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A Note on the Use of Aggregate SAT Data*

As measures of developed verbal and mathematical abilities that are important for success in college, SAT scores are useful in making decisions about individual students and assessing their academic preparation. Because of the increasing public interest in educational accountability, aggregate test data continue to be widely publicized and analyzed. Aggregate scores can be considered one indicator of educational quality when used in conjunction with a careful examination of other conditions that affect the educational enterprise.

However, it is important to note that many College Board tests are taken only by particular groups of self-selected students. Therefore, aggregate results of their performance on these tests usually do not necessarily reflect the educational attainment of all students in a school, district, or state.

Useful comparisons of students' performance are possible only if all students take the same test. Average SAT scores are not appropriate for state comparisons because the percentage of SAT test-takers varies widely among states. In some states, a very small percentage of the college-bound seniors take the SAT. Typically, these students have strong academic backgrounds and are applicants to the nation's most selective colleges and scholarship programs. Therefore, it is expected that the SAT verbal and mathematical averages reported for these states will be higher than the national average. In states where a greater proportion of students with a wide range of academic backgrounds take the SAT, and where most colleges in the state require the test for admission, the scores are closer to the national average.

In looking at average SAT scores, the user must understand the context in which the particular test scores were earned. Other factors variously related to performance on the SAT include academic courses studied in high school, family background, and education of parents. These factors and others of a less tangible nature could very well have a significant influence on average scores.

* Excerpted from *Guidelines on the Uses of College Board Test Scores and Related Data*. Copyright 2002 by the College Entrance Examination Board. All rights reserved.

Background

The SAT was designed to assess developed verbal and mathematical abilities in students. The test has been administered to college-bound seniors in the United States for over 75 years, dating back to 1926 when it was taken by just over 8,000 students. Many colleges and universities consider the SAT to be a reliable indicator of student preparation for college; consequently, it has become the best known and the most widely used college admissions test in the United States. An estimated 80 percent of four-year colleges and universities without open admission policies use SAT scores in admissions decisions each year (College Board, 2003).

In 2003, nearly half of approximately three million high school graduates took the SAT. Typically, colleges that consider SAT scores in admissions decisions use the scores as part of an analysis that includes other information from the student's high school record, including other predictors and results from other tests.

The SAT I has undergone some changes over the years. In 1994, the following changes were made: (1) critical reading questions were given more emphasis; (2) longer reading passages were added; (3) non-multiple choice questions in mathematics were introduced and calculators were allowed for the first time; and (4) antonyms were eliminated. The scores from the new test were equated with scores from the previous test.

In 1995, the Educational Testing Service changed the test's name from the *Scholastic Aptitude Test* to the *Scholastic Assessment Test*. ETS aimed to retain the original acronym, while dispelling the numerous objections to the test being called an 'aptitude' test. Currently, the test is called the SAT, an acronym without any specific word association.

Also in 1995, the SAT's score scale was recentered due to increased diversity of the college-bound senior population. The original SAT Verbal and Mathematics scales derived their universal meaning from a 1941 reference group of slightly more than 10,000 test takers, which was much less heterogeneous than the college-bound senior population in 1990. Because the universal meaning of the SAT scores had changed with the shift in the reference population from 1941 to 1990, the scales required recalibration (recentering). Recentering the SAT scales resulted in two major changes: (1) The average scores for both the SAT I Verbal and Mathematics tests were reestablished at about 500 – the midpoint of the 200-800 scale; and (2) Verbal and Mathematics scales were aligned so that Verbal and Mathematics scores could be compared directly. Prior to recentering, Verbal and Mathematics scores could be compared only by looking at percentiles.

In 2005, a new SAT will be administered, which will differ from the current test in three major areas: writing, mathematics, and verbal. A writing test will be included for the first time and will include multiple-choice items, grammar usage questions, and a written essay. The math test will include Algebra II content, and the quantitative comparisons will be eliminated. The Verbal test will be re-named "Critical Reading" and will include the addition of shorter reading passages to the existing long reading passages. Analogies will be eliminated. The maximum total score on the new SAT will be 2400, 800 points for each of the three areas.

In addition to being reliable indicators of students' preparation for college, aggregate SAT scores for a series of years can reveal trends in the academic preparation of students who take the SAT. Thus, this report includes the 2003 SAT performance of North Carolina's students and historical scores for recent years. However, rankings or residual rankings are not used in this report in compliance with the College Board's *Guidelines on the Uses of College Board Test Scores and Related Data* and with professional standards for educational and psychological testing. The guidelines caution against the use of SAT scores in aggregate form as a single measure to rank or rate states, educational institutions, school systems, schools, or teachers. *A Note on the Use of Aggregate SAT Data* on page v provides details for why such uses are inappropriate.

This report presents SAT results for students scheduled to graduate in 2003 and represents students' most recent scores, regardless of when they last took the test. The scores in this report reflect *public and non-public school students* in North Carolina and the United States, except where otherwise noted.

Results

Overall Performance

In 2003, North Carolina's average total SAT score was 1001, the first time the state has ever scored at or above 1000 (see Figure 1). This score was a dramatic improvement over its 1989 score (943), which was the lowest score among all states in the nation, including the District of Columbia. North Carolina's average yearly gain has been about 3.5 points on the SAT since 1989, compared with about 1.3 points for the nation (see Figure 2).

With nearly a six percent increase in SAT takers from the previous year, North Carolina's mean total SAT score (1001) increased three points (a two point gain on the verbal section and a one point gain on the math section). However, the nation scored 1026 and gained six points from the previous year (three points each on the verbal and mathematics sections).

North Carolina has improved its score each year since 1990, except in 1994 when there was no change. From 1990 to 2003, North Carolina gained more points (53) than any other state with more than 12 percent SAT takers (see Table 9). Among the "SAT States," (those states with more than 50 percent SAT takers), North Carolina had the third largest 5-year gain (19 points) behind South Carolina (38 points) and Massachusetts (22 points) and the third largest 10-year gain (37 Points) behind South Carolina (44 points) and Washington (41 points) [College Board, 2003]. The 25 point gap between North Carolina's mean and the nation's mean in 2003 was less than one-half the gap in 1990 (when the gap was 53 points) and has narrowed by 70 percent since 1972 when the gap was 83 points (see Table 2 in the Appendices).

In 1990, the total mean SAT score for the Southeast (973) was 25 points higher than North Carolina's score (948) [Department of Public Instruction, 2002]. However, in 2003, North Carolina's

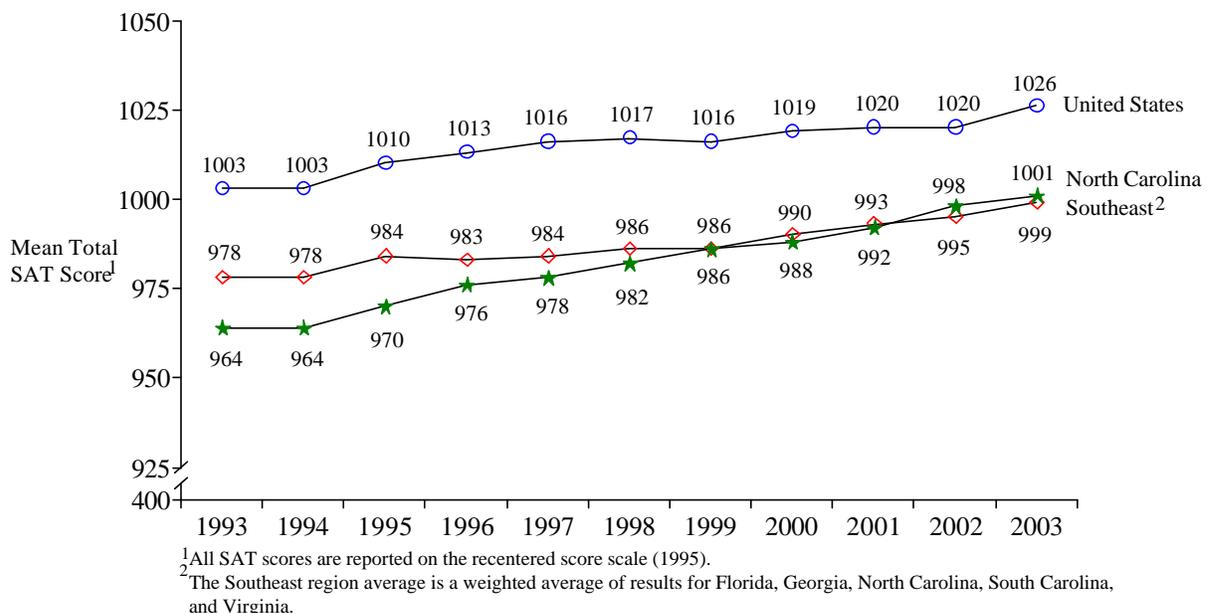
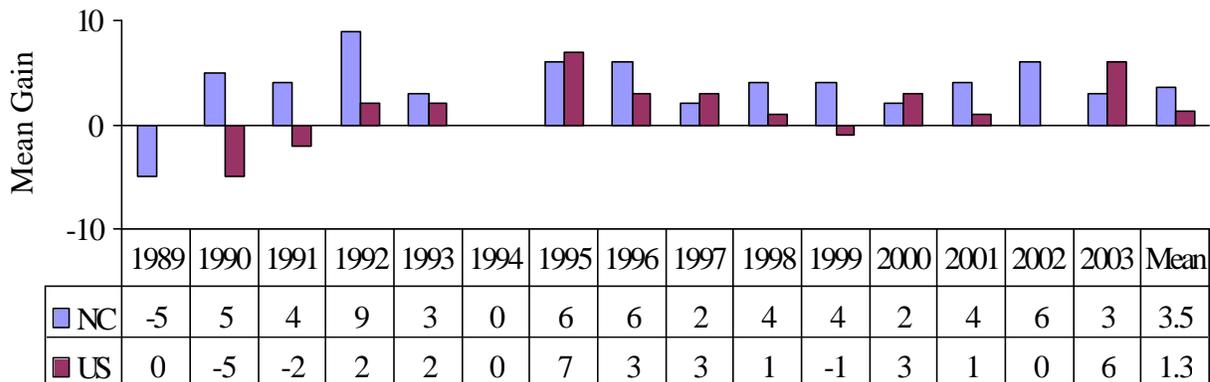


Figure 1. Mean Total SAT Scores for the United States, Southeast Region, and North Carolina, 1993-2003.

score (1001) exceeded the Southeast's score (999) by two points (see Figure 1). This shift in scoring pattern has occurred even while the Southeast made positive gains over the past three years.



