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ABSTRACT

This report analyzes the 1987-88 Scholastic Aptitude Test (SAT) scores of Connecticut's college-bound seniors and includes the students' characteristics and their college plans. The SAT, comprised of a verbal and a mathematical section, is part of the College Board's Admissions Testing Program which also includes the Test of Standard Written English (TSWE), 14 optional achievement tests, and the Student Descriptive Questionnaire (SDQ). The following highlights are reported: (1) Connecticut had the highest SAT participation rate in the nation and the percentage of minority students participating was the highest in ten years; (2) the Connecticut verbal average was lower than last year but higher than the national average, while the mathematical average was lower than both last year's state and this year's national averages; (3) the gap between the scores of Connecticut's males and females on the verbal section was less than the national difference but the male-female gap on the mathematical section was greater than the national difference; (4) the overall percentages of Connecticut students scoring above 600 on the SAT declined over last year, but the verbal percentage was higher than the national average while the mathematical percentage was lower; (5) the gap between the scores of Connecticut's minority group and white students was wide but continued to narrow; (6) the Connecticut average TSWE score was lower than last year but higher than the national average and females averaged higher than males; (7) more Connecticut students took achievement tests than students nationwide; (8) more females than males intended to earn a professional degree; (9) interest in the study of education, business, commerce, and communications increased but interest in the biological and physical sciences declined; (10) more students were interested in studying education than last year, but the number of males remains lower than ten years ago; and (11) the SAT scores of seniors intending to study education increased but remain well below the state's overall averages. Statistical data are included on ten tables and seven graphs. (FMW)

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# College-Bound Seniors Report 1987-88

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# **College-Bound Seniors Report 1987-88**

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## PREFACE

This is the fourteenth annual report prepared by the Office of Research and Evaluation to analyze the Scholastic Aptitude Test (SAT) scores of Connecticut's college-bound seniors. This is the eighth report that, in addition to test scores, comprehensively presents the students' characteristics and their college plans.

The following report is based upon the most recent responses of 1987-88 public and nonpublic school seniors who participated in the College Board's Admissions Testing Program at any time during high school. Thus, students who participated in the program in May of their junior year and in October of their senior year have only the October results reported, while students who participated only in May of their junior year have these scores included. Connecticut students are those attending school in Connecticut or, if a school code is not reported on the questionnaire, those with a Connecticut mailing address.

Not every student in the Admissions Testing Program (ATP) takes an SAT. In 1987-88 there were 32,509 students registered for the ATP, but only 31,053 took an SAT. Some students could have registered for only the achievement tests, or registered and then decided not to take the SAT.

The Admissions Testing Program consists of the verbal and mathematical sections of the Scholastic Aptitude Test, Test of Standard Written English (TSWE), 14 optional achievement tests, and the Student Descriptive Questionnaire.

The Scholastic Aptitude Test, probably the most familiar component of the Admissions Testing Program, consists of a two-and-one-half hour, multiple-choice test of verbal and mathematical reasoning. It is intended to supplement high school grades in the college admissions process. The tests, whose scores range from 200 to 800 points, are constructed so that scores will be comparable from form to form, administration to administration, and year to year.

The Test of Standard Written English is a 30-minute multiple-choice examination of ability to recognize standard written English. It was developed in 1974-75 to help colleges place students in freshman English courses. Scores are scaled on a 20 to 80 point scale, but because the test is to be used as a diagnostic instrument, the highest reported score is 60+.

A student may take up to three one-hour multiple-choice achievement tests per session. These are designed to measure knowledge and its application in English comprehension, literature, American history and social studies, European history and world cultures, mathematics (levels 1 and 2), French, German, Hebrew, Latin, Spanish, biology, chemistry and physics.

The Student Descriptive Questionnaire (SDQ) contains questions on a student's background, school record, extracurricular activities and college plans. It gives colleges a broader picture of a student than do test scores alone. In 1987-88, 29,424 students responded to at least one question on the questionnaire. The number of students responding to particular items are mentioned in this report where appropriate.



