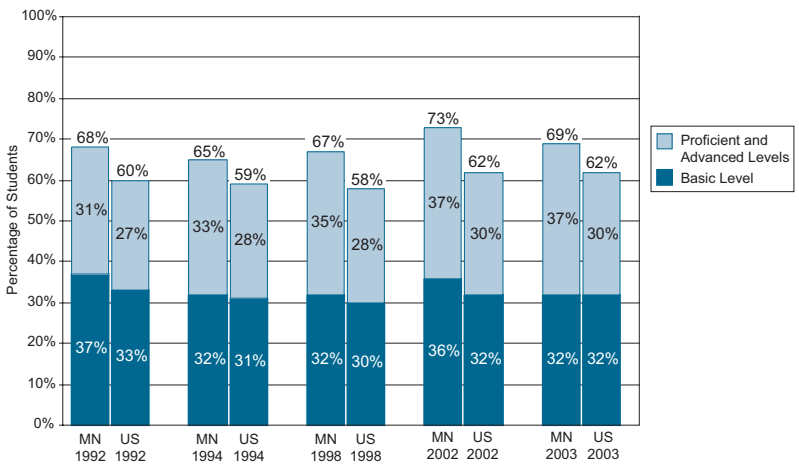
Reading		Math	
4th Grade	8th Grade	4th Grade	8th Grade
Colorado			
Connecticut			
Delaware			
Maine			
Massachusetts	**Massachusetts**		*No Mean Scale Scores Above Minnesota's*
New Hampshire		New Hampshire	
New Jersey			
	North Dakota		
	South Dakota		
Vermont			

Note: **Boldface type** has been used to identify states where the difference is statistically significant (p = < .05). Information in this table was retrieved from: http://nces.ed.gov/nationsreportcard/pdf/main2003/2004451.pdf (Mathematics Highlights), http://nces.ed.gov/nationsreportcard/pdf/main2003/2004452.pdf (Reading Highlights), http://nces.ed.gov/nationsreportcard/mathematics/results2003/statecompare-g4-html.asp, http://nces.ed.gov/nationsreportcard/mathematics/results2003/statecompare-g8-html.asp, http://nces.ed.gov/nationsreportcard/reading/results2003/statecompare-g4-html.asp, and http://nces.ed.gov/nationsreportcard/reading/results2003/statecompare-g8-html.asp, on 8/27/04.

Figure 5.30 shows the trend in overall performance for Minnesota and the nation for *NAEP* 4th grade reading assessments between 1992 and 2003. As compared to the nation, a higher percentage of Minnesota 4th graders scored in the Proficient and Advanced levels for each year of testing from 1992 through 2003.

While Minnesota students outperformed their peers nationally, the 4th grade data in Figure 5.30 provide only ambiguous confirmation of improvements seen in statewide tests over the past decade. On the one hand the percentage of students reaching the highest levels in the *NAEP* tests (proficient and advanced) has increased from 31% to 37% since 1992. This tends to confirm the rise in statewide test scores. On the other hand, the percentage of Minnesota students scoring below Basic has remained almost the same since 1992, 32%

Figure 5.30 Percentage of Minnesota and U.S. 4th Grade Students Scoring At the Basic Level and At or Above the Proficient Level on the *National Assessment of Educational Progress* Reading Assessment: 1992–2003



in 1992 and 31% in 2003. Taken together, these findings suggest that more and more 4th grade students have been reaching high levels of reading proficiency, but the percentage of poor readers has remained the same. As a result, the achievement discrepancy in reading between Minnesota's best and worst 4th grade readers may be widening.

For 8th grade reading, Table 5.13 (p. 79) shows only three states with higher mean scale scores, and only Massachusetts has a mean scale score significantly higher ($p = < .05$) than Minnesota's. Two of the states are Minnesota neighbors, North Dakota and South Dakota; the third, Massachusetts is in the northeast.

Figure 5.31 Percentage of Minnesota and U.S. 8th Grade Students Scoring at the Basic Level and at or above the Proficient Level on the *National Assessment of Educational Progress* Reading Assessment: 1998–03

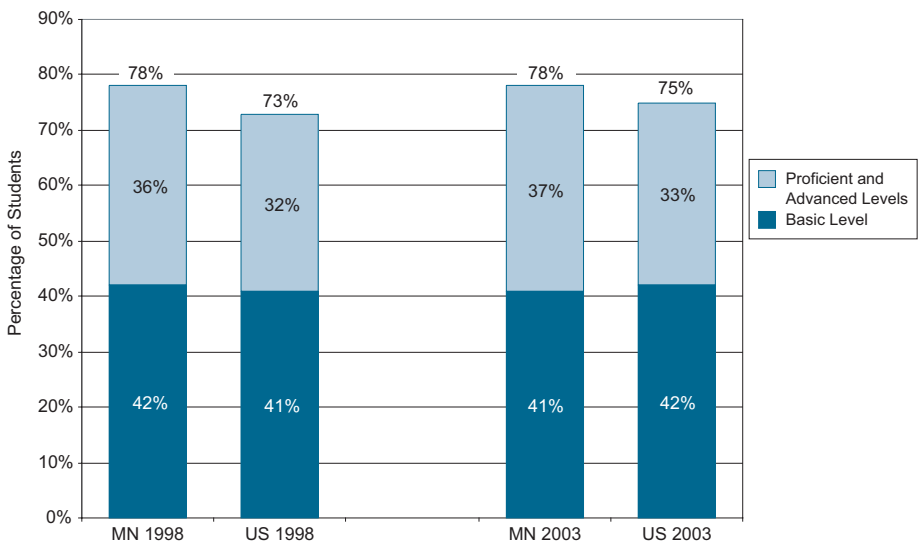


Figure 5.31 shows the overall performance in Minnesota and the nation for *NAEP* 8th grade reading assessments for 1998 and 2003. While the *NAEP* reading assessment was administered in years prior to 1998, the sample size in Minnesota was not adequate, so no comparisons are possible earlier than 1998 nor between the 1998 and 2003 administrations. In both years, Minnesota students outperformed students nationally. In both 1998 and 2003, Minnesota had a higher percentage of students in the highest levels, Proficient and Advanced.

In Figure 5.31, the 8th grade results provide little or no confirmation for the improvements in reading seen in the 8th grade *Basic Skills Test* over the same period. The percentage of students scoring in the top two levels, Proficient and Advanced, increased by only 1% over that period. The percentage of students at or above Basic remained unchanged (78%).

Mathematics: National Comparisons and Longitudinal Trends

Table 5.13 (p. 79) also shows the states that had higher means than Minnesota on the *NAEP* mathematics tests. As with the reading assessments, if the difference is significant ($p = < .05$), the state is shown in bold. In 2003, for the 4th grade mathematics assessment, only New Hampshire had a higher mean scale score than Minnesota, and the difference was not significant.

Figure 5.32 (p. 81) shows the percentage of Minnesota and U.S. 4th grade students scoring at or above the Proficient level in the *NAEP* mathematics assessment. In 2003, Minnesota students outperformed those nationwide: the percentage of students scoring at the Proficient and Advanced levels was 42% for Minnesota and 32% for the nation.

Figure 5.32 also shows evidence of improving performance in Minnesota. Between 1992 and 2003, the percentage of Minnesota students scoring in the top two categories, Proficient and Advanced, rose from 26% in 1992 to 42% in 2003. Figure 5.32 not only suggests that Minnesota's 4th grade students perform well in math compared to their peers nationally, but also that their performance has been improving over the past decade. These results clearly confirm the improvements in elementary grade scores seen on statewide tests.

For 8th grade math, no states had mean scale scores above Minnesota's (see Table 5.13, p.

79). For 2003, Figure 5.33 shows that Minnesota 8th grade students outperformed their peers nationally. Forty-four percent of Minnesota students scored in the highest two categories, Proficient and Advanced, compared with only 29% nationally.

Figure 5.32 Percentage of Minnesota and U.S. 4th Grade Students Scoring at the Basic Level and at or above the Proficient Level on the *National Assessment of Educational Progress* Mathematics Assessment: 1992–03