NC = North Carolina; US = United States

Figure 2. Average Yearly SAT Score Gains for North Carolina and the United States, 1989 to 2003.

Public Schools

SAT scores for North Carolina's public schools have always lagged those of public schools in the nation (see Figure 3). However, in recent years, North Carolina's public schools have been improving at a faster rate than those in the nation. In 2003, the nation gained three points on its previous year's score and North Carolina gained five. The gap between the nation's score (1016) and North Carolina's score (999) was 17 points in 2003, compared with 19 points the previous year and 39 points in 1993.

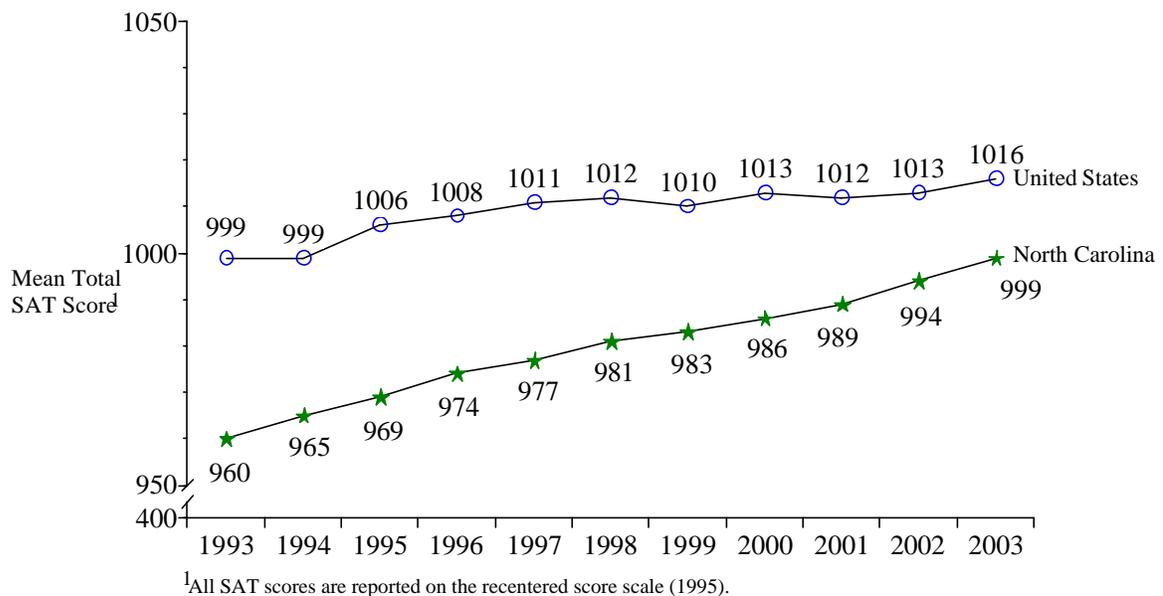


Figure 3. Mean Total SAT Scores for Public School Students in North Carolina and the Nation, 1993-2003.

Verbal and Mathematics Scores

In past years, North Carolina's students have scored closer to the nation on the verbal portion of the SAT than on the mathematics portion (see Figure 4 and Table 2). In 2003, the nation gained one point on North Carolina by scoring 507 on the verbal portion, an improvement of three points over the previous year's score. In comparison, North Carolina scored 495 on the verbal portion and improved its previous year's score by two points. The gap between the nation's verbal score and North Carolina's verbal score was 12 points in 2003 as compared with 17 points in 1993.

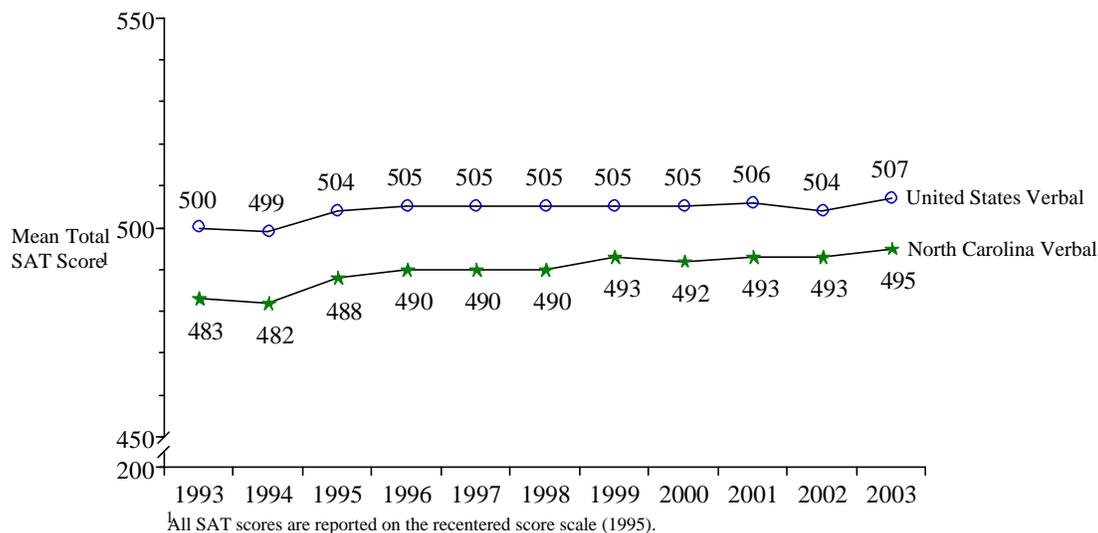


Figure 4. Mean Total SAT Verbal Scores for North Carolina and the Nation, 1994-2003.

In mathematics, the nation's college-bound seniors gained two points on North Carolina's seniors by scoring 519 in 2003 (an increase of three points from the previous year), while North Carolina scored 506 and increased its previous year's score by one point. In 2003, North Carolina's mathematics score lagged the nation's score by 13 points, compared with 22 points in 1993.

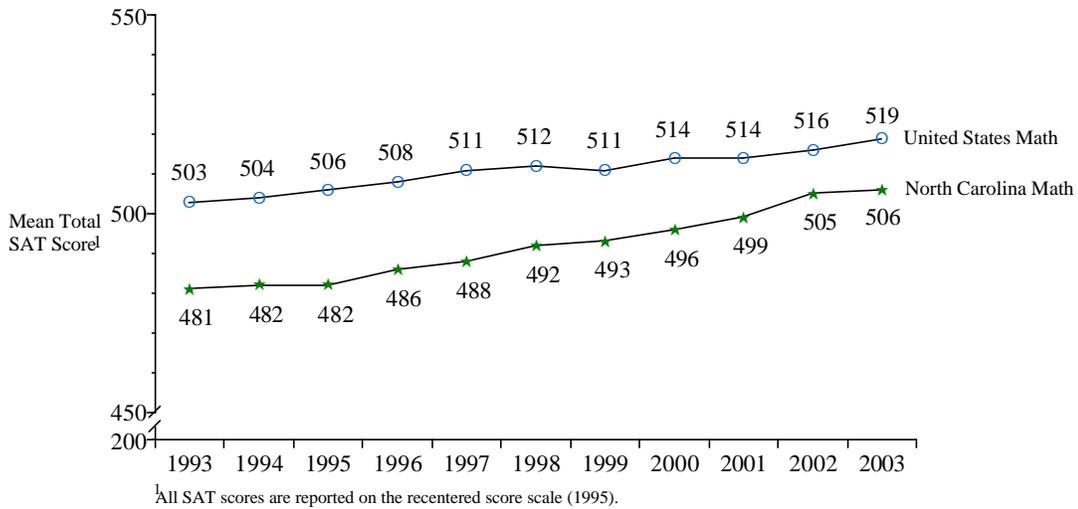


Figure 5. Mean Total SAT Mathematics Scores for North Carolina and the Nation, 1994-2003.

Gender

Historically, males have scored higher on the SAT than females in North Carolina and in the nation. The 2003 results show that the scoring gap between males and females in North Carolina and the nation has diminished negligibly since 1992 (see Figure 6). North Carolina's females scored 985 in 2003, while males scored 1021 and increased the scoring gap to 36 points. In comparison, the gender gap was 30 points the previous year and 38 points in 1992. Nationally, the gap between male and female scores was 43 points in 2003, compared with 39 points in 2002 and 47 points in 1992.