The students described in this report are called college-bound seniors. They are students whose intent to attend college is indicated by taking the SAT. The College Board reported that 31,053 Connecticut seniors in the class of 1988 took the SAT. Information from the Connecticut State Department of Education's *Graduate Follow-Up Report* indicates that 29,838 or 73.2 percent of the 1988 graduates of the local public, vocational-technical and nonpublic schools were continuing their formal education, and 27,432 of these graduates were attending two- or four-year colleges.

The primary purpose of this report is to highlight the information on college-bound seniors presented to the State Department of Education by The College Board. The Department of Education's Division of Research, Evaluation and Assessment has a file of statewide data from 1971-72 to date and welcomes inquiries.

## HIGHLIGHTS

The data from the Admissions Testing Program of The College Board (1) shows how Connecticut's college-bound seniors' academic performance and future aspirations compare with those of their peers nationwide, (2) provides a picture of students considering education as a career, and (3) provides information for five indicators of success of *Design for Excellence: The Comprehensive Plan for Elementary, Secondary, Vocational, Career and Adult Education, 1986-1990*. The information used for Connecticut's indicators can be identified by the darkened circle preceding the highlight.

- o The highest percentage ever recorded, 73.7, of all 12th graders in Connecticut, took a Scholastic Aptitude Test (see Table 1). The College Board reported that Connecticut had the highest participation rate in the nation.
- o The percentage of minority students among college-bound seniors in 1988 (13.2%) was higher than the 1987 percentage of 11.7 and established a new ten-year high (see Table 2).
- The Connecticut SAT verbal average of 436 was eight points above the 1987-88 national average but three points below last year's state average. The state average is six points above the 1980-81 low (see Table 3 and Figure 1).
- On the SAT verbal section, Connecticut males averaged 443 and females 431. The difference between the male and female average was 12 points. The male-female difference in Connecticut is one point below the difference across the nation (see Table 3).
- The Connecticut average SAT mathematical score of 472 was one point below last year's state average and four points below the current national average. The state average is nine points above the 1980-81 low (see Table 4 and Figure 2).
- The mean SAT mathematical score of Connecticut males was 492, while that of females was 454, a difference of 38 points. Nationally, the difference was 43 points (see Table 4).

- o The percentages of Connecticut students scoring above 600 on the verbal (8.1%) and on the mathematical (17.1%) SAT both declined since the previous year. The verbal percentage exceeds the national average by 0.8 percentage points while the mathematical percentage is 0.5 percentage points below the national average (see Table 5).
- The gap between Connecticut's black and white students on the verbal and mathematical SAT is wide, but it continues to narrow. The 93-point deficit on the verbal SAT in 1987-88 is a four-point improvement over last year and a 22-point improvement over ten years ago. The mathematical difference has improved 14 points in the past ten years and now is 110 points. The Hispanic averages were 90 points lower on the verbal and 94 points lower on the mathematical SAT than the white averages (see Figures 3 and 4).
- The Connecticut average of 43.5 (on a scale of 20 to 80) on the Test of Standard Written English (TSWE) was 0.1 point below last year and 0.5 points above the national average (see Table 6).
- Connecticut female students averaged 44.2 on the TSWE, 1.5 points higher than the males. Ten years ago the female average was 1.8 points higher than that of the males (see Table 6).
- o More than one in three Connecticut students who take the SAT take the achievement tests; nationwide, the figure is approximately one in five. The verbal SAT of this subgroup of Connecticut students was two points above, and the mathematical SAT 13 points below, the comparable national averages. Compared to last year, this year's averages increased in English Composition, American History, Biology, Chemistry and Mathematics Level 2. The average score in Mathematics Level 1 decreased by one point (see Table 7).
- o The percentage of female students (12.8%) intending to earn a professional degree surpassed the male percentage (11.9%) for the third consecutive year (see Table 8).
- o Over the past ten years, the most dramatic changes among intended areas of college study have been a decline in the biological sciences (-8.2% males, -21.8% females) and an increase in business, commerce and communications (8.7% males, 10.0% females). In the past year there was a continued decline in interest in the physical sciences. Moreover, the interest in education increased for the third consecutive year (see Table 9).
- The percentage of Connecticut female students intending to study education increased from 8.6 to 10.1 percent in the past year, and is comparable to the percentage of ten years ago (10.2%). The percentage of males intending to study education increased by 0.7 points to 3.0 percent in the past year, but remains below the 3.4 percent level of ten years ago (see Table 9).
- The verbal and mathematical SAT scores of seniors intending to study education have increased a combined total of 47 points in the past five years, and 26 points in the past ten years, but remain well below the state's verbal and mathematical averages (see Table 10 and Figure 5).