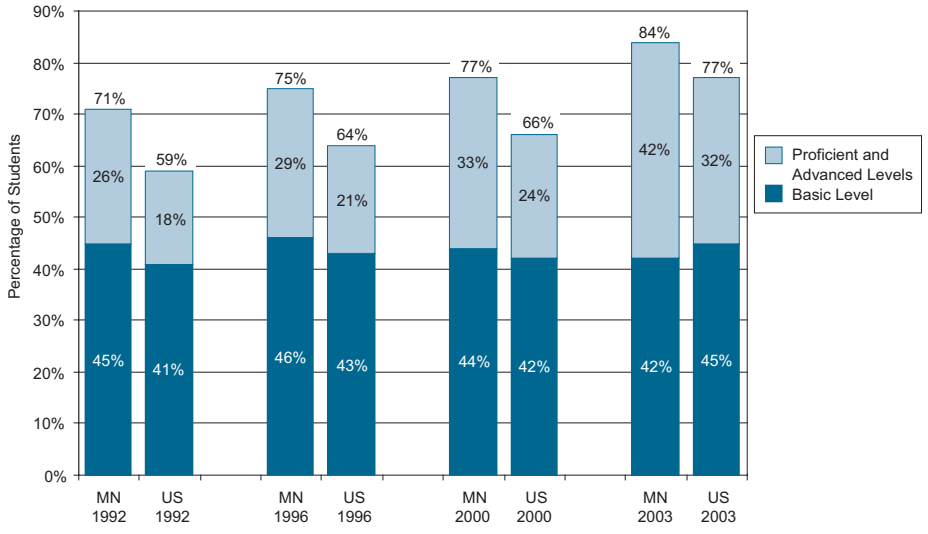
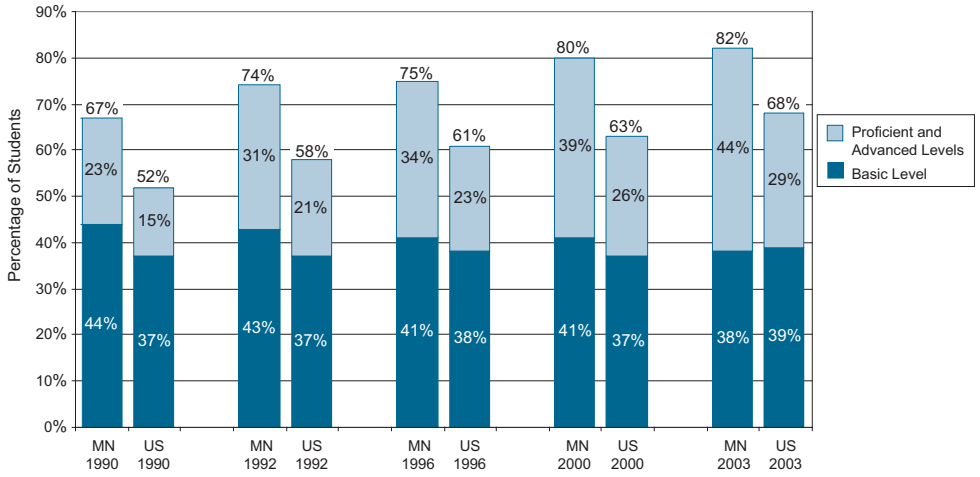


Figure 5.33 Percentage of Minnesota and U.S. 8th Grade Students Scoring at the Basic Level and at or above the Proficient Level on the *National Assessment of Educational Progress* Mathematics Assessment: 1990–03



NAEP Reading Achievement by Gender

Figure 5.34 (p. 82) shows the percentage of boys and girls scoring at or above the Proficient level for Minnesota and the U.S. In the 2003 assessment, higher percentages of Minnesota boys and girls reached the Proficient and Advanced levels (31% and 44% respectively) than did their gender peers nationally (28% for boys, and 35% for girls). As in Minnesota's statewide tests, Minnesota girls outperformed the boys. Higher reading levels among girls are characteristic of Minnesota and the nation.

As shown in Figure 5.35 (p. 82), the reading results for Minnesota's 8th grade boys and girls parallel those in 4th grade. Both Minnesota boys and girls outperformed their peers nationally. For both boys and girls, more Minnesota students scored in the top two levels, Proficient and Advanced. Both in Minnesota and the nation, girls exhibited higher performance than boys, a trend also seen in Minnesota's own statewide tests.

NOTES

9 It is important to note, when comparing *NAEP* and *BST* scores, that the trend data represented in this *Yearbook* for the *BSTs* (see Figure 5.3, p. 64) does not show improvements in *BST* mathematics scores because it does not show trends back to 1996; the period covered by the *NAEP* data in Figure 5.33 extend back to 1990.

Figure 5.34 Percentage of Minnesota and U.S. 4th Grade Students Scoring at the Basic Level and at or above the Proficient Level on the *National Assessment of Educational Progress* Reading Assessment, by Gender: 2003–04

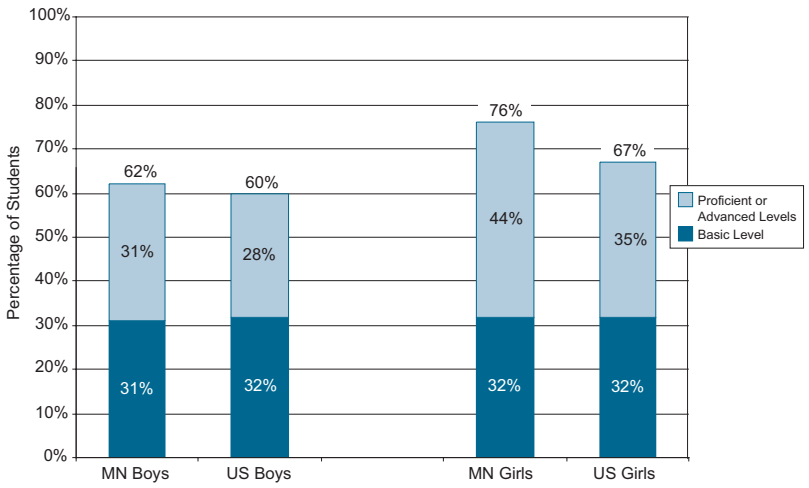
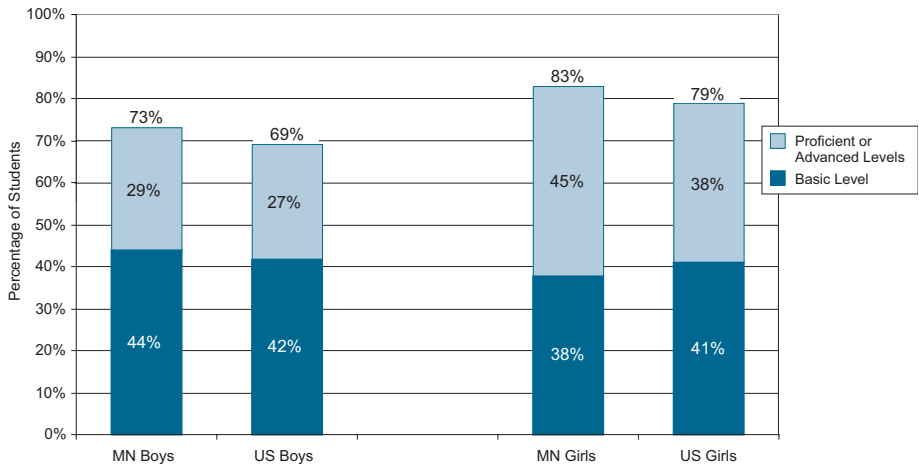


Figure 5.35 Percentage of Minnesota and U.S. 8th Grade Students Scoring at the Basic Level and at or above the Proficient Level on the *National Assessment of Educational Progress* Reading Assessment, by Gender: 2003–04



NAEP Mathematics Achievement by Gender

The pattern for 4th grade boys' and girls' achievement in mathematics is the opposite of that for reading, with boys performing at higher levels. As shown in Figure 5.36 (p. 83), Minnesota boys and girls outperformed their peers nationally, with one exception: only 38% of Minnesota girls reached *NAEP's* Proficient or Advanced levels compared with 46% of girls across the U.S.

Statewide mathematics tests do not always show higher scores for boys; nor did the 8th grade *NAEP* data. Figure 5.37 (p. 83) shows that, in 8th grade, a higher percentage of both Minnesota boys and girls scored at the Proficient/Advanced levels than did their peers nationally, and a slightly higher percentage of Minnesota girls than boys scored in those two levels (44% vs. 43%).

In these 4th and 8th grade *NAEP* mathematics data, the gender difference was inconsistent, favoring boys in 4th grade and girls in 8th grade. Similarly, in the statewide data, the mathematics gender difference does not consistently favor boys or girls.

Figure 5.36 Percentage of Minnesota and U.S. 4th Grade Students Scoring at the Basic Level and at or above the Proficient Level on the *National Assessment of Educational Progress* Mathematics Assessment, by Gender: 2003–04

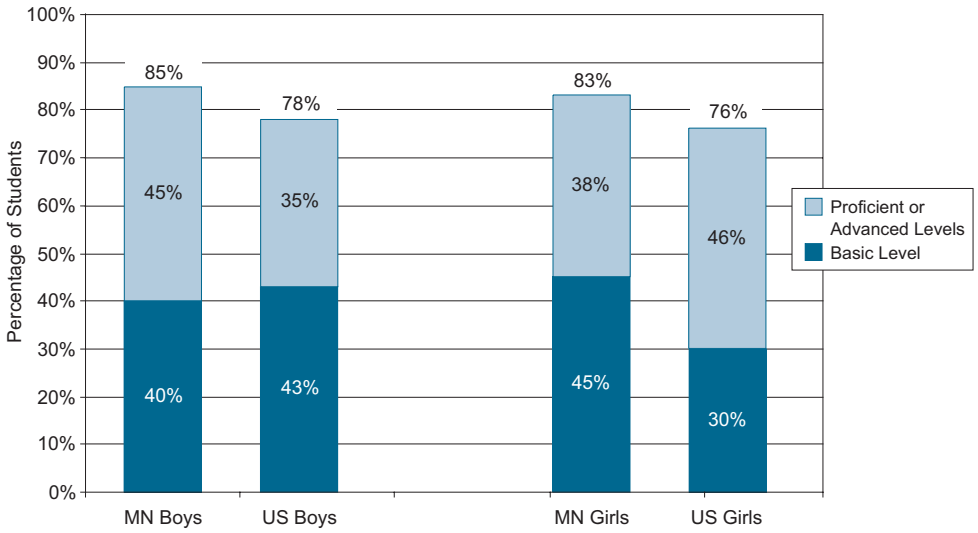
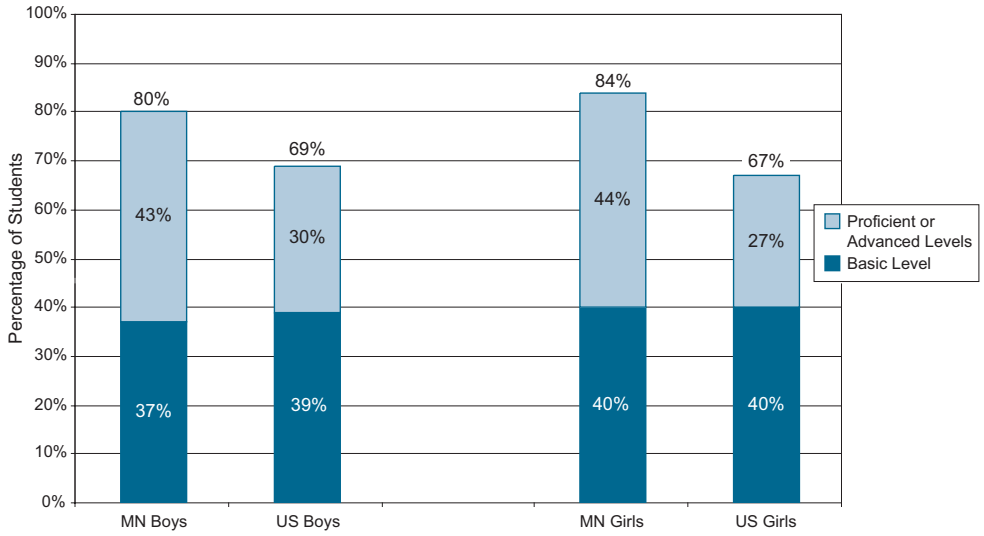