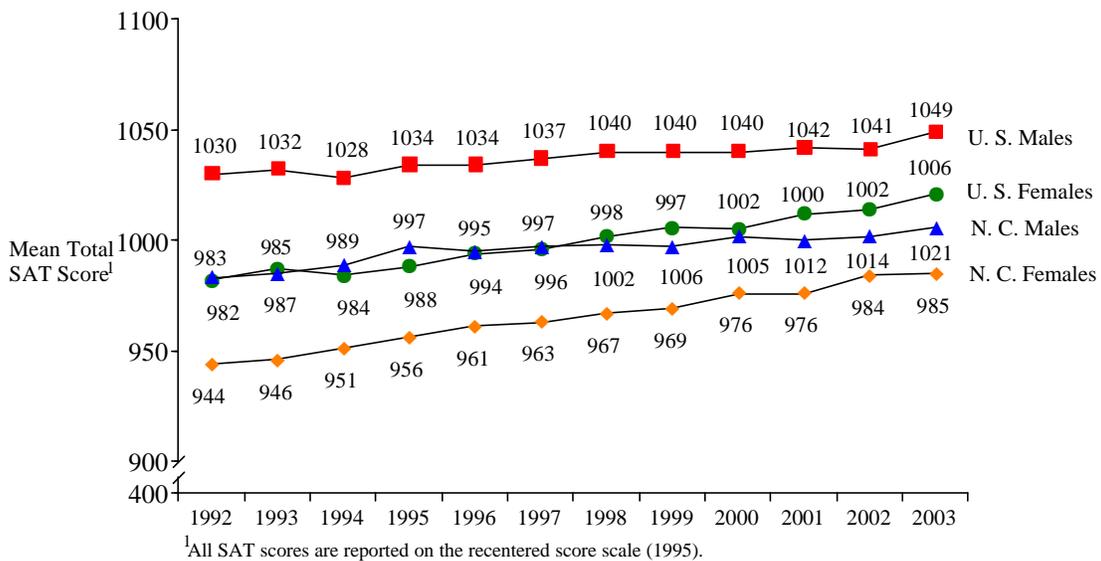


Figure 6. Mean Total SAT Scores for the United States and North Carolina by Gender, 1992-2003.

Figure 6 shows that the nation's males and females have scored higher on the SAT than their counterparts in North Carolina each year since 1992. However, some narrowing of the gap between

North Carolina and the nation may be observed. For example, the gap between the scores for North Carolina's males and males in the nation was 28 points in 2003, compared with 47 points in 1992. Similarly, the gap between the scores for North Carolina's females and females in the nation was 18 points in 2003, down from 39 points in 1992.

The primary difference between the mean SAT scores for males and females in North Carolina and in the nation has consistently been in mathematics (see Table 1). For example, the average gap between the scores of males and females in North Carolina from 1994 to 2003 on the mathematics portion of the SAT has been about 29 points but only about four points on the verbal portion. Nationally, the gender gap has followed a similar trend, with males scoring on average about 35 points higher in mathematics, but only about six points higher on the verbal portion of the SAT from 1994 to 2003.

Table 1. Mean Verbal and Math SAT Scores for North Carolina and the Nation by Gender, 1994-2003

Year	SAT Verbal ¹						SAT Math ¹					
	North Carolina			Nation			North Carolina			Nation		
	M	F	Gap ²	M	F	Gap ²	M	F	Gap ²	M	F	Gap ²
1994	483	482	1	501	497	4	499	469	30	523	487	36
1965	489	488	1	488	482	6	498	470	28	525	490	35
1996	492	489	3	507	503	4	502	472	30	527	492	35
1997	491	489	2	507	503	4	505	474	31	530	494	36
1998	493	488	5	509	502	7	509	479	30	531	496	35
1999	496	490	6	509	502	7	510	479	31	531	495	36
2000	493	492	1	507	504	3	512	484	28	533	498	35
2001	497	490	7	509	502	7	515	486	29	533	498	35
2002	494	492	2	507	502	5	520	492	28	534	500	34
2003	499	492	7	512	503	9	522	493	29	537	503	34
Mean	3.5			5.6			29.4			35.1		

¹All SAT scores are reported on the recentered score scale (1995)

²Gap refers to the mean score for males minus the mean score for females.

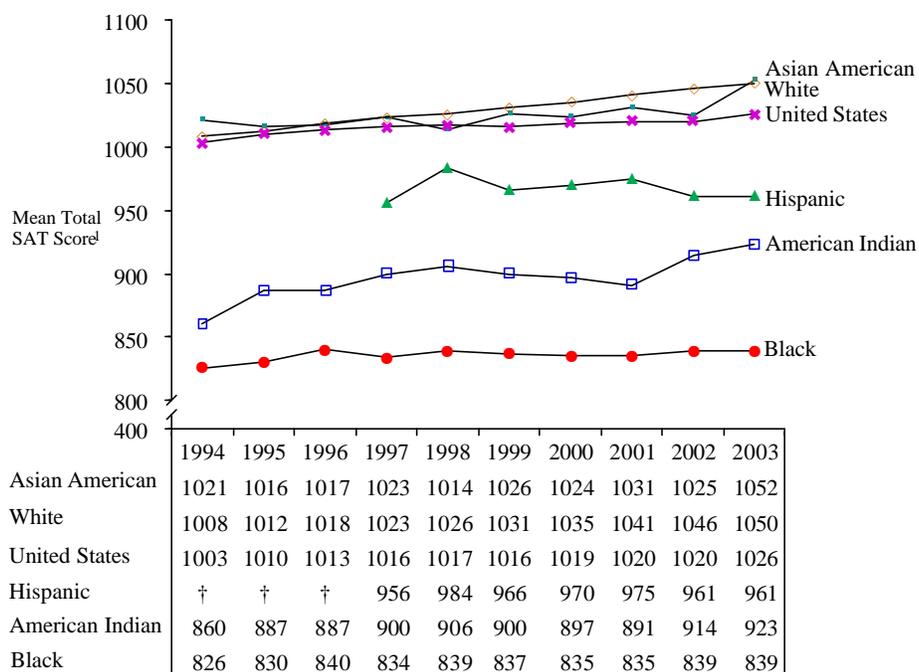
Race/Ethnicity

White and Asian students typically score higher than other racial/ethnic groups in North Carolina and their scores exceed the national average (see Figure 7). All racial/ethnic groups in North Carolina improved their scores from the previous year, except Hispanics and Blacks, who matched their previous year's scores. In 2003, North Carolina's Asian students attained the highest mean total SAT score (1052) of any subgroup in the state, 27 points higher than their previous year's score. White students attained the second highest score (1050), four points above their previous year's score. North Carolina's Asian and White students were the only groups to exceed the United States average (1026) in 2003, by 26 points and 24 points, respectively. North Carolina's White students scored higher than the national average for the tenth consecutive year, while Asians have done so each year since 1994, except 1998.

Historically, Hispanic students have been the only racial/ethnic group in North Carolina to score higher than their national counterparts. The score for Hispanics (961) was the same as the previous year's score, but 49 points higher than the score of their national counterparts. It should be noted however that Hispanics comprised a very small proportion of the total SAT test takers in North Carolina in 2003 (about two percent compared to ten percent nationally) as shown in Table 4.

North Carolina's Black students scored 839, the lowest score among racial/ethnic groups in 2003. This score was 213 points lower than Asian students, 211 points lower than White students, 122 points lower than Hispanic students, and 84 points lower than American Indian students in 2003.

American Indians have made the largest gains among the North Carolina's racial/ethnic groups since 1994, increasing their score by 63 points in 2003. By comparison, the gains for other racial/ethnic groups over the same time period have been 42, 31, and 13 points by Whites, Asians, and Blacks, respectively (see Figure 7).



¹All SAT scores are reported on the recentered score scale (1995).
† -- Data not available.

Figure 7. Mean Total SAT Scores for the United States and North Carolina by Race/Ethnicity, 1994-2003.

Nationally, Asian American (1083), Hispanic (912), and White (1063) students improved their previous year's scores, while American Indian (962) and Black (857) students matched their previous year's scores (see Table 5). "Other" (1014) students scored two points lower than in the previous year. Asian students improved their previous year's score by 14 points, while White and Hispanic students improved by three points and one point, respectively.

Since 1999, the only racial/ethnic groups in the nation to make positive gains have been Asian (25 points) White (8) and Black (1) students. The "Other" racial/ethnic groups scored lower in 2003 than they did in 1999.

Family Income

In North Carolina and the nation, the higher the family income, the higher the student's mean total SAT score (see Figure 8 and Table 4). Historically, there has been very little change from year to year in the mean total SAT score *within* each family income category. A downward trend in scoring is suggested in the lower three income categories in 2003.

The relative difference in mean total SAT score *between* family income categories is also fairly stable from year to year. However, SAT scores between the family income categories \$20,000-\$30,000 dollars and \$30,000-\$40,000 moved farther apart for North Carolina's students, with students in the former category scoring 47 points lower than students in the latter category in 2003 (see Table 5).

Conversely, the income categories \$40,000-\$50,000 and \$50,000-\$60,000 appear to be converging in recent years for North Carolina's students. Students in former income category scored 17 points lower than those in the latter category in 1994, but only 11 points more in 2003.