## STUDENT CHARACTERISTICS

The Connecticut test scores from the Admissions Testing Program (ATP) are more meaningful when compared with prior years' data and national data. This underscores the importance of knowing how the characteristics of the Connecticut students participating in the ATP change from year to year and how they compare to students nationally.

There were 42,126 twelfth graders in the local public schools, state vocational-technical schools and the nonpublic schools in 1987-88. This was 447 less than the prior year, more than 9,700 below the 1977-78 peak, and the second lowest number in the past ten years. The percentage of seniors attending public school has declined every year for the past ten years and now stands at 82.1 percent (see Table 1).

**Table 1**  
**Connecticut 12th Grade Students and**  
**the Percentage Taking the SAT**

School Year	Number of 12th Graders	Percent in Public Schools	Number Taking SAT Exams	Percent of 12th Graders Taking SAT
1987-88	42,126	82.1	31,053	73.7
1986-87	42,573	82.4	30,155	70.8
1985-86	42,022	82.6	28,302	67.4
1984-85	43,595	82.9	28,866	66.2
1983-84	45,839	83.4	29,669	64.7
1982-83	48,327	83.9	30,659	63.4
1981-82	49,923	84.8	31,962	64.0
1980-81	50,031	84.9	32,196	64.4
1979-80	49,405	85.1	31,734	64.2
1978-79	51,671	85.5	32,285	62.5
1977-78	51,863	85.8	31,567	60.9

In 1987-88, 73.7 percent of Connecticut's 12th graders took the SAT, the highest percentage of seniors ever recorded. The College Board has reported that Connecticut has the highest participation rate in the country. Nationwide, about one-third of high school seniors take the SAT annually. The College Board alerts those interpreting these scores that generally the greater the percentage of students taking the test, the lower the average score. Thus, with its high participation rate, the Connecticut scores might be expected to fall below the national averages. Yet in many cases, Connecticut scores are actually higher than the national average and most are higher than would be expected.

The 31,053 Connecticut seniors who took the SAT was the highest number in the past six years and about 900 more than last year. Females represented 52.1 percent of the college-bound seniors in 1987-88. In the past ten years this percentage has remained consistent, ranging from a low of 51.7 percent (1984-85) to the 1981-82 high of 52.5 percent. The current state percentage is equal to the percentage of females nationally taking the SAT. The percentage of Connecticut college-bound seniors who attended public schools was 71.1 percent in 1987-88. This percentage has declined steadily since the 1979-80 level of 78.6 percent. The percentage of public school students in the Class of 1988 who took the SAT represents the lowest level in the past ten years for which this information was available (see Table 2).

**Table 2**  
**Characteristics of Connecticut Seniors**  
**Taking the Scholastic Aptitude Test**

Academic Year	Number Taking SAT	Percent Female	Estimated Percent Public	Estimated Percent Minority	Estimated Median Family Income
1987-88	31,053	52.1	71.1	13.2	\$43,084
1986-87	30,155	52.0	72.4	11.7	\$40,445
1985-86	28,302	51.8	N/A	12.6	\$37,375
1984-85	28,866	51.7	74.8	10.1	\$35,300
1983-84	29,669	51.9	74.9	10.0	\$33,000
1982-83	30,659	52.2	75.3	9.4	\$31,300
1981-82	31,982	52.5	76.8	9.3	\$28,700
1980-81	32,196	52.1	77.1	9.0	\$25,200
1979-80	31,734	52.0	78.6	8.8	\$22,900
1978-79	32,285	51.9	78.3	8.4	\$21,400
1977-78	31,567	52.2	78.4	8.1	\$19,700