Figure 5.37 Percentage of Minnesota and U.S. 8th Grade Students Scoring at the Basic Level and at or above the Proficient Level on the *National Assessment of Educational Progress* Mathematics Assessment, by Gender: 2003–04



NAEP Reading by Ethnicity

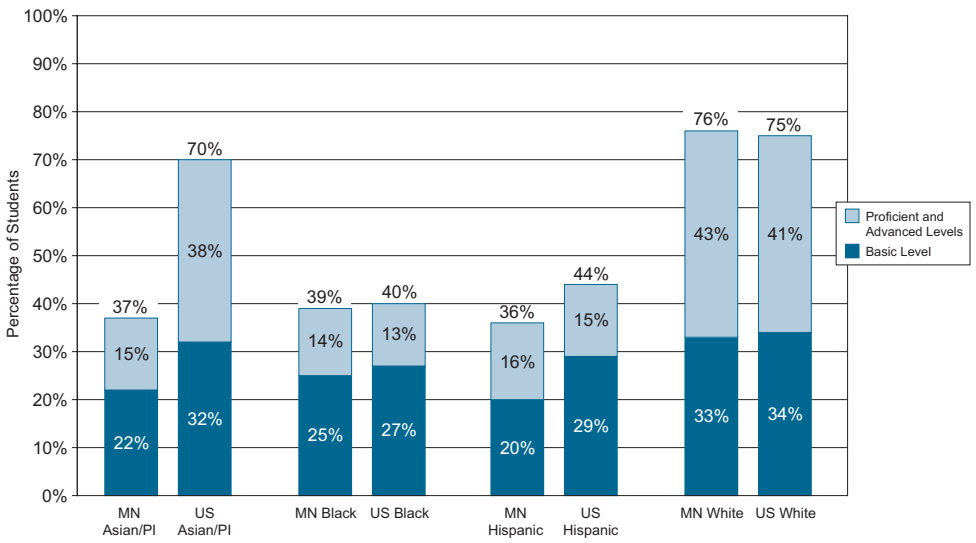
Both in reading and mathematics, the comparison of Minnesota's minority student performance with minority student performance nationally is sobering. Figure 5.38 (p. 84) shows the percentage of 4th grade minority and White students in Minnesota and the United States who scored at or above the Proficient level in the *NAEP* reading assessment. In 2003, for both reading and mathematics assessments, sample sizes were insufficient to permit a reliable estimate of the percentage of American Indian students who scored at the Basic, Proficient, or Advanced levels in Minnesota. For this reason, *NAEP* results by ethnicity do not include numbers for Minnesota's American Indian students nor for American Indian students nationally.[9]

In 4th grade reading, without exception, smaller percentages of Minnesota's minority students reached the Basic level or above than did their minority peers nationwide. Slightly higher percentages (within one or two percentage points) of Minnesota's Black, Hispanic, and White 4th graders reached the Proficient and Advanced levels than did their ethnic

NOTES

[9] For more detailed information, see: http://nces.ed.gov/nationsreportcard/pdf/main2003/2004452.pdf

Figure 5.38 Percentage of Minnesota and U.S. 4th Grade Students Scoring at the Basic Level and at or above the Proficient Level on the *National Assessment of Educational Progress* Reading Assessment, by Ethnicity: 2003–04

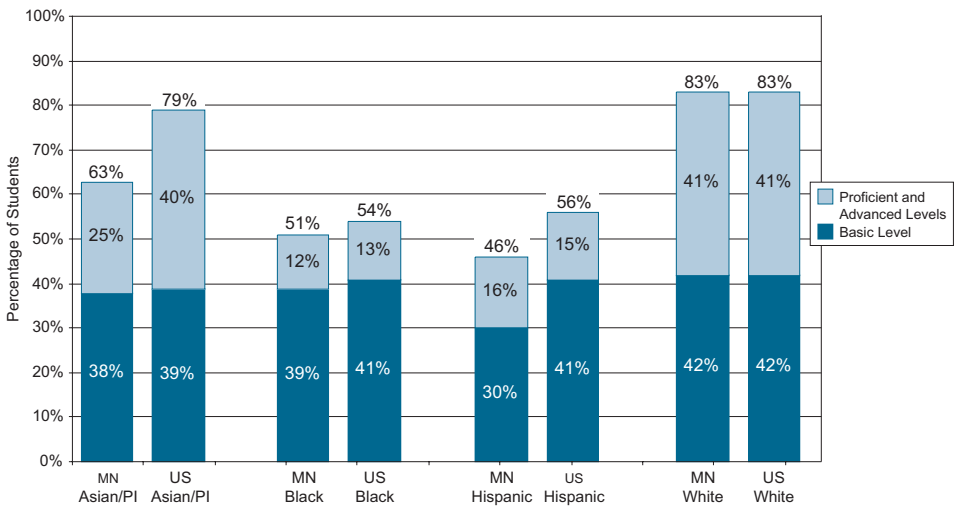


** Sample size was insufficient to permit a reliable estimate for Minnesota American Indian students in 2003–04. Since no comparison between Minnesota and US scores is possible, the percentages for American Indian students on the NAEP assessment have also been omitted.*

peers. The largest differences involve Asian students. Only 15% of Minnesota's Asian students reached the Proficient and Advanced levels compared to 38% of Asian students nationwide; only 37% of Minnesota's Asian students reached the Basic level or above compared to 70% nationally. It is possible that Minnesota's Asian students did less well than their Asian peers nationwide because Minnesota has a higher percentage of first- or second-generation Asian students from non-English-speaking homes than is the case in the nation overall. If that were the case, Minnesota Asian students' limited English proficiency would be an obstacle to reading proficiency.

Figure 5.39 compares the performance of Minnesota's Asian, Black, Hispanic, and White students on the 8th grade *NAEP* reading assessment in 2003–04. As in the other *NAEP* assessments, no comparisons of American Indian students in Minnesota versus their peers across the U.S. were possible, because the sample size in Minnesota was too small to permit *NAEP* to make a reliable estimate. Comparing Minnesota's 8th graders, by ethnicity, with their peers across the country shows Minnesota's 8th graders reaching the Basic level or above at somewhat lower percentages than their peers nationally, except for White students. Lower percentages of Minnesota's Asian and Black students reached the Proficient and Advanced levels than did their peers nationwide. Only 25% of Minnesota Asian students reached the Proficient level and above, compared with 40% of Asian students nationwide, and 12% of Minnesota's Black students reached Proficient and above, compared with 13% of Black students nationwide. The difference at the Proficient or Advanced levels between Minnesota's Hispanic students and Hispanic students nationally was only 1%, but favored Minnesota over Hispanic students nationwide. White students again equaled the performance of their peers across the country (41% at the Proficient or Advanced levels).