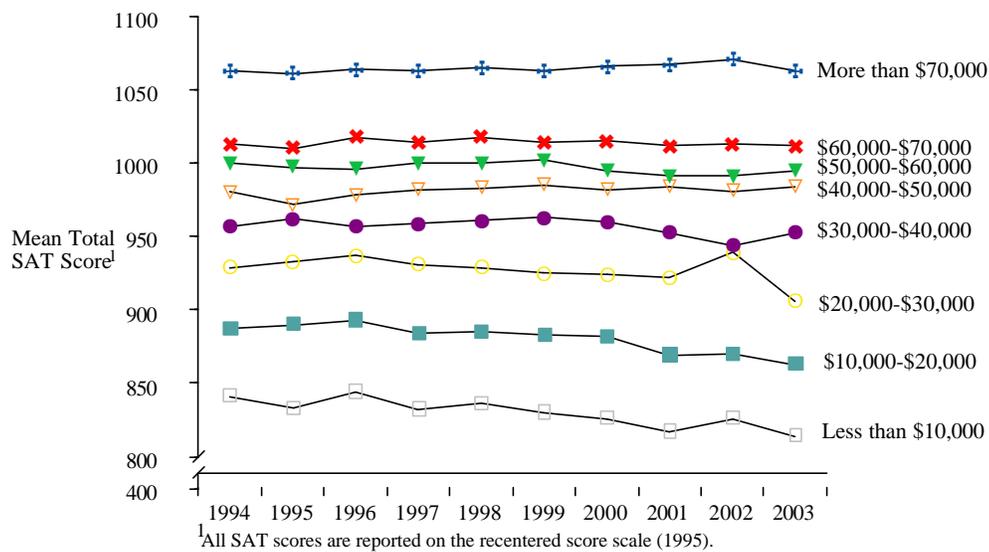
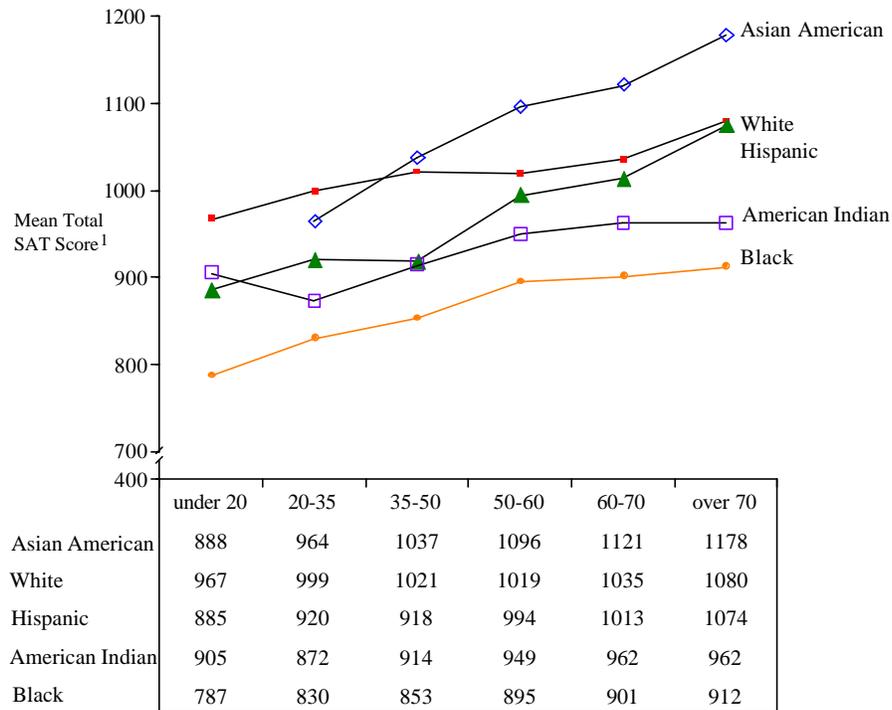


Figure 8. Mean Total SAT Scores for North Carolina by Family Income, 1994-2003.

Mean total SAT scores tend to increase for all racial/ethnic groups with increasing family income. This relationship was observed in 2003 (see Figure 9). White students, however, whose families were below the poverty line (earned less than \$20,000 per annum) scored higher than Black and American Indian students whose families earned over \$70,000 per annum. Despite strong evidence in the research literature that parental income is positively correlated with student achievement, these data suggest that there are variables other than family income that impact student achievement.



¹All SAT scores are reported on the recentered score scale (1995).

Figure 9. Mean Total SAT Scores for Students in North Carolina by Family Income and Racial/Ethnic Group, 2003.

Academic Preparation

Typically, the higher a student’s high school grade point average (GPA), the higher the student’s mean total SAT score. Figure 10 shows this trend in North Carolina from 1994 to 2003. SAT scores were up in 2003 from the previous year for all GPAs of A, but were lower for all grades less than A. However, North Carolina’s students with high school GPAs of A+, A and A- were further behind their national counterparts than North Carolina’s students with B or C averages (see Table 5 in Appendices), which was also the case the previous year. North Carolina’s students with high school GPAs of A+, A, or A- trail their peers nationally by 27, 36, and 43 points, respectively. However, North Carolina’s students with GPAs of A+, A, or A- represented a higher percentage of test takers (45 percent) than that of the nation (42 percent).

North Carolina’s students with GPAs of B were 30 points behind their peers nationally and represented 43 percent of North Carolina SAT takers, compared to 47 percent nationally. Students in North Carolina with GPAs of C were 29 points behind their peers nationally and represented 11 percent of SAT takers in North Carolina and 11 percent in the nation. When interpreting such data, one should consider that: (1) SAT test takers might misjudge or wrongly report their grade point averages on the SAT questionnaire, (2) SAT test takers might be receiving inflated grades, or (3) a combination of the two might be operative.

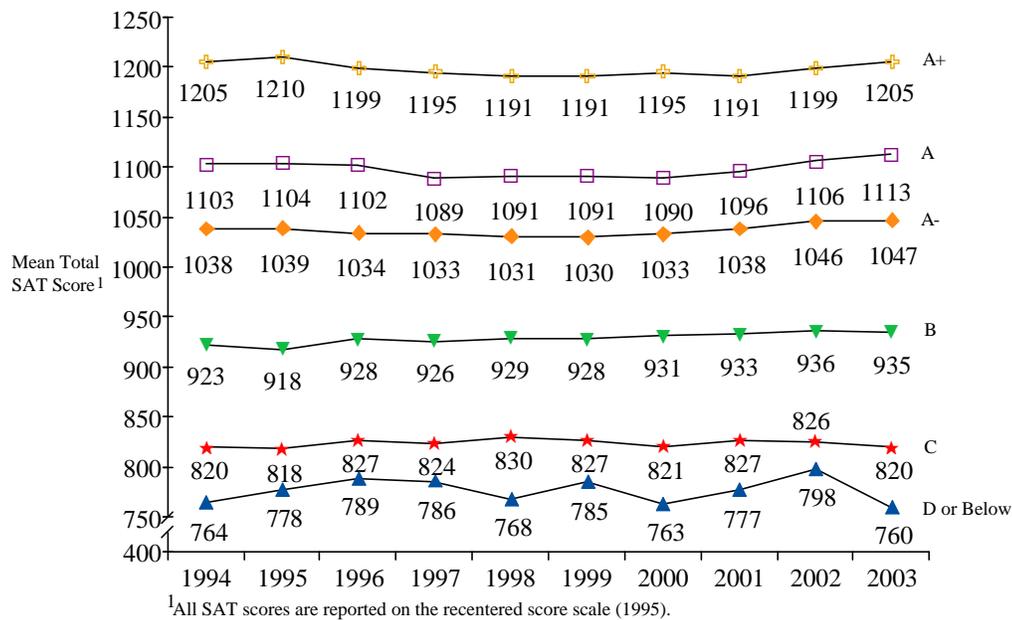


Figure 10. Mean Total SAT Scores for North Carolina by High School GPA, 1994-2003.

North Carolina and the University of North Carolina System

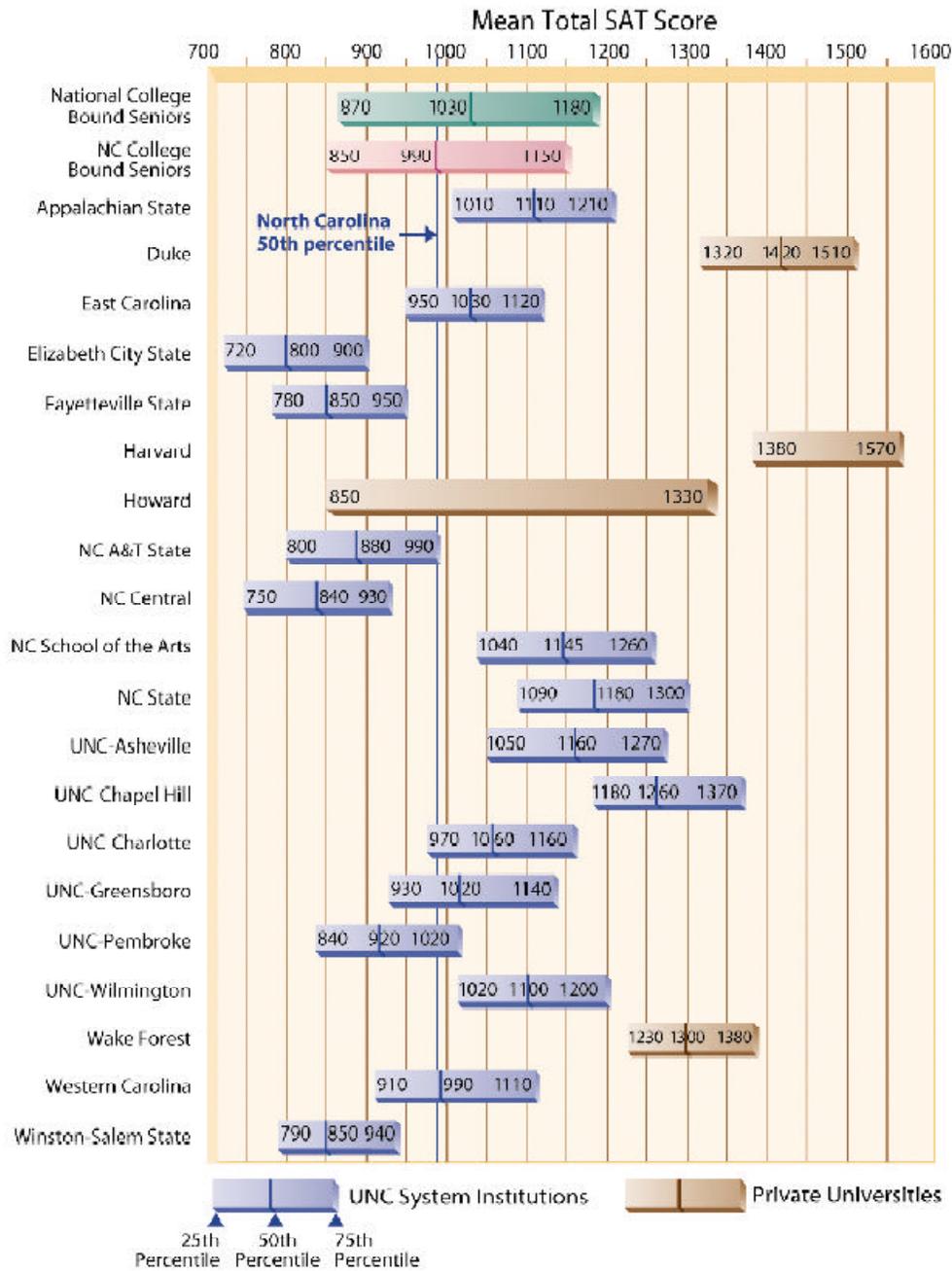
Historically, mean total SAT scores for freshmen entering the University of North Carolina System each year have been higher than those for North Carolina's graduating seniors (The University of North Carolina, 2002). The average total score for freshmen entering the University of North Carolina System from 1992 to 2002 was 1067, while the average for North Carolina's graduating seniors was 978 during the same period, an average difference of 89 points. This trend suggests that many of North Carolina's students who do not perform well on the SAT do not represent a substantial portion of the students who enter the University of North Carolina System. Perhaps, these students elect other post-secondary options, which might include community college, military service, or full-time employment.