The percentage of minority college-bound students in Connecticut has increased 1.5 percentage points since last year to establish a new ten-year high of 13.2 percent. This rate has increased steadily for nine of the past ten years. The number of students who identified themselves as minorities on the Student Descriptive Questionnaire (87.8% of this year's students responded to this question) was 3,609 in 1987-88, a 16.5 percent increase over last year and a 72.2 percent increase over ten years ago. The number of minorities taking the SAT (adjusted for nonrespondents) is estimated to be about 4,113. Nationwide, an estimated 260,567 (23.0%) minority college-bound students took the SAT in 1987-88. The estimated median family income of \$43,084 reported by Connecticut college-bound seniors in 1987-88 was \$2,639 (6.5%) above last year's state median. Nationwide, the estimated median family income reported by college-bound seniors in 1987-88 was \$37,649, an increase of \$1,374 (3.8%).

## TEST SCORES

The Admissions Testing Program is comprised of three types of tests. The results of each are presented separately for easy reference.

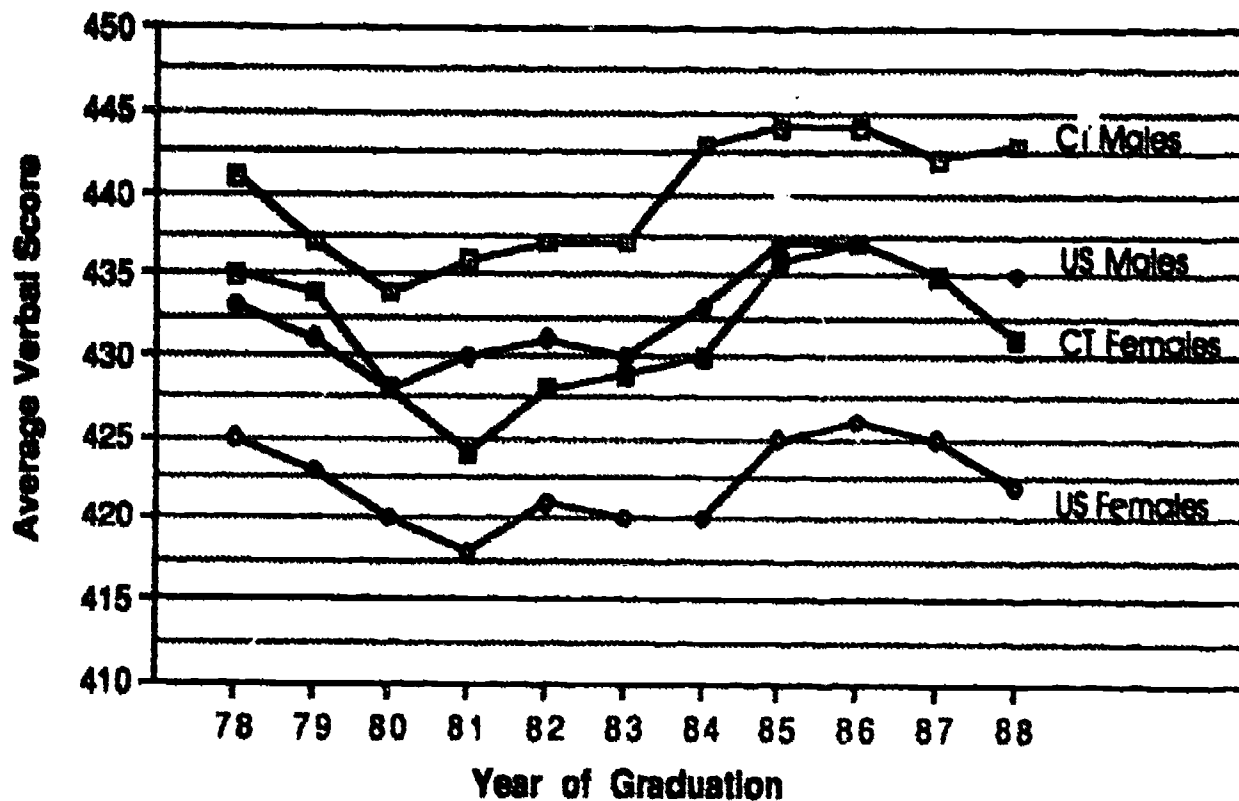
### SCHOLASTIC APTITUDE TEST (SAT)