Figure 5.39 Percentage of Minnesota and U.S. 8th Grade Students Scoring at the Basic Level and at or above the Proficient Level on the *National Assessment of Educational Progress* Reading Assessment, by Ethnicity: 2003–04



** Sample size insufficient to permit a reliable estimate for Minnesota American Indian students in 2003-04. Since no comparison between Minnesota and US scores is possible, the percentages for American Indian students on the NAEP assessment have also been omitted.*

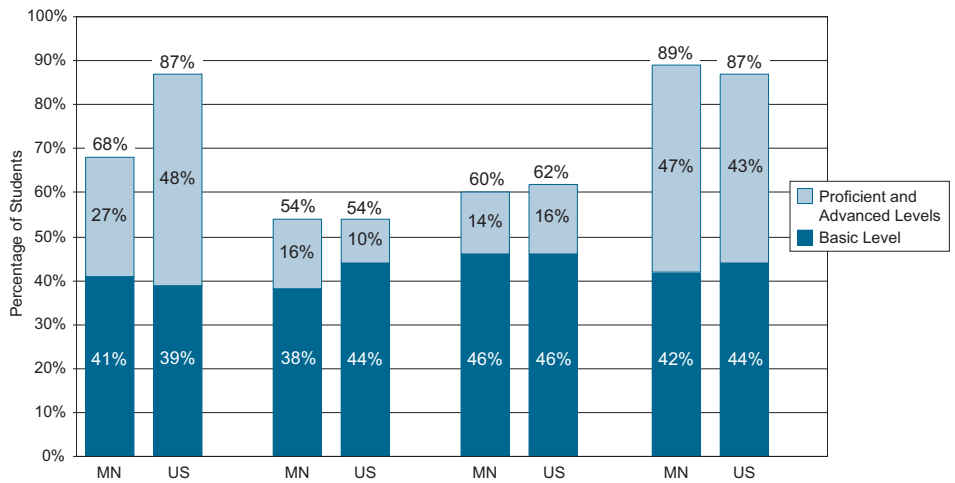
The ethnic comparisons in Figures 5.38 and 5.39 can be summarized as follows. First, while Minnesota students overall scored above their counterparts nationally in reading, much of the difference can be attributed to the fact that Minnesota has a larger White population than the nation as a whole: White students scored well

compared to their minority peers. In both 4th and 8th grade, Minnesota's minority ethnic groups consistently scored about the same (within 2%) or lower than their counterparts nationally. Minnesota's Asian students scored well below their peers, probably because high proportions of Minnesota's Asian students have limited English proficiency. Second, the minority/majority achievement gaps in Minnesota were about the same size as those nationally, except that the Asian/White gap was larger.

NAEP Mathematics by Ethnicity

Figure 5.40 compares the performance of Minnesota and U.S. 4th grade students, by ethnicity, on the *NAEP* mathematics assessment. As was the case for the *NAEP* reading assessment, the sample size for Minnesota's American Indian test-takers was not sufficient for a reliable estimate of American Indian student performance on the *NAEP* mathematics assessment, so no comparisons between Minnesota and the nation were included in the *NAEP* data and none appear here.

Figure 5.40 Percentage of Minnesota and U.S. 4th Grade Students Scoring at the Basic Level and at or above the Proficient Level on the *National Assessment of Educational Progress* Mathematics Assessment, by Ethnicity: 2003–04

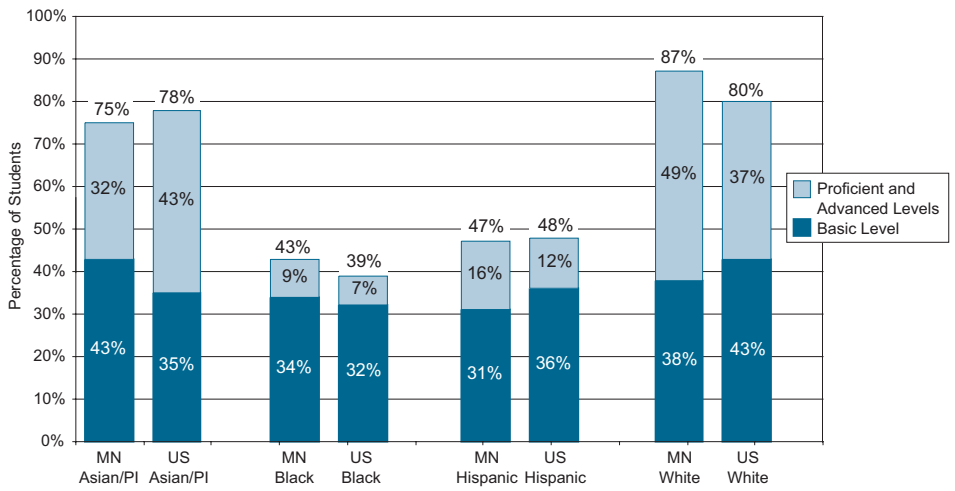


** Sample size insufficient to permit a reliable estimate for Minnesota American Indian students in 2003–04. Since no comparison between Minnesota and US scores is possible, the percentages for American Indian students on the NAEP assessment has also been omitted.*

Higher percentages of Minnesota's Black and White students scored at the Proficient or Advanced levels than did their peers across the country (16% of Minnesota's Black students, and 47% of White students, compared with 10% of Black students and 43% of White students nationwide). Of Minnesota's Asian students, 27% scored at the Proficient or Advanced levels, versus 48% of Asian students nationwide. Fourteen percent of Minnesota's Hispanic students scored at the Proficient or Advanced levels, compared with 16% of Hispanic students nationwide.

Overall, Minnesota students' performance in the *NAEP* 8th grade mathematics assessment is similar in its pattern to that of Minnesota's 4th grade students. Figure 5.41 compares the performance of the different ethnic subgroups in Minnesota and the U.S. Except for Asians, Minnesota's students more frequently reached the Proficient and Advanced levels in mathematics than did students nationwide.

Figure 5.41 Percentage of Minnesota and U.S. 8th Grade Students Scoring at the Basic Level and at or above the Proficient Level on the *National Assessment of Educational Progress* Mathematics Assessment, by Ethnicity: 2003–04



** Sample size insufficient to permit a reliable estimate for Minnesota American Indian students in 2003–04. Since no comparison between Minnesota and US scores is possible, the percentages for American Indian students on the NAEP assessment has also been omitted.*

In the mathematics assessments, then, Minnesota students performed very well overall, but as with reading, the state's high performance can be largely attributed to its demographic composition. Min-

nesota has a large White population, and high scores commonly occur among Whites in the state and nationally. In 4th grade, the Asian/White gap was unusually large. Particularly if one focuses on the percentage of minority students who are below Basic, 4th and 8th grade minority students with poor reading and math skills were found in Minnesota about as commonly as in the nation as a whole.

SUMMARY AND CONCLUSIONS

At the beginning of this chapter, we posed three questions:

- Has achievement been improving over time?
- How do Minnesota students compare with those from other states?
- Are we moving toward greater equity?

The answers to these questions are something of a mixed bag: achievement on statewide tests over the past three to five years shows little improvement, although Minnesota students' composite scores on the *ACT* are higher in 2003–04 than they were ten years ago. Minnesota students overall compare favorably with students in other states—but students in minority ethnic subgroups do not outperform their peers nationwide. With regard to equity, girls' and boys' mathematics performance are very close, but girls still outperform boys in reading and writing. Similarly, in most assessments (other than writing), achievement gaps between minority students and White students are not closing.

Improvement Over Time

With regard to improvement over time, the data show that, over the past three to five years, scores on the major statewide tests have improved only slightly if at all. Tables 5.1–5.5 (pp. 55–60) and Tables 5.7–5.9 (pp. 62–64) show three year trends. Figure 5.3 (p. 64) shows the five year trend for the high school graduation tests given in 8th and 10th grades. Using the high school graduation tests as the example, writing pass rates increased by 3% in 2001 but they have remained steady since then. Reading pass rates have risen by only 1% since 2000. Mathematics pass rates have declined by 1% over that same period. Starting next year, achievement targets will begin to increase for Minnesota schools under its implementation of the federal No Child Left Behind Act. Unless statewide test scores begin to rise, increasing numbers of schools will fail to meet their achievement targets.

Trend lines extending farther back than five years tend to show increases, if sometimes only modest ones. The average *ACT* composite score (Figure 5.26, p. 76) was at its highest point at any time in the past ten years. Minnesota's average *ACT* composite, along with Wisconsin's, was the highest of any state for which the *ACT* is the major college entrance examination. The *National Assessment of Educational Progress* mathematics data show clear evidence of improvement over time. In both the 4th and 8th grade mathematics assessment, the percentage of students scoring at or above the Proficient Level has been increasing. In the 4th grade reading data, the percentage of students scoring at the highest levels has increased, although the percentage of students scoring in the lowest level (Below Basic) has remained about the same. Thus, there would appear to have been increases in achievement over the past ten or so years, but the increases may now be leveling off.

Minnesota's Performance Relative to Other States

As compared to other states, the achievement of Minnesota students overall and by gender remains high. As stated above, Minnesota's average *ACT* composite score, along with Wisconsin's, was the highest of any state for which the *ACT* is the dominant college entrance examination. In the *NAEP* mathematics data, only one state had a mean score above

Minnesota's on the 4th grade assessment and no state had a higher mean score on the 8th grade assessment. Minnesota is clearly at the top nationally in mathematics achievement. While the performance of Minnesota students in reading was not as impressive as in mathematics, Minnesota's average reading score was above the national average in reading, and Minnesota is among the top states in reading achievement.

However, much of Minnesota's high standing compared to other states can be attributed to the demographic composition of the state. While Minnesota's White students may have scores at or above those of their White peers nationally, Minnesota's ethnic minority students have scores that differ little from those of their ethnic peers around the country. The exception is Minnesota's Asian students, who do tend to score well below their Asian peers around the country, probably because Minnesota's Asian students have higher rates of limited English proficiency. While Minnesota has high levels of achievement overall, we do not have markedly higher achievement levels among minority students compared to other states. In some cases, the achievement levels of Minnesota's White students are little different from those of White students around the country.

Equity

Boys did not consistently outscore girls in mathematics, either in Minnesota's own statewide testing or in the *NAEP* assessments. The largest and most consistent differences across grades and testing programs were in reading, where girls outscored boys both in the statewide testing program and in the *NAEP* assessments at every grade. In the statewide testing program, girls also outscored boys in writing at both grades 5 and 10.