In 2003, the mean total SAT score (1001) for North Carolina's college-bound seniors was 71 points lower than the score (1072) for freshmen entering the University of North Carolina system in 2002. [SAT scores for the University of North Carolina System in 2003 were not available for inclusion in this report.]

Schools within the University of North Carolina System serve a wide variety of student abilities as reflected in the mean total SAT scores of their entering freshmen. In 2001, scores ranged from 817 at Elizabeth City State University to 1267 at the University of North Carolina at Chapel Hill (The University of North Carolina, 2002).

Figure 11 shows the range of total SAT scores between the 25th and 75th percentiles of North Carolina's college-bound seniors, the nation's college-bound seniors, and entering freshmen at the University of North Carolina system institutions and other selected institutions in 2002. The bands in the figure show the range in which the middle half of the students scored -- 25 percent of students scored below the lower end of the band and 25 percent scored at or above the upper end of the band.

It can be seen that each of the University of North Carolina system institutions serves some students who score like the middle 50 percent of college-bound seniors in North Carolina and the nation. Duke, Wake Forest, and Harvard Universities are more likely to serve students who score like the top 25 percent of 2003 college-bound seniors in North Carolina and the nation and less likely to serve students who score like the lower 50 percent. On the other hand, Howard University, recognized as one of the elite Historically Black Colleges and Universities, is unique in that it serves a diverse range of student abilities and might serve students from the upper 75 percent of 2003 college-bound seniors in North Carolina and the nation.



All SAT scores are reported on the recentered score scale (1995).

Information on the 50th percentile for Howard and Harvard University's entering freshmen was not available; quartiles for Harvard, Howard, and Wake Forest Universities are based on 2002 data.

Source: The University of North Carolina (2002). Averages and Quartiles of SAT Scores of Entering Freshmen in the University of North Carolina, Fall 2000. Statistical Abstract of Higher Education in North Carolina, 2001-2002. Chapel Hill, NC.; Morse, R. J., Flanagan, S. M. and Cooke, A. I. (2003). Directory of Colleges and Universities. U. S. News & World Report. 129-314.

Figure 11. The 25th, 50th, and 75th Percentile of SAT Mean Total Scores for National College-Bound Seniors, North Carolina's College-Bound Seniors, Entering Freshmen at Institutions of the University of North Carolina System and Selected Private Universities, Fall 2002.

North Carolina's School Systems and Schools

Among states, the higher the percentage of students taking the SAT (participation rate), the lower the average SAT scores (The College Board, 1988). While this is true for states (see Figure 12), where there is a -0.88 correlation between mean total SAT scores and participation rate, the opposite association is observed for public school systems and public schools in North Carolina (see Figures 13 and 14). In 2003, the Pearson correlation between the percent of students taking the SAT and the mean total SAT score for *public school systems* in North Carolina was 0.47 . For *public schools*, the correlation was 0.48 . These correlations suggest that participation rate is a lesser factor in predicting SAT scores for public school systems and public schools than for states.

Also, in view of these correlations, schools and school systems in North Carolina should exercise caution when attributing decreases or increases in mean SAT scores to changes in participation rate. Interpretations of fluctuations in SAT scores at a particular school or system or between schools and systems should take into account that SAT scores are influenced by multiple factors. Among such factors are course-taking patterns, curriculum content, course standards, parental education, and family income. One should also be mindful that about 50% of all schools and school systems in the nation have changes in their mean verbal or math SAT scores of plus or minus 10 points from year to year (The College Board, 2003).

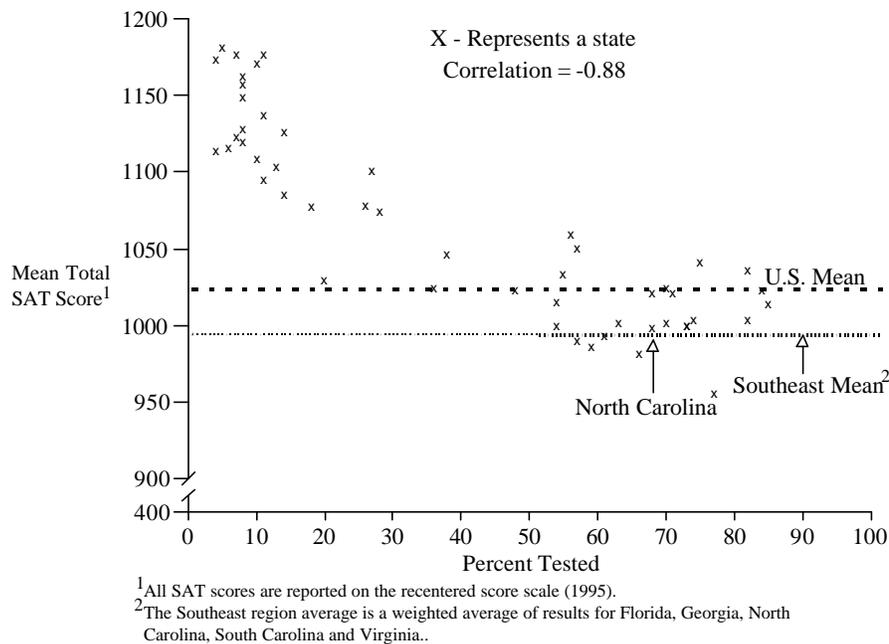


Figure 12. Mean Total SAT Score by Percent of Students Tested for all States, 2003.

Table 6 provides a three-year trend of mean SAT scores for each public school system and school in North Carolina from 2001 to 2003. The three-year trend is reported only for those school systems and schools with SAT scores in 2003. Those school systems and schools without SAT scores in 2003 are not included.

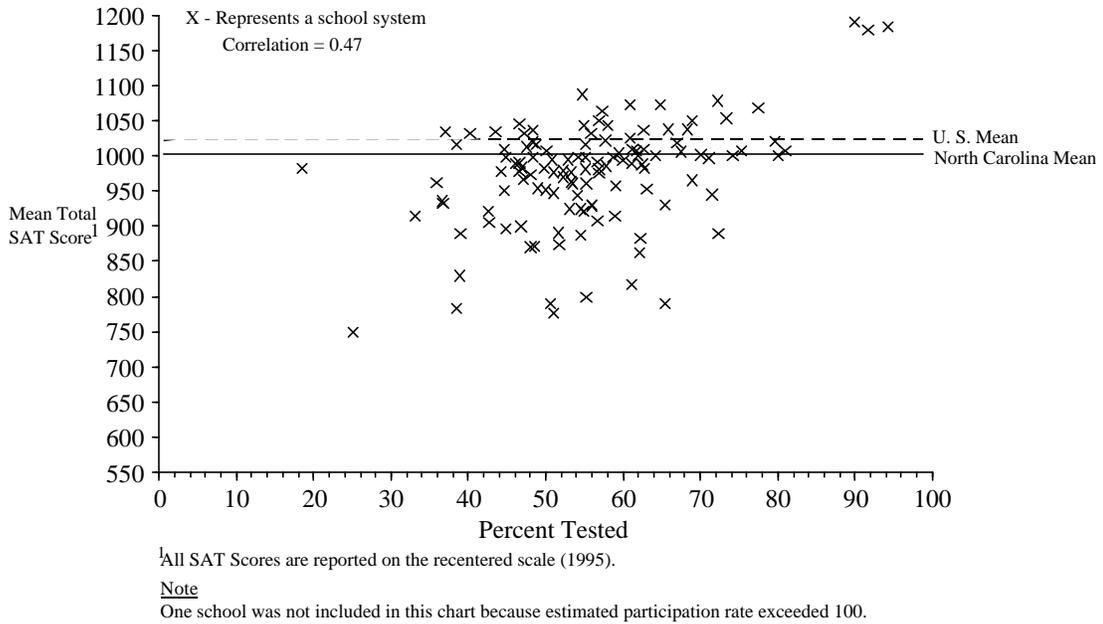


Figure 13. Mean Total SAT Score by Percent of Students Tested for all North Carolina Public School Systems, 2003.