The 1987-88 Connecticut average verbal SAT score was 436. While this represented a three-point decline from last year's state average, it was eight points above the current national average. Males outscored females on the verbal SAT both in Connecticut and in the nation. In 1987-88, the male average was 12 points higher than the female average in Connecticut and 13 points higher in the nation. The difference between the male and female verbal averages in the state has increased by five points since last year, as the male average increased one point and the female average decreased four points. The 12-point gap is one point below the ten-year high of 13 in 1983-84. The gap that existed in the state is comparable to the 13-point gap that existed nationwide between males and females in 1987-88 (see Table 3).

Table 3  
Scholastic Aptitude Test  
Verbal Scores

Academic Year	Males		Females		Total	
	CT	Nation	CT	Nation	CT	Nation
1987-88	443	435	431	422	436	428
1986-87	442	435	435	425	439	430
1985-86	444	437	437	426	440	431
1984-85	444	437	436	425	440	431
1983-84	443	433	430	420	436	426
1982-83	437	430	429	420	433	425
1981-82	437	431	428	421	432	426
1980-81	436	430	424	418	430	424
1979-80	434	428	428	420	431	424
1978-79	437	431	434	423	435	427
1977-78	441	433	435	425	438	429

Over the past ten years, the verbal SAT scores of Connecticut male and female college-bound seniors have exceeded the national averages for males and females. Also, males have scored higher than females at both the state and national levels. Moreover, the scores for males declined from 1977-78 to 1979-80. By 1983-84 scores increased to a level that exceeded the 1977-78 average. Since then the average score has remained relatively unchanged. The average scores for females declined sharply from 1977-78 to 1980-81. By 1984-85 scores increased to their previous levels. Since then the scores for females have remained stable until this year, when they declined noticeably (see Figure 1). However, the difference in the average verbal SAT scores between males and females has remained almost unchanged over the past ten years.



**Figure 1**  
**Scholastic Aptitude Test Verbal Scores**

The Connecticut average mathematics SAT score was 472 in 1987-88. This was one point below the prior year's state average and four points below this year's national average. There was a 38-point gap between the mathematical averages of Connecticut male and female students in 1987-88. This represents the smallest difference in the past ten years. The male average of 492 declined four points below last year's level but remained five points above the 1979-80 Connecticut low. The female average of 454 was up two points from last year, and 15 points above the 1980-81 low. Compared to the nation, Connecticut college-bound seniors have scored at levels comparable to their national counterparts. Differences have ranged from one to four points over the past ten years (see Table 4).

**Table 4**  
**Scholastic Aptitude Test Mathematical Scores**

Academic Year	Males		Females		Total	
	CT	Nation	CT	Nation	CT	Nation
1987-88	492	498	454	455	472	476
1986-87	496	500	452	453	473	476
1985-86	499	501	451	451	474	475
1984-85	499	499	454	452	475	475
1983-84	490	495	447	449	468	471
1982-83	489	493	443	445	465	468
1981-82	490	493	440	443	464	467
1980-81	488	492	439	443	463	466
1979-80	487	491	446	443	466	466
1978-79	488	493	443	443	465	467
1977-78	493	494	447	444	469	468

Over the past ten years the differences between the average mathematical scores for males and females have continued to narrow. Also, the difference between Connecticut males and females is smaller than the difference at the national level. The reduced difference is due to a decrease in the scores for males and a corresponding increase in the scores for females (see Figure 2).