Large ethnic differences persist. On the high school graduation tests, achievement gaps do not appear to be closing, with the possible exception of writing. As shown in Figure 5.14 (p. 72), pass rates for the various minority ethnic groups have not been rising faster than those for Whites, and minority students' pass rates would have to rise faster than Whites' pass rates in order to close achievement gaps. The exception is the writing test, where pass rates for every minority group have been rising faster than those for Whites. In writing, White students' pass rates have little room for improvement at 95%. If minority pass rates continue to improve faster than White students', then the minority/majority gap in pass rates for writing assessments will continue to close.

In summary, Minnesota's achievement levels appear to have been rising over the past decade, but may now be leveling off. Overall achievement levels in reading and mathematics are high compared to other states, but much of the difference can be attributed to the demographic composition of Minnesota students. Minority students in Minnesota score about the same as their ethnic peers around the country, although Asian students tend to score lower (probably because Minnesota's Asian students have high rates of limited English proficiency). Gender differences are most marked in reading and writing, not mathematics, and those most marked differences favor girls. Large majority/minority ethnic differences in achievement persist, and may continue to do so for some time to come if current trends continue.

Chapter 6: Conclusions and Recommendations

In 2004, there was continued implementation of changes mandated by legislation passed in 2002 and 2003. After approving new mathematics and reading standards in 2003, the Minnesota legislature approved new science and social studies standards in 2004. Seventh graders began taking statewide assessments in mathematics and reading. As required by No Child Left Behind, all public schools now receive evaluations based on their students' achievement test scores, attendance, and graduation rates, under complex and shifting federal regulations. Schools also receive state ratings of one to five stars as evaluations of their students' achievement in mathematics and reading, school safety, and the advanced opportunities offered students.

Prior legislation has had a major impact on this report. Achievement, attendance, and graduation rate data included in this report are evaluated against targets that have been developed since 2002. In the past, we have focused primarily on student data (e.g., the percentage of students passing the high school graduation test); this year's report includes more of a focus on school data (e.g., the percentage of elementary schools that met their achievement targets).

Under the current system of assessing Adequate Yearly Progress (AYP), schools must meet targets in test participation, reading and mathematics proficiency, and attendance or graduation rates. Schools are having more difficulty reaching their reading and mathematics proficiency targets than in meeting their test participation and attendance or graduation rate targets. Next year the proficiency targets for schools will begin to rise until they reach 100% proficient in 2013–14. This rise will make it even more difficult for schools to meet their targets.

Minnesota's Five-star Rating System for evaluating schools both identifies underperforming schools and recognizes high performing schools. In reading and mathematics achievement, the highest rating, five stars, is difficult to attain and is a mark of distinction. Four stars should be a source of significant school pride. However, the system may not provide a level playing field on which all schools have equal likelihoods of succeeding.

In Minnesota's Five-star Rating System for achievement, which incorporates AYP results, schools most commonly achieve the middle rating, three stars. This means that they made their AYP target but did not reach any of the four criteria used to award additional stars. The highest rating, five stars, proved difficult to attain for most schools.

Schools with large percentages of students from advantaged backgrounds more commonly achieved high star ratings; that is, schools with fewer low income students, fewer students with limited English proficiency, fewer special education students, fewer mobile students who entered the school mid-year, and fewer students from the inner cities of Minneapolis and St. Paul. This can lead to the perception that high ratings are more easily obtained in some schools than others for reasons over which staff have no control, rather than for reasons having to do with the quality of the school. Evaluating schools based on year-to-year improvements in student achievement, rather than students' end-of-year achievement scores, would provide a more equitable basis for evaluating schools with varying concentrations of low income students, students with limited English proficiency, students in special education, high mobility students, and students from the inner cities of Minneapolis and St. Paul.

ENROLLMENT, FINANCE, AND TEACHER CHARACTERISTICS

As in recent years, overall enrollment continued to decline. For 2004, the public schools enrolled just over 830,000 students in grades K–12 at the beginning of the school year, a slight decrease from 2003.

In the near future, there may be a need to shift resources from secondary to elementary students. For the first time in recent years, secondary enrollment declined, along with continuing declines in elementary enrollment and this decline in secondary enrollment can be expected to continue for several more years. However, the elementary enrollment decline is slowing and may soon come to an end. The number of students entering first grade now seems to be growing from year to year. If this trend continues to the point where elementary enrollments begin to increase, educational resources may need to be shifted from secondary education to elementary education.

While overall enrollment declined, the number of students needing additional services continued to rise. That is, the number of students receiving English as second language (ESL) instruction increased; the number of students receiving special education services also grew, as did the number of low income students likely to need compensatory funding. As a result, savings from lower enrollments were partially offset by higher costs per pupil arising from the increased percentage of students receiving additional services. This trend can be expected to continue for the foreseeable future, and the cost per pupil can be expected to increase faster than the rate of inflation.

According to our calculations, the average per-pupil operating expenditure for 2003 was $7,796. According to *Quality Counts* (2005), Minnesota ranked 23rd among the 50 states in per-pupil expenditure in 2002–03, just 2% above the national average. Minnesota's average per-pupil expenditure was typical of that for the nation.

In 2003, Minnesota employed just over 51,500 full-time teachers. As would be expected in an era of declining enrollments, only 4% were in their first year of teaching. Reflecting enrollment, more new teachers were hired in suburban areas than in the metro area or outstate. The average teacher salary was $45,335. In comparing teacher salaries to those in other states during the most recent year for which data from other states are available, the American Federation of Teachers reported that the average teacher salary in Minnesota was below the national average. In average teacher salary, Minnesota ranked 19th among the 50 states. Policymakers should continue to watch the competitiveness of Minnesota teacher salaries, particularly as compared to those in the larger neighboring states.

COURSEWORK, ATTENDANCE, AND GRADUATION RATES

In the survey of mathematics coursework that accompanied the 11th grade mathematics tests, 38% of students had completed the math coursework recommended for higher education by the end of 11th grade and another 35% could do so by the end of their senior year.

In the past, girls have taken less advanced high school mathematics coursework than boys. These differences have all but disappeared. Of the coursework recommended by many four year colleges and the college admissions testing organizations (Algebra I, Geometry, and Algebra II), more girls than boys reported completing coursework at the level of Algebra II or Geometry by the end of 11th grade, possibly reflecting the fact that more girls than boys enroll in four-year colleges after high school. However, slightly more boys reported having taken Pre-calculus or something in our Calculus category.

Improving attendance can be a first step in improving both graduation rates and success in challenging high school coursework for disadvantaged students.

Large ethnic differences in course-taking exist, not only in mathematics, but in other subject areas as well. On the ACT survey of course-taking, Whites and Asians had taken more of the recommended coursework than had American Indian, Black, and Hispanic students. Differences in high school achievement among ethnic groups seem unlikely to disappear until differences in their coursework disappear, specifically differences in the content of that coursework.

One obstacle to the completion of challenging high school coursework can be poor attendance. In elementary school, attendance rates were around 95%. By 10th grade, however, attendance rates were below 90% for American Indian, Black, Hispanic, urban, LEP, special education, low income, charter school, and ALC students. Particularly for American Indian, Black, and Hispanic students, closing gaps in achievement, graduation rates, and completion of challenging coursework will likely require improved high school attendance.

Minnesota's overall graduation rate for public schools was 87%. Girls completed high school at a higher rate than boys. Whites and Asians completed high school at a higher rate than American Indians, Blacks, and Hispanics. The urban schools have a far lower graduation rate than schools in the rest of the state. Across ethnic groups, regions of the state, and types of schools, graduation rates show many of the same patterns as data show for attendance and coursework. All three indicators require a consistent, diligent effort on the part of students. High performance in one of these areas tends to be accompanied by high performance in the others, although this is not invariably the case. Improving attendance can be a first step in improving both graduation rates and success in challenging high school coursework.

ACHIEVEMENT

With respect to achievement, we posed three questions: How do Minnesota students compare with those from other states? Are we improving? Are we moving toward greater equity?

Comparisons with other states. *National Assessment of Educational Progress* data show Minnesota to be one of the top states in reading and mathematics achievement and to be at the very top in mathematics. *ACT* test results place Minnesota's and Wisconsin's college bound students at the very top as compared to other states in which the *ACT* is the most common admissions test. However, large ethnic differences persist as they do in other states.

Much of Minnesota's high standing compared to other states can be attributed to the demographic composition of the state. While Minnesota's White students may have scores at or above those of their White peers nationally, Minnesota's ethnic minority students have scores that differ little from those of their ethnic peers around the country. The exception is Minnesota's Asian students, who do tend to score well below their Asian peers around the country, probably because Minnesota's Asian students have higher rates of limited English proficiency. While Minnesota has high levels of achievement overall, we do not have markedly higher achievement levels among minority students compared to other states. In some cases, the achievement levels of Minnesota's White students are little different from those of White students around the country.

Improvement in scores. Are scores improving? In part, the answer seems to depend on when one starts tracking the improvements. Achievement on statewide tests over the past

three to five years shows little improvement. Longer-term trends in the *NAEP* data reported here show steady improvement in mathematics, but not in reading.

Improvement over time. The data show that, over the past three to five years, scores on the major statewide tests have improved only slightly if at all. Starting next year, achievement targets will begin to increase for Minnesota schools under its implementation of the federal No Child Left Behind Act. Unless statewide test scores begin to rise, increasing numbers of schools will fail to meet their achievement targets.

Gender differences in high school mathematics course-taking have largely disappeared. No consistent gender difference appears on mathematics tests, but girls consistently outperform boys in reading and writing.