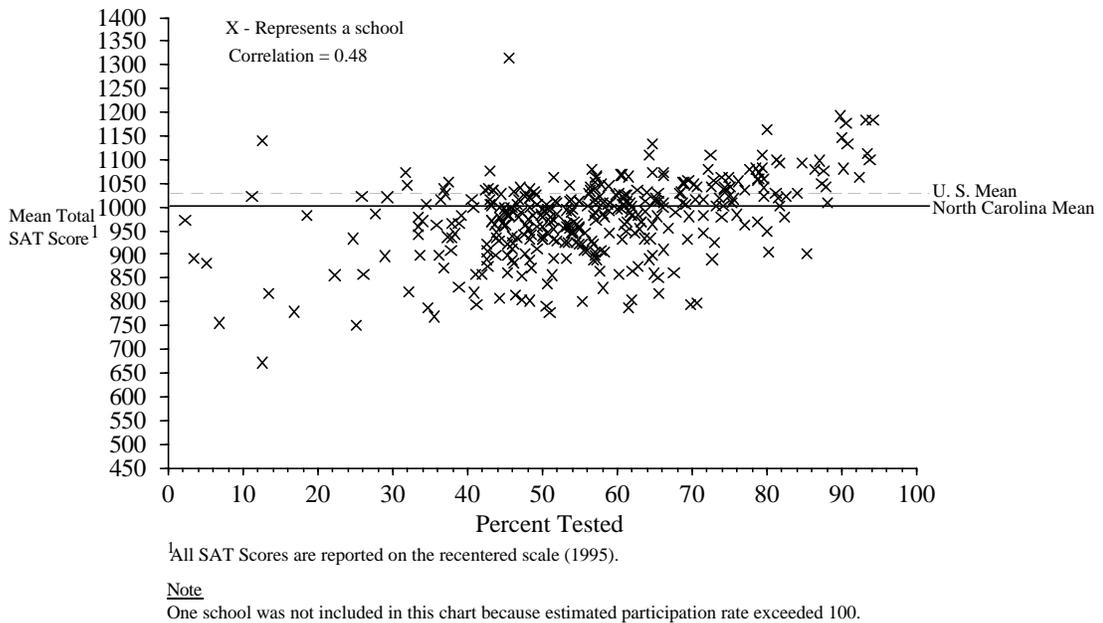


Figure 14. Mean Total SAT Score by Percent of Students Tested for all North Carolina Public High Schools, 2003.

Background on Recentering the SAT I Scores

The College Board recentered the score scale of the SAT I in 1995, re-establishing the original mean score of 500 on the 200-800 scale in order to maintain the SAT's statistical integrity and predictive validity. The scale had not been recalibrated since 1941 when it reflected the norm of some 10,000 students from predominantly private secondary schools who applied to the nation's most selective private colleges and universities. As mean scores shifted below 500, the score distribution became stretched in the upper half and compressed in the lower half of the distribution.

Now that scores are recentered on the renormed SAT I, they reflect the more than two million students who take the test today. They also reflect a more diverse college-bound population than the group who took the SAT in 1941.

Although a student's score may change after recentering, the rank order of individual scores, expressed as percentiles, remains the same. A specific score on the verbal test now has the same relative position and meaning as the same score on the math test. For example, a 450 on verbal and mathematics signifies comparable performance in both areas. Before recentering, a score of 450 represented above-average performance on verbal and below-average performance on mathematics. While recentering permits legitimate comparisons of verbal and mathematics scores and reduces earlier confusion, it has no effect on historical score trends, or on the difficulty level of the test and the relative standing of students to each other.

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Appendices

North Carolina and the Nation

Table 2. Mean SAT Scores for North Carolina and the United States, 1972-2003

Year	United States (US) ¹			North Carolina (NC) ¹			US-NC Gap ²
	Verbal	Math	Total	Verbal	Math	Total	
2003	507	519	1026	495	506	1001	25
2002	504	516	1020	493	505	998	22
2001	506	514	1020	493	499	992	28
2000	505	514	1019	492	496	988	31
1999	505	511	1016	493	493	986	30
1998	505	512	1017	490	492	982	35
1997	505	511	1016	490	488	978	38
1996	505	508	1013	490	486	976	37
1995	504	506	1010	488	482	970	40
1994	499	504	1003	482	482	964	39
1993	500	503	1003	483	481	964	39
1992	500	501	1001	482	479	961	40
1991	499	500	999	478	474	952	47
1990	500	501	1001	478	470	948	53
1989	504	502	1006	474	469	943	63
1988	505	501	1006	478	470	948	58
1987	507	501	1008	477	468	945	63
1986	509	500	1009	477	465	942	67
1985	509	500	1009	476	464	940	69
1984	504	497	1001	473	461	934	67
1983	503	494	997	472	460	932	65
1982	504	493	997	474	460	934	63
1981	502	492	994	469	456	925	69
1980	502	492	994	471	458	929	65
1979	505	493	998	471	455	926	72
1978	507	494	1001	468	453	921	80
1977	507	496	1003	472	454	926	77
1976	509	497	1006	474	452	926	80
1975	512	498	1010	477	457	934	76
1974	521	505	1026	488	466	954	72
1973	523	506	1029	487	468	955	74
1972	530	509	1039	489	467	956	83

¹All SAT scores are reported on the recentered score scale (1995).

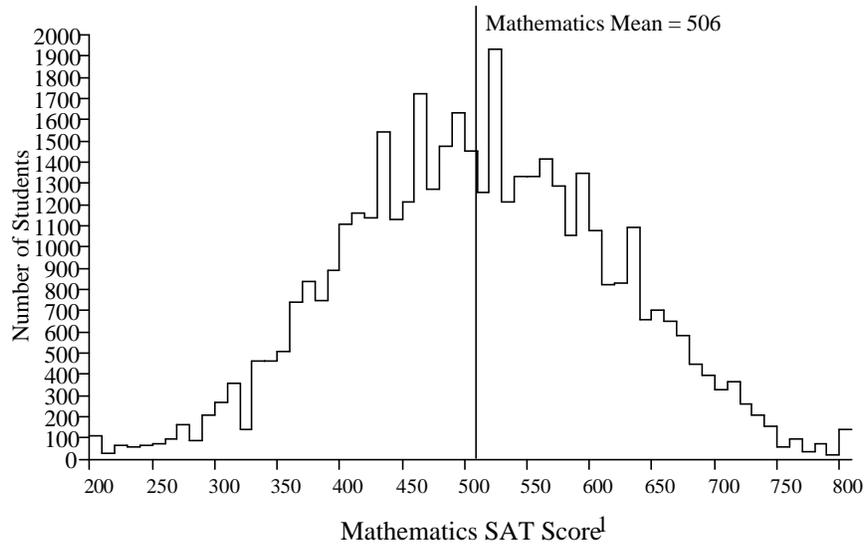
²Gap is the United States mean total SAT score minus North Carolina's mean total SAT score.

Table 3. Frequency Distribution of Verbal and Mathematics SAT Scores for North Carolina's Public School Students, 2003

Verbal (Mean = 493)			Score ¹	Mathematics (Mean = 506)		
Number	Percent	Percentile Rank		Number	Percent	Percentile Rank
119	0.28	99	800	138	0.33	99
39	0.09	99	790	23	0.05	99
19	0.04	99	780	70	0.16	99
72	0.17	99	770	36	0.08	99
131	0.31	99	760	99	0.23	99
106	0.25	99	750	61	0.14	99
51	0.12	99	740	155	0.37	99
146	0.34	99	730	206	0.49	98
159	0.37	98	720	263	0.62	98
199	0.47	98	710	363	0.86	97
338	0.80	97	700	328	0.77	96
371	0.87	96	690	392	0.92	95
273	0.64	96	680	446	1.05	94
360	0.85	95	670	582	1.37	93
520	1.23	94	660	650	1.53	92
590	1.39	92	650	703	1.66	90
550	1.30	91	640	661	1.56	89
612	1.44	90	630	1098	2.59	87
875	2.06	88	620	829	1.95	84
715	1.69	86	610	820	1.93	82
1140	2.69	84	600	1077	2.54	80
792	1.87	82	590	1353	3.19	77
1209	2.85	79	580	1053	2.48	74
1269	2.99	76	570	1292	3.05	72
1087	2.56	74	560	1419	3.34	68
1331	3.14	71	550	1333	3.14	65
1660	3.91	67	540	1331	3.14	62
1224	2.88	64	530	1214	2.86	59
1627	3.83	60	520	1937	4.57	55
1612	3.80	57	510	1257	2.96	52
1128	2.66	53	500	1452	3.42	48
1786	4.21	50	490	1638	3.86	45
1816	4.28	46	480	1476	3.48	41
1316	3.10	42	470	1275	3.01	38
1606	3.79	39	460	1726	4.07	34
1579	3.72	35	450	1216	2.87	31
1290	3.04	31	440	1132	2.67	28
1554	3.66	28	430	1546	3.64	25
1176	2.77	25	420	1138	2.68	22
1346	3.17	22	410	1162	2.74	19
1201	2.83	19	400	1106	2.61	16
997	2.35	16	390	892	2.10	14
1034	2.44	14	380	750	1.77	12
788	1.86	12	370	841	1.98	10
827	1.95	10	360	743	1.75	8
578	1.36	8	350	507	1.19	7
444	1.05	7	340	466	1.10	6
443	1.04	6	330	460	1.08	5
434	1.02	5	320	138	0.33	4
356	0.84	4	310	358	0.84	3
307	0.72	3	300	270	0.64	3
204	0.48	3	290	206	0.49	2
185	0.44	2	280	86	0.20	2
185	0.44	2	270	162	0.38	1
104	0.25	1	260	96	0.23	1
128	0.30	1	250	76	0.18	1
98	0.23	1	240	66	0.16	1
53	0.12	1	230	55	0.13	1
47	0.11	1	220	63	0.15	1
50	0.12	1	210	26	0.06	1
172	0.41	1	200	111	0.26	1
42,428	99.99			42,428	100.00	