Minority students in Minnesota score about the same as their ethnic peers around the country, although Asian students tend to score lower (probably because Minnesota's Asian students have high rates of limited English proficiency). Large majority/minority ethnic differences in achievement persist, and may continue to do so for some time to come if current trends continue.

Across the state, Minnesota schools face budget challenges created by declining enrollments and rising costs associated with increasing numbers of students needing additional services. All of this is occurring in a climate of increased accountability and, starting next year, rising achievement targets. As measured by per-pupil expenditures or average teacher salary, Minnesota's expenditures on education are typical of those across the country. Overall achievement levels are among the highest in the nation, but wide differences among ethnic groups persist, not only in achievement, but also in attendance, graduation rates, and participation in challenging high school coursework.

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Appendix A: Glossary

Achievement test: An examination that measures the extent to which a person has acquired certain information or mastered certain skills, usually as a result of specific instruction.

ACT Program: The ACT program measures educational development and readiness to pursue college-level coursework in English, mathematics, natural science, and social science. Student performance on the tests does not solely reflect innate ability and is influenced by a student's educational preparedness. Web site: http://www.act.org/.

ACT Core Academic Courses: These are courses that the ACT program recommends that college-bound students complete prior to high school graduation. The courses include: four years of English, three years of science, three years of social studies and three years of mathematics. The English portion of the test consists of punctuation (13%), basic grammar (16%), and sentence structure (24%). Rhetorical skills include strategy (16%), organization (15%), and style (16%). The math portion consists of pre-algebra (23%), elementary algebra (17%), intermediate algebra (15%), coordinate geometry (15%), plane geometry (23%), and trigonometry (7%). The reading portion consists of passages from social studies (25%), natural sciences (25%), prose fiction (25%), and humanities (25%). The science portion consists of data representation (38%), research summary (45%), and conflicting viewpoints (17%). Web site: http://www.act.org/

Administration (Expenditure Category): Expenditures for the school board and for the office of the superintendent, principals, and any other line administrators who supervise staff.

Advanced Placement (AP): Advanced Placement gives highly motivated students an opportunity to take college-level courses and exams while still in high school. There are now 34 different AP courses to choose from, in 19 different subject areas, offered by more than 14,000 high schools worldwide. In 1998, AP reached a milestone: more than a million exams were taken by about half a million students. The College Board administers the exams. AP examination grades are reported on a 5-point scale as follows: 5, extremely well qualified; 4, well qualified; 3, qualified; 2, possibly qualified; 1, no recommendation. A score of 3 or above will receive college credit or advanced placement. Web site: http://www.collegeboard.org/ap

At-risk Students: Those students in danger of failing to complete their education with the skills necessary for a modern technological society.

Average Daily Attendance: The aggregate student attendance of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Only days on which the pupils are under the guidance and direction of teachers should be considered days in session.

Average Daily Membership: The aggregate student enrollment of a school during a reporting period (normally a school year) divided by the number of days school is in session during this period. Pupils need not be in attendance to be counted in ADM, but they must be in membership.

Bachelor's Degree: A degree granted for the successful completion of a baccalaureate program of studies, usually requiring at least 4 years (or equivalent) of full-time college-level study.

Basic Standards: These standards represent one of the two components of Minnesota's Graduation Rule, established in 1992. The Basic Standards represent the minimum skills required for a high school diploma in Minnesota.

Charter Schools: Publicly funded schools that are granted a high degree of autonomy from existing rules and regulations. Depending upon state law, teachers, parents, or other would-be educators can apply for permission to open a school. The "charter" may be granted by, for example, the local school board, the state board of education, or a public institution of higher education, depending upon the state. Some states also allow existing public or nonsectarian private schools to convert to charter status. Charter schools have the potential to control their own budget, staffing and curriculum, but their autonomy varies from state to state. They must attract students and achieve the results agreed to in their charters, or their contracts can be revoked.

Choice Options: Alternative and/or additional education opportunities available, at their choice, to students and their parents. School choice options in Minnesota include the Post-secondary Enrollment Option, open enrollment, and charter schools.

Class Size: The number of students a teacher has (enrolled) in his/her class at a given time.

Compensatory Funds (also known as "Compensatory Education Revenue"): Based on a complex formula which provides additional funding for districts with students eligible to receive free lunch and/or reduced-priced lunch based on October 1st enrollments of the previous fiscal year. Compensatory revenue increases as the percent of students eligible for free and reduced-price lunch increases. The percentage is capped, however.

Completion Rate: Refers to the percentage of students who complete high school in four years.

Content Standards: Content standards define what students should know and be able to do in key academic subjects at specific grades.

Continuous Improvement Program: An initiative introduced by the Minnesota Educational Effectiveness Program (MEEP) aimed at assisting building-level leadership teams with data analysis, planning, implementation and evaluation.

Curriculum: A school's master plan for selecting content and organizing learning experiences for the purpose of changing and developing learners' behaviors and insights. A curriculum is characterized by its scope (breadth of content) and sequence (organization of content).

Dropout Rate: The percentage of students that leave high school before receiving their diploma. Students who transfer to a non-public high school or to a public high school in another state are not counted as dropouts.

Educational Accountability: A systematic method for examining whether schools and students are moving toward desired goals. In Minnesota, it is a statewide system that is applicable, with appropriate assessment accommodations, to all students, including those with disabilities and limited proficiency in English.

Educational Attainment: The highest educational degree completed, or the highest grade of regular school attended and completed.

Enrollment: The total number of students registered in a given school unit at a given time, generally in the fall of a year.

Equity: Refers to equal treatment, justice.

Ethnicity: Belonging to or relating to a particular religious, racial, or cultural heritage of a group.

Exceptional Instruction (Expenditure Category): Expenditures for instruction of students who, because of atypical characteristics or conditions, are provided with educational programs that are different from regular instructional programs. Includes expenditures for special instruction of students who are emotionally or psychologically disabled, or mentally retarded; for students with physical, hearing, speech, and visual impairments; and for students with special learning and behavior problems.

Federal Funding: The percentage of revenues from the federal government, whether paid directly or through another governmental unit. It includes all federal appropriations, grants, and contracts received by districts. The funds are typically targeted toward specific minority and disadvantaged student populations.

Food Support (Expenditure Category): Expenditures for the preparation and serving of meals and snacks to students.

Foundation Formula (also known as the "General Education funding program"): The general education funding program is the method by which school districts receive the majority of their financial support. It is designed to provide a basic foundation of funding for all districts, irrespective of local resources. It also channels more state aid to districts with low residential and commercial tax bases.

Free or Reduced-price Lunch: Eligibility requirements for free and reduced-price lunch are based on household size and total household income. Household size includes every child and adult in the household, whether related or unrelated. Every person who shares housing and/or expenses is considered to be part of the household for this purpose. Household size to household monthly income is listed below for persons living in the 48 contiguous states, the District of Columbia, Guam, and the territories. To qualify for reduced-price lunch, total household size (number of persons sharing expenses and/or income) to total monthly household income should not exceed the following amounts: 1/$1,436; 2/$1,926; 3/$2,416; 4/$2,907; 5/$3,397; 6/$3,887; 7/$4,377; 8/$4,868; each additional household member beyond 8 persons increases the permitted monthly income by $491. To qualify for free lunch, total monthly household size to income should not exceed the following amounts: 1/$1,009; 2/1,354; 3/1,698; 4/$2,043; 5/$2,387; 6/$2,732; 7/$3,076; 8/$3,421; each additional household member beyond 8 persons increases the permitted monthly income by $345. Household income guidelines are different for persons living in Alaska and Hawaii. (Income Eligibility Guidelines for School Meals Programs in 2004–05, USDA Food and Nutrition Service. Retrieved on August 9, 2004, from: http://www.fns.usda.gov/cnd/governance/notices/iegs/iegs.htm).

Full-time Equivalent (FTE): School staff members are counted using FTE values. For example, a full-time staff member is counted as 1.0 FTE; one employed only half time is counted as .5 FTE.

Graduation Rate: Minnesota now uses a quasi-longitudinal approach to calculating graduation rate, according to the formula given in the sidebar on p. 48. The rate is computed by dividing the number of 11th and 12th graders who graduated in 2003–04 by the number of 12th graders who dropped out in 2003–04, plus the number of 11th graders who dropped out in 2002–03, plus the number of 10th graders who dropped out in 2001–02, plus the number of 9th graders who dropped out in 2000–01. This change was made because of No Child Left Behind, and allows Minnesota's graduation rate to be compared with the graduation rates of other states.

IDEA: Individuals with Disabilities Education Act, the federal law that oversees the provision of a free and appropriate public education to students with disabilities.

International Association for the Evaluation of Educational Achievement (IEA): An independent international cooperative of research centers and departments of education in more than 50 countries.

Instructional Alignment: The match between learning goals, learning activities, and assessment. Alignment is critical if teaching is to be effective and learning is to be maximized.

Instructional Support (Expenditure Category): Expenditures for activities intended to help teachers provide instruction, not including expenditures for principals or superintendents. Includes expenditures for assistant principals, curriculum development, libraries, media centers, audiovisual support, staff development, and computer-assisted instruction.