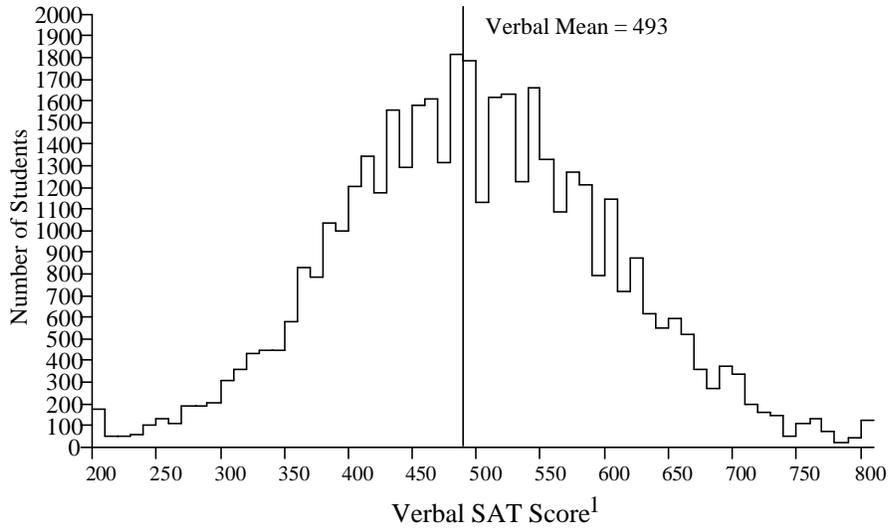
¹SAT scores are reported on the recentered score scale (1995).

Note: Due to rounding, the percentages may not add up to 100.



¹All SAT scores are reported on the recentered score scale (1995).

Figure 15. Distribution of Mathematics SAT Scores for North Carolina's Public Schools, 2003.



¹All SAT scores are reported on the recentered score scale (1995).

Figure 16. Distribution of Verbal SAT Scores for North Carolina's Public Schools, 2003.

Table 4. Mean Total SAT Score by Student Profile Characteristics, 2002-2003

	<u>United States</u>		<u>North Carolina</u>			<u>Difference from U. S.</u>
	<u>Mean</u>	<u>%</u>	<u>N</u>	<u>Mean</u>	<u>%</u>	
All Students	1026	100	48,893	1001	100	-25
Sex						
Male	1049	46	22,252	1021	46	-28
Female	1006	54	26,641	985	54	-21
Race/Ethnicity						
American Indian	962	1	521	923	1	-39
Asian American	1083	10	1,229	1052	3	-31
Black	857	12	8,986	839	23	-18
Hispanic	912	10	863	961	2	49
White	1063	64	27,528	1050	69	-13
Other	1014	4	791	995	2	-19
Parent Education Level						
No high school diploma	856	5	767	849	2	-7
High school diploma	945	33	13,466	924	36	-21
Associate's degree	978	9	4,652	956	12	-22
Bachelor's degree	1059	28	11,192	1033	30	-26
Graduate degree	1128	26	7,640	1113	20	-15
Family Income (in U.S. dollars)						
Less than 10,000	864	5	1,271	814	4	-50
10,000 - 20,000	889	8	2,717	863	9	-26
20,000 - 30,000	927	10	3,406	906	11	-21
30,000 - 40,000	964	11	3,793	953	13	-11
40,000 - 50,000	993	9	3,156	984	10	-9
50,000 - 60,000	1012	10	3,069	995	10	-17
60,000 - 70,000	1025	8	2,712	1012	9	-13
70,000 - 80,000	1041	8	2,559	1026	8	-15
80,000 - 100,000	1065	11	3,074	1056	10	-9
More than 100,000	1123	19	4,403	1107	15	-16
Total Credits in Six Academic Subjects						
20 or more	1097	50	14,416	1076	44	-21
19 to 19.5	1007	11	3,712	995	11	-12
18 to 18.5	977	10	3,592	965	11	-12
17 to 17.5	949	8	2,987	943	9	0
16 to 16.5	940	6	2,464	931	7	-9
15 to 15.5	934	5	1,886	930	6	-4
Fewer than 15	914	8	3,984	920	12	6
High School Grade Point Average						
A+ (97-100)	1232	7	3,757	1205	9	-27
A (93-96)	1149	18	7,963	1113	20	-36
A- (90-92)	1090	17	6,544	1047	16	-43
B (80-89)	965	47	17,437	935	43	-30
C (70-79)	849	11	4,452	820	11	-29
D or below (<70)	846	0	138	760	0	-86
High School Class Rank						
Top Tenth	1192	28	7,456	1185	25	-7
Second Tenth	1061	23	6,599	1051	22	-10
Second Fifth	980	23	7,356	958	24	-22
Third Fifth	898	21	7,083	872	24	-26
Fourth Fifth	837	4	1,330	808	4	-29
Fifth Fifth	820	1	263	763	1	-57

Notes: All SAT scores are reported on the recentered score scale (1995).

Due to rounding numbers might not sum to 100%

* Information about years of study and honors was collected differently for paper and Web registrations. questions were abbreviated slightly on the Web to speed up the registration process.

Table 5. United States and North Carolina Mean Total SAT Scores by Student Profile Characteristics, 1999-2003

	1999 ¹			2000 ¹			2001 ¹			2002 ¹			2003 ¹		
	US	NC	Diff.												
All Students	1016	986	-30	1019	988	-31	1020	992	-28	1020	998	-22	1026	1001	-25
Gender															
Male	1040	1006	-34	1040	1005	-35	1042	1012	-30	1041	1014	-27	1049	1021	-28
Female	997	969	-28	1002	976	-26	1000	976	-24	1002	984	-18	1006	985	-21
Race/Ethnicity															
American Indian	965	900	-65	963	897	-66	960	891	-69	962	914	-48	962	923	-39
Asian American	1058	1026	-32	1064	1024	-40	1067	1031	-36	1069	1025	-44	1083	1052	-31
Black	856	837	-19	860	835	-25	859	835	-24	857	839	-18	857	839	-18
Hispanic	915	966	51	918	970	52	914	975	61	911	961	50	912	961	49
White	1055	1031	-24	1058	1035	-23	1060	1041	-19	1060	1046	-14	1063	1050	-13
Other	1024	1005	-19	1023	1016	-7	1015	1009	-6	1016	1004	-12	1014	995	-19
Parent Education Level															
No high school diploma	850	843	-7	855	850	-5	849	837	-12	850	843	-7	856	849	-7
High school diploma	950	924	-26	949	923	-26	948	924	-24	945	926	-19	945	924	-21
Associate's degree	979	944	-35	979	948	-31	980	950	-30	978	951	-27	978	956	-22
Bachelor's degree	1056	1021	-35	1058	1024	-34	1058	1027	-31	1056	1031	-25	1059	1033	-26
Graduate degree	1121	1094	-27	1124	1102	-22	1126	1106	-20	1126	1109	-17	1128	1113	-15
Family Income (in U.S. dollars)															
Less than 10,000	871	830	-41	872	826	-46	864	817	-47	859	826	-33	864	814	-50
10,000-20,000	907	883	-24	907	882	-25	898	869	-29	888	870	-18	889	863	-26
20,000-30,000	954	925	-29	949	924	-25	942	922	-20	931	919	-12	927	906	-21
30,000-40,000	986	963	-23	983	960	-23	976	953	-23	965	944	-21	964	953	-11
40,000-50,000	1011	985	-26	1008	982	-26	1004	984	-20	997	981	-16	993	984	-9
50,000-60,000	1030	1002	-28	1026	995	-31	1021	991	-30	1014	991	-23	1012	995	-17
60,000-70,000	1043	1014	-29	1039	1015	-24	1035	1012	-23	1027	1013	-14	1025	1012	-13
More than 70,000													1076	1063	-13
70,000-80,000	1058	1028	-30	1054	1032	-22	1049	1026	-23	1041	1024	-17	1041	1026	-15
80,000-100,000	1082	1054	-28	1079	1056	-23	1074	1056	-18	1068	1055	-13	1065	1056	-9
More than 100,000	1130	1102	-28	1129	1097	-32	1126	1101	-25	1123	1108	-15	1123	1107	-16
Total Credits in Six Subjects															
20 or more	1096	1061	-35	1095	1063	-32	*	*	*	1096	1076	-20	1097	1076	-21
19 or 19.5	1012	987	-25	1011	988	-23	*	*	*	1003	990	-13	1007	995	-12
18 or 18.5	980	956	-24	984	958	-26	*	*	*	973	964	-9	977	965	-12
17 or 17.5	947	927	-20	957	932	-25	*	*	*	948	938	-10	949	943	-6
16 or 16.5	927	896	-31	944	920	-24	*	*	*	935	922	-13	940	931	-9
15 or 15.5	918	896	-22	936	910	-26	*	*	*	946	914	-32	934	930	-4
Fewer than 15	885	886	1	898	894	-4	*	*	*	890	913	23	914	920	6
High School Grade Point Average															
A+ (97-100)	1240	1191	-49	1238	1195	-43	1235	1191	-44	1233	1199	-34	1232	1205	-27
A (93-96)	1149	1091	-58	1149	1090	-59	1147	1096	-51	1167	1106	-61	1149	1113	-36
A- (90-92)	1092	1030	-62	1093	1033	-60	1092	1038	-54	1091	1046	-45	1090	1047	-43
B (80-89)	968	928	-40	968	931	-37	968	933	-35	965	936	-29	965	935	-30
C (70-79)	855	827	-28	854	821	-33	853	827	-26	848	826	-22	849	820	-29
D or below (<70)	818	785	-33	811	763	-48	807	777	-30	813	798	-15	846	760	-86
High School Class Rank															
Top Tenth	1197	1172	-25	1197	1175	-22	1195	1175	-20	1192	1182	-10	1192	1185	-7
Second Tenth	1071	1044	-27	1071	1046	-25	1066	1048	-18	1061	1048	-13	1061	1051	-10
Second Fifth	993	961	-32	993	963	-30	987	964	-23	980	961	-19	980	952	-28
Third Fifth	907	877	-30	908	877	-31	906	875	-31	897	874	-23	898	872	-26
Fourth Fifth	846	811	-35	844	817	-27	840	811	-29	835	803	-32	837	808	-29
Fifth Fifth	812	769	-43	809	756	-53	808	769	-39	809	776	-33	820	763	-57

¹All SAT scores are reported on the recentered score scale (1995).

Note: Due to rounding, numbers might not add up to 100%.

Performance of the 117 Public School Systems, Charter Schools, North Carolina
School of the Arts, and North Carolina School of Science and Mathematics

Table 7. Distribution of North Carolina's Public School Systems by Mean Total SAT Scores, 2003

	Score ¹	School System
	1330	NC School of Science & Math
	...	
	1190	Raleigh Charter HS*, Woods Charter*
	1180	Chapel Hill-Carrboro City
	...	
	1140	Thomas Jefferson*
	1130	NC School of the Arts
	...	
2003 United States Total ²	1090	Transylvania
(1026)	1080	Buncombe, Elkin City, Watauga
2003 North Carolina ²	1070	Polk, Wake
(1001)	1060	Hickory City
	1050	Haywood, Henderson, Jackson, Moore, Shelby City
	1040	Burke, Cabarrus, Caldwell, Cherokee, Davie, Madison, New Hanover, Swain, Yancey
	1030	Mount Airy City, Roanoke Rapids City
	1020	Asheville City, Carteret, Catawba, Granville, Johnston, McDowell, Surry
	1010	Charlotte/Mecklenburg, Clay, Dare, Hyde, Macon, Newton Conover City, Orange, Union, Wilkes, Winston-Salem/Forsyth
	1000	Asheboro City, Avery, Brunswick, Chatham, Craven, Davidson, Durham, Guilford, Iredell-Statesville, Camp Lejeune, Mitchell, Mooresville City, Onslow, Pitt, Yadkin
	990	Ashe, Beaufort, Currituck, Graham, Kings Mountain City, Lee, Lincoln, New Century School*, Rowan-Salisbury
	980	Alamance-Burlington, Alexander, Alleghany, Camden, Cleveland, Edenton/Chowan, Gaston, Harnett, Wilson
	970	Kannapolis City, Pamlico, Pender, Randolph, Stokes
	960	Franklin, Lenoir, Person, Rockingham, Stanly, Wayne
	950	Clinton City, Cumberland, River Mill Charter*, Rutherford
	940	Richmond, Sampson
	930	Pasquotank, Greene, Lexington City, Martin, Nash-Rocky Mount, Perquimans
	920	Duplin, Montgomery, Thomasville City
	910	Scotland, Tyrrell
	900	Edgecombe, Hoke
	890	Anson, Bladen, Columbus, Gates, Whiteville City
	880	Vance
	870	Caswell, Robeson, Warren
	...	
	850	Cherokee Central
	...	
	830	Greensboro Area Math/Sci., Jones
	820	Washington
	...	
	800	Hertford
	790	Bertie, Halifax, Northampton
	780	Weldon City
	...	
	750	Laurinburg Charter*

¹All SAT scores are reported on the recentered score scale (1995).

²United States and North Carolina total scores refer to both public and non-public schools.

*Denotes a charter school.

Notes: Data were not reported for Cape Lookout High because the number tested was less than five.

Performance of the Fifty States

Table 8. Mean Verbal, Mathematics, and Total SAT Scores by State, 2003

State	Percent Tested ¹	Mean		
		Verbal ²	Mathematics ²	Total
Alabama	10	559	552	1111
Alaska	55	518	518	1036
Arizona	38	524	525	1049
Arkansas	6	564	554	1118
California	54	499	519	1018
Colorado	27	551	553	1104
Connecticut	84	512	514	1026
Delaware	73	501	501	1002
District of Columbia ³	77	484	474	958
Florida	61	498	498	996
Georgia	66	493	491	984
Hawaii	54	486	516	1002
Idaho	18	540	540	1080
Illinois	11	583	596	1179
Indiana	63	500	504	1004
Iowa	5	586	597	1183
Kansas	9	578	582	1160
Kentucky	13	554	552	1106
Louisiana	8	563	559	1122
Maine	70	503	501	1004
Maryland	68	509	515	1024
Massachusetts	82	516	522	1038
Michigan	11	564	576	1140
Minnesota	10	581	591	1172
Mississippi	4	565	551	1116
Missouri	8	582	583	1165
Montana	26	538	543	1081
Nebraska	8	573	578	1151
Nevada	36	510	517	1027
New Hampshire	75	522	521	1043
New Jersey	85	501	515	1016
New Mexico	14	548	540	1088
New York	82	496	510	1006
North Carolina	68	495	506	1001
North Dakota	4	602	613	1215
Ohio	28	536	541	1077
Oklahoma	8	569	562	1131
Oregon	57	526	527	1053
Pennsylvania	73	500	502	1002
Rhode Island	74	502	504	1006
South Carolina	59	493	496	989
South Dakota	4	588	588	1176
Tennessee	14	568	560	1128
Texas	57	493	500	993
Utah	7	566	559	1125
Vermont	70	515	512	1027
Virginia	71	514	510	1024
Washington	56	530	532	1062
West Virginia	20	522	510	1032
Wisconsin	7	585	594	1179
Wyoming	11	548	549	1097
United States	48	507	519	1026

¹Percent tested is from The College Board reports. The College Board based percent tested on the projection of high school graduates in 2003 by the Western Interstate Commission on Higher Education, and number of students in the Class of 2003 who took the SAT I: Reasoning Test. Updated projections make it inappropriate to compare percentages for this year with those of previous years.

²SAT scores are reported on the recentered score scale (1995).

³Twelfth grade enrollment from QED® was used to calculate the participation rate to control for D.C.'s smaller size and greater variability.

Table 9. Change in Mean Total SAT Score by State, 1990-2003

State	Percent Tested ¹ 2003	Mean Total SAT Score ² 1990	Mean Total SAT Score ² 2003	Change from 1990 to 2003
Alabama	10	1079	1111	32
Alaska	55	1015	1036	21
Arizona	38	1041	1049	8
Arkansas	6	1077	1118	41
California	54	1002	1018	16
Colorado	27	1067	1104	37
Connecticut	84	1002	1026	24
Delaware	73	1006	1002	-4
District of Columbia ³	77	950	958	8
Florida	61	988	996	8
Georgia	66	951	984	33
Hawaii	54	985	1002	17
Idaho	18	1066	1080	14
Illinois	11	1089	1179	90
Indiana	63	972	1004	32
Iowa	5	1172	1183	11
Kansas	8	1129	1160	31
Kentucky	13	1089	1106	17
Louisiana	8	1088	1122	34
Maine	70	991	1004	13
Maryland	68	1008	1024	16
Massachusetts	82	1001	1038	37
Michigan	11	1063	1140	77
Minnesota	10	1110	1173	63
Mississippi	4	1090	1116	26
Missouri	8	1089	1165	76
Montana	26	1082	1081	-1
Nebraska	8	1121	1151	30
Nevada	36	1022	1027	5
New Hampshire	75	1028	1043	15
New Jersey	85	993	1016	23
New Mexico	14	1100	1088	-12
New York	82	985	1006	21
North Carolina	68	948	1001	53
North Dakota	4	1157	1215	58
Ohio	28	1048	1077	29
Oklahoma	8	1095	1131	36
Oregon	57	1024	1053	29
Pennsylvania	73	987	1002	15
Rhode Island	74	986	1006	20
South Carolina	59	942	989	47
South Dakota	4	1150	1176	26
Tennessee	14	1102	1128	26
Texas	57	979	993	14
Utah	7	1121	1125	4
Vermont	70	1000	1027	27
Virginia	71	997	1024	27
Washington	56	1024	1062	38
West Virginia	20	1034	1032	-2
Wisconsin	7	1111	1179	68
Wyoming	11	1072	1097	25
United States	48	1001	1026	25

¹Percent tested is from The College Board reports. The College Board based percent tested on the projection of high school graduates in 2003 by the Western Interstate Commission on Higher Education, and the number of students in the Class of 2003 who took the SAT I: Reasoning Test. Updated projections make it inappropriate to compare percentages for this year with those of previous years.

²SAT scores are reported on the recentered score scale (1995).

³Twelfth grade enrollment from QED® was used to calculate the participation rate to control for D.C.'s smaller size and greater variability.