International Baccalaureate Diploma Program (IB): The International Baccalaureate Diploma Program is a rigorous pre-university course of study, leading to examinations, that meets the need of highly motivated secondary school students between the ages of 16 and 19 years. Designed as a comprehensive two-year curriculum that allows its graduates to fulfill requirements of various national education systems, the diploma model is based on the pattern of no single country but incorporates the best elements of several. Each examined subject is graded on a scale of 1 (minimum) to 7 (maximum), with 4 being the passing grade. Evaluation is criterion-referenced, so that each student's performance is measured against well-defined levels of achievement that are consistent from one examination session to the next, and are applied equally to all schools. The award of the diploma requires students to meet defined standards and conditions, including a minimum total of 24 points and the satisfactory completion of the extended essay, Theory of Knowledge course (TOK) and CAS (creativity, action, service) activities. The maximum score of 45 includes three points for the combination of the extended essay and work in TOK. IB diploma holders gain admission to selective universities throughout the world, including the University of Minnesota, Oxford, Yale, and the Sorbonne. Formal agreements exist between the International Baccalaureate Organization and many ministries of education and private institutions. Some colleges and universities may offer advanced standing or course credit to students with strong IB examination results. The program is available in English, French, and Spanish. Web site: http://www.ibo.org

Limited English Proficiency: A student with limited English proficiency is defined as one whose primary language is not English and whose score on an English reading or language arts test is significantly below the average score for students of the same age. (This definition is used by the Minnesota legislature; however, it may vary across school districts.)

Local Sources (Revenue Category): The percentage of revenues received by schools and districts originating from local sources, including property taxes, fees, county apportionment, etc.

Master's Degree: A degree awarded for successful completion of a program generally requiring 1 or 2 years of full-time college-level study beyond the bachelor's degree.

Mean Score: An average. The total of all scores in a group, divided by the number of scores.

Metro Area Schools: Refers to school districts located in Minneapolis, St. Paul, and the seven county metro area. Suburban schools are considered to be located in the seven county metro areaa.

Minnesota Comprehensive Assessments (MCAs): These tests are given at the 3rd, 5th, 7th, 10th, and 11th grade levels to evaluate student progress and measure the success of schools and districts in improving achievement over time.

Minnesota Test of Emerging Academic English (TEAE): A test designed to provide an assessment specifically for students with limited English proficiency. The test results may also be used to evaluate the progress students are making in English as a Second Language (ESL) instructional programs.

Mobility: The number of times a student moves from school to school or district to district in a given year. This indicator measures frequent school or residence changes.

National Assessment of Educational Progress (NAEP): *NAEP* is often called the "nation's report card." It is the only regularly conducted survey of what a nationally representative sample of students in grades 4, 8, and 12 knows and can do in various subjects. The project is mandated by Congress and carried out by the National Center for Education Statistics at the U.S. Department of Education. Beginning in 1990, the survey was expanded to provide state-level results for individual states that choose to participate. The policy defines three *NAEP* achievement levels: basic, proficient and advanced. The definitions for each level follow.

- **Basic level:** denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade.
- **Proficient level:** represents solid academic performance for each grade accessed. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.
- **Advanced level:** signifies superior performance.

The *NAEP* scores have been tied to certain performance capabilities. In reading, a score of 300 implies an ability to find, understand, summarize and explain relatively complicated literary and informational material. A score of 250 implies an ability to search for specific information, interrelate ideas, and make generalizations about literature, science and social studies materials. A score of 200 implies an ability to understand, combine ideas, and make inferences based on short uncomplicated passages about specific or sequentially related information. A score of 150 implies an ability to follow brief written directions and carry out simple, discrete reading tasks.

The *NAEP* scoring scale for reading ranges from 0 to 500. In 1994, the NAEP reading achievement levels reported in *National Assessment of Educational Progress Achievement Levels, 1992–1998 for Reading* (2001) were as follows: For Grade 4, a score of 208–237 was classified as basic achievement, a score of 238–267 was classified as proficient achievement; and

a score at or above 268 was classified as advanced achievement. For Grade 8, basic achievement required a score of 243–280, proficient achievement required a score of 281–322 and advanced achievement required a score at or above 323. For Grade 12, basic achievement required a score of a score of 265–301, proficient achievement required a score of 302–345, and advanced achievement required a score at or above 346.

The *NAEP* scores have been evaluated at certain performance levels. In math, performers at the 150 level know some basic addition and subtraction facts, and most can add two-digit numbers without regrouping. They recognize simple situations in which addition and subtraction applies. Performers at the 200 level have considerable understanding of two digit numbers and know some basic multiplication and division facts. Performers at the 250 level have an initial understanding of the four basic operations. They can also compare information from graphs and charts, and are developing an ability to analyze simple logical relations. Performers at the 300 level can compute decimals, simple fractions and percents. They can identify geometric figures, measure lengths and angles, and calculate areas of rectangles. They are developing the skills to operate with signed numbers, exponents, and square roots. Performers at the 350 level can apply a range of reasoning skills to solve multi-step problems. They can solve routine problems involving fractions and percents, recognize properties of basic geometric figures, and work with exponents and square roots.

The *NAEP* scoring scale for math ranges from 0 to 500. The NAEP mathematics achievement levels reported in *National Assessment of Educational Progress Achievement Levels, 1992–1998 for Mathematics* (2001) were as follows: For Grade 4, a score of 214–248 was classified as basic achievement; a score of 249–281 was classified as proficient achievement; and a score at or above 282 was classified as advanced achievement. For Grade 8, basic achievement required a score of 262–298; proficient achievement required a score of 299–332; and advanced achievement required a score at or above 333. For Grade 12, basic achievement required a score of a score of 288–335; proficient achievement required a score of 336–366; and advanced achievement required a score at or above 367.

No Child Left Behind Act: The name given to the education legislation signed into law by President George W. Bush on January 8, 2002. This legislation contains the President's four basic education reform principles, aimed at improving accountability for education results by requiring states to set performance standards, implement statewide assessments, and report progress toward 100% student proficiency by 2013–14.

Open Enrollment: Public school choice programs allow families to choose the public schools their children attend. Intradistrict programs limit a family's choice to some or all of the public schools in their own district. Open enrollment programs allow families to choose schools outside the district in which they live.

Operations and Maintenance (Expenditure Category): Expenditures for operation, maintenance, and repair of the district's buildings, grounds and equipment. Includes expenditures for custodians, fuel for buildings, electricity, telephones and repairs.

Other Operations (Expenditure Category): Expenditures for general fund operating programs necessary to a district's operations but not able to be assigned to other programs. These can include federally funded community education services for students, property and liability premiums, principal and interest on non-capital obligations, and nonrecurring costs such as judgements and liens.

Outcomes: The desired results of an educational system.

Outcome-based Education (OBE): A structure at a school and district level that stresses

clearly defined outcomes, criterion-referenced measures of success, and instructional strategies. These outcomes are directly related to student abilities and needs, flexible use of time and learning opportunities, recognition of student success, and modification of programs on the basis of student results. Descriptions available online: http://www.ericfacility.net/ericdigests/ed363914.html (ERIC Digest #ED363914) and http://www.ericfacility.net/ericdigests/ed377512.html (ERIC Digest #ED377512).

Outstate schools: Refers to the school districts located outside the seven county metro area. For some purposes, they are divided into districts that have enrollments of 2000 students or less (2000-), or enrollments of greater than 2000 students (2000+).

Performance Standards: Performance standards define what students must know (knowledge) and be able to do (skills) to be considered competent.

Per-pupil Expenditure or Per-pupil Spending (Expenditure Category): The State's annual total spending on public K–12 education divided by its total number of students. An adjusted amount makes the number comparable by taking into account how much it costs school districts in different regions to recruit and employ teachers with similar qualifications.

Post-secondary Enrollment Option (PSEO): This program allows high school juniors and seniors to enroll in classes at postsecondary institutions at public expense and receive both high school and college credit for their courses. The Minnesota program is twofold: To promote rigorous academic pursuits and to provide a variety of options to high school students.

Poverty: An indicator measured as the proportion of students eligible for free or reduced-price lunch. See also "Student Poverty."

Proficiency Levels: There are five achievement levels that represent the expectations for academic success in Minnesota:

- **Level 1:** Students at this level have gaps in the knowledge and skills necessary for satisfactory work in the state's content standards. These students typically are working significantly below grade level and typically need additional instruction to progress beyond finding obvious answers and simple details.
- **Level 2:** Students at this level have partial knowledge and skills necessary for satisfactory work in the state's content standards. They typically are working on slightly below grade-level material in one or more content areas.
- **Level 3:** Most students at this level are working on grade-level material and are on track to achieve satisfactory work in the state's content standards.
- **Level 4:** Students at this level are working above grade level and demonstrate solid performance in the knowledge and skills necessary for satisfactory work in the state's content standards. Many are proficient with challenging subject matter.
- **Level 5:** Students at this level demonstrate superior performance, knowledge and skills well beyond what is expected at the grade level.

Pupil Transportation (Expenditure Category): Expenditures for transportation of students, including salaries, contracted services, fuel for buses, and other expenditures.

Pupil/Staff Ratios: Pupil/staff ratios are based on the total number of pupils in attendance (ADA) at a school, compared to the total number of licensed school personnel (FTE), e.g., administrators, counselors, teachers, media specialists, speech clinicians, psychologists, etc., in that school.

Pupil/Teacher Ratio: Pupil/teacher ratios are based on the total number of pupils in attendance (ADA) at a school, compared to the total number of licensed teaching staff (FTE) in that school.

Regular Instruction (Expenditure Category): Expenditures for elementary and secondary classroom instruction, not including vocational instruction and exception instruction. Includes salaries of teachers, classroom aides, coaches, and expenditures for classroom supplies and textbooks.

Results-oriented Educational System: A structure at the school and district level that stresses clearly defined outcomes, criterion-referenced measures of ssuccess, and instructional strategies. These outcomes are directly related to student abilities and needs, flexible use of time and learning opportunities, recognition of student success, and modification of programs on the basis of student results. Same as Outcome-based education.

Scale Score: A scale score provides a common scale for different forms of a test used at a given grade or across age/gender levels.

SAT: Formerly known as the Scholastic Aptitude Test, the SAT is commonly used as a college entrance exam. See http://www.collegeboard.com/newsat/index.html for details.

School Accreditation Processes: The awarding of credentials to schools; in particular, the award of membership in one of the regional associations of educational institutions that attempt to maintain certain quality standards for membership.

School Climate: The social system and culture of the school, including the organizational structure, values, and expectations within it.

School Improvement Programs: Programs intended to improve school quality.

Site-based Management: Governance arrangements designed to give the people closest to students the ability to make decisions about their education. Typically, teachers, parents, and administrators at the school site are given more say over such matters as staffing, budgets, curriculum, and instructional materials. However, the level of autonomy granted to individual schools, and determinations of who is involved in making decisions and whether such decisions relate to student learning, vary widely.

Social Promotion: Promoting students to the next grade level in order for them to remain at the same social level as their peers, without regard to whether or not the student meets the academic standards needed to succeed at the next grade level.

Special Education: Direct instructional activities or special learning experiences designed primarily for students identified as having exceptional needs in one or more aspects of the cognitive process or as being underachievers in relation to general level or model of their overall abilities. Such services are usually directed toward students with

physical, emotional, and/or cognitive learning disabilities, although programs for the mentally gifted and talented are also included in some special education programs.

Stakes: The terms "low stakes" and "high stakes" express the varying levels of risk being placed on those responsible for student learning. For example, high school exit examinations involve high stakes for the students taking the examination, since graduating from high school may be contingent on passing the test. In the context of Minnesota's accountability system, "stakes" can refer to either positive and/or negative consequences for students, schools or districts.

Standards: The knowledge or skill level necessary for a particular rating or grade on a given dimension of achievement. A standard is used as a basis for comparison. See content standards and performance standards.

State Allocations: The percentage of revenues a school receives from the Minnesota state government.

State-funded Learning Readiness Program: The purpose of a Learning Readiness program is to provide all eligible children with adequate opportunities to participate in child development programs. Such programs are intended to ensure that those children enter school with the necessary skills and behavior, as well as the family stability, needed for them to progress and flourish. Learning Readiness is offered in 345 school districts in Minnesota. The cost per child for Learning Readiness varies depending on the level of participation.

Student Poverty: In most of this report, the student poverty indicator is based on the percentage of students in a school or district who are eligible for free or reduced-price lunch. Other indicators are possible (for example, the term sometimes, in other publications, refers to students from families receiving aid for Families with Dependent Children).

Support Services (Expenditure Category): Expenditures for central office administration and central office operations not included in district and school administration. Includes expenditures for business services, data processing, legal services, personnel office, printing, and the school census.

Teacher Education: The amount of education a teacher has. The major distinction is between teachers having Bachelor's Degrees and those having Master's Degrees.

Teacher Experience: A teacher's number of years in the teaching profession.

Teacher Salary: Refers to the annual pay received by teachers.

Title I (Federally Funded Program): Title I of the Elementary and Secondary Education Act (ESEA), as restructured by the Improving America's Schools Act (IASA) of 1994, has as its primary focus to help disadvantaged students acquire the same knowledge and skills in challenging academic standards expected of all children. Title I required that, by the beginning of the 2000–01 school year, each State would have developed or adopted a set of high-quality yearly assessments to measure student performance in at least mathematics and reading/language arts. Such assessments are to be aligned with each state's content standards and used to monitor progress toward achievement goals for accountability purposes. In a key change (since the passage of the No Child Left Behind Act) states now use the same assessment for all children to measure whether students served by Title I are achieving the state standards. There is no longer any requirement for a

separate assessment for Title I students. Online: http://www.ed.gov/legislation/ESEA/Title_I/index.html (specific Title I information article) and http://www.ed.gov/nclb/landing.jhtml (the NCLB home page), retrieved 8/9/04.

Total Operating Expenditures (Expenditure Category): The total of the following categories: administration, support services, regular instruction, vocational instruction, exceptional instruction, instructional support, pupil support, operations and maintenance, food support, pupil transportation and other operations. This figure includes all expenditures incurred for the benefit of elementary and secondary education during the school year, except for capital and debt service expenditures.

Vocational Instruction: Expenditures in secondary schools for instruction related to job skills and career exploration. Includes expenditures for home economics, as well as industrial, business, agriculture, and distributive education.

Vouchers: Vouchers enable families to use public tax dollars to pay for their children's education at a public or private school of their choice. Voucher programs may or may not include private religious schools.

Appendix B: Achievement Level Details for Grades 10 and 11 Reading and Mathematics

Tables begin on p. 108.

Table B.1 Grade 10 Reading Achievement Level Descriptors

Skills	Level 1	Level 2	Level 3	Level 4	Level 5
Level of Passage/Text	Minimally comprehends simple, explicit sentences, ideas and concepts in narrative and expository texts.	Inconsistently comprehends narrative and expository texts with familiar or simple structures; ideas and concepts.	Consistently comprehends a variety of texts (fiction, poetry, technical, nonfiction, etc.) and demonstrates some ability to handle figurative language.	Comprehends and interprets information from a variety of texts and demonstrates a growing ability to handle figurative language.	Demonstrates superior comprehension and ability to interpret analyze and evaluate all aspects of a variety of texts.
Inference	Rarely recognizes inferences in text. Comprehension almost exclusively at the explicitly, concrete level.	Sometimes makes or recognizes inferences in narrative and expository text, most are simple.	Consistently makes inferences and draws conclusions based on explicit information in texts.	Consistently draws conclusions based on explicit and implicit information in texts.	Extends (or synthesizes) information from text to new and different situations.
Vocabulary/Strategies	Demonstrates limited vocabulary and minimal ability to use context clues to understand unfamiliar words.	Sometimes recognizes context clues for vocabulary, but inconsistently with specialized vocabulary.	Consistently analyzes word structure and uses contextual clues to understand grade level but unfamiliar new words in texts.	Expanded vocabulary enhances comprehension and used contextual clues to understand above grade level unfamiliar new words.	Facility with complex vocabulary supports synthesis, analysis, evaluation and extension of concepts in variety of texts.
Details	Locates some details explicitly stated in the text. Often confuses main ideas with supporting details.	Inconsistent in locating main idea unless obvious sometimes confuses main ideas with supporting details.	Consistently selects details relevant to the main idea for accurate understanding.	Consistently identifies supporting details, compares and contrasts, and prioritizes.	Discriminates, compares, and contrasts complex multiple details and prioritizes and demonstrates in applications, synthesis and evaluations.
Prior Knowledge	Limited prior knowledge hinders comprehension of text.	Partially connects prior knowledge to text.	Connects prior knowledge and past experience to text.	Applies prior knowledge to extend understanding of text.	Multiple experiences enrich understanding of text.
Analysis	Minimal ability to break text into parts; compare and contrast; identify similarities and differences.	Inconsistent ability to break text into parts; compare and contrast; identify similarities and differences.	Consistent ability at grade level to break text in parts; compare and contrast; identify similarities and differences.	Consistent ability above grade level to break a variety of text in parts; use analysis to make comparisons, identify similarities and differences.	Superior ability to evaluate, analyze, synthesize and summarize various genre; compare and contrast; identify similarities and differences.

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Table B.2 Grade 11 Math Achievement Level Descriptors

Skills	Level 1	Level 2	Level 3	Level 4	Level 5
Level of Abstraction	Requires illustrations or manipulatives to solve basic problems.	Represents a situation with a picture rather than symbolic representation.	Uses symbolic representation or visual support provided to solve problems.	Uses the concept of variable to model and solve problems. May create original visual support to solve a problem.	Models mathematical situations symbolically.
Literacy	Follows directions. Misinterprets questions.	Knows the meaning of words for the four basic operations but does not necessarily perform the operations correctly.	Uses mathematical terms and symbols but use of terms may be incorrect or limited to common names.	Correct use of basic mathematical terminology.	Understands and correctly uses mathematical terms, definitions and symbols.
Communication	Unable to communicate mathematical thinking.	Limited skill in communicating mathematical thinking.	Attempts an explanation of mathematical reasoning.	Provides an explanation of mathematical reasoning with partial justification.	Provides full justification for mathematical reasoning including terms and symbols.
Skills	Basic arithmetic with whole numbers. Plots points in first quadrant of a coordinate system – may confuse x and y axes.	Plots points in all four quadrants of a coordinate system.	Calculate mean, median and mode. Compute correctly with minor errors Identify images under a single transformation.	Represents linear and quadratic situations with graphs, tables, equations and verbal descriptions. Calculates simple probability. Uses trigonometric functions to find the missing side of a triangle.	Represents exponential, power, linear, quadratic and logarithmic situations with tables, graphs, equations and verbal descriptions.
Strategies	Uses the four basic arithmetic operations with whole numbers.	Solves one-step problems. Substitutes values into a given formula.	Represents linear situations with graph, table and equation Solves problems involving two steps Selects and correctly applies a formula to solve a problem.	May use multiple strategies in a problem. Solves problems requiring multiple steps.	Applies mathematical concepts and skills in unfamiliar situations. Solves problems requiring multiple steps.

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