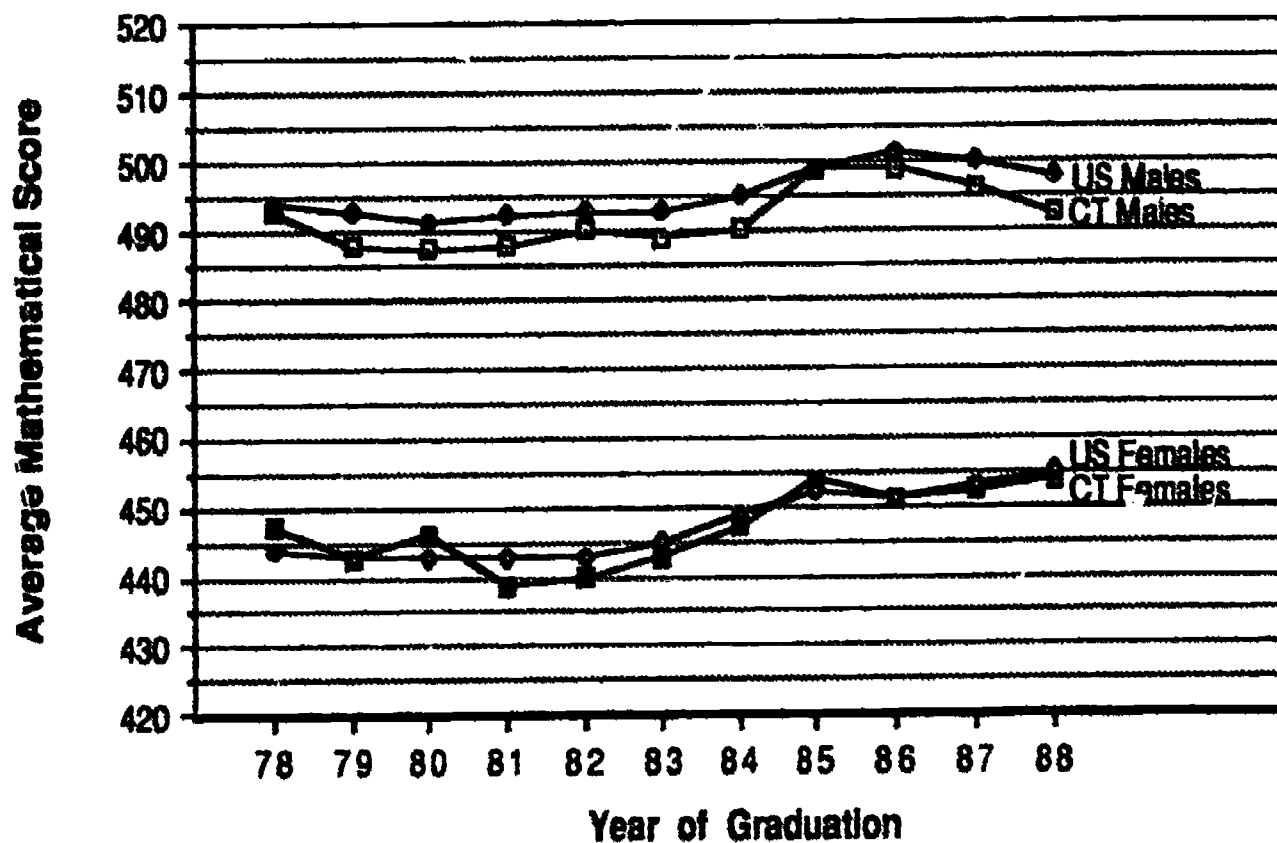


Figure 2  
Scholastic Aptitude Test Mathematical Scores

The percentage of students who scored 600 and above on the verbal or mathematics section of the SAT decreased over the past year, after six years of increases. Decreases occurred both in Connecticut and across the nation. On the verbal SAT, 2,516 Connecticut students (8.1% of SAT takers) scored 600 and above in 1987-88. This was 0.8 percentage points above the national average but 1.0 percentage point below last year's state level. On the mathematical SAT, 3,230 Connecticut students (17.1% of the SAT takers) scored 600 and above in 1987-88. This was 1.0 percentage point below last year's rate. The Connecticut percentage above 600 on the mathematical SAT was 0.5 percentage points below the national percentage (see Table 5).



**Table 5**  
**Percent of Students Scoring 600 and Above**  
**on the Scholastic Aptitude Test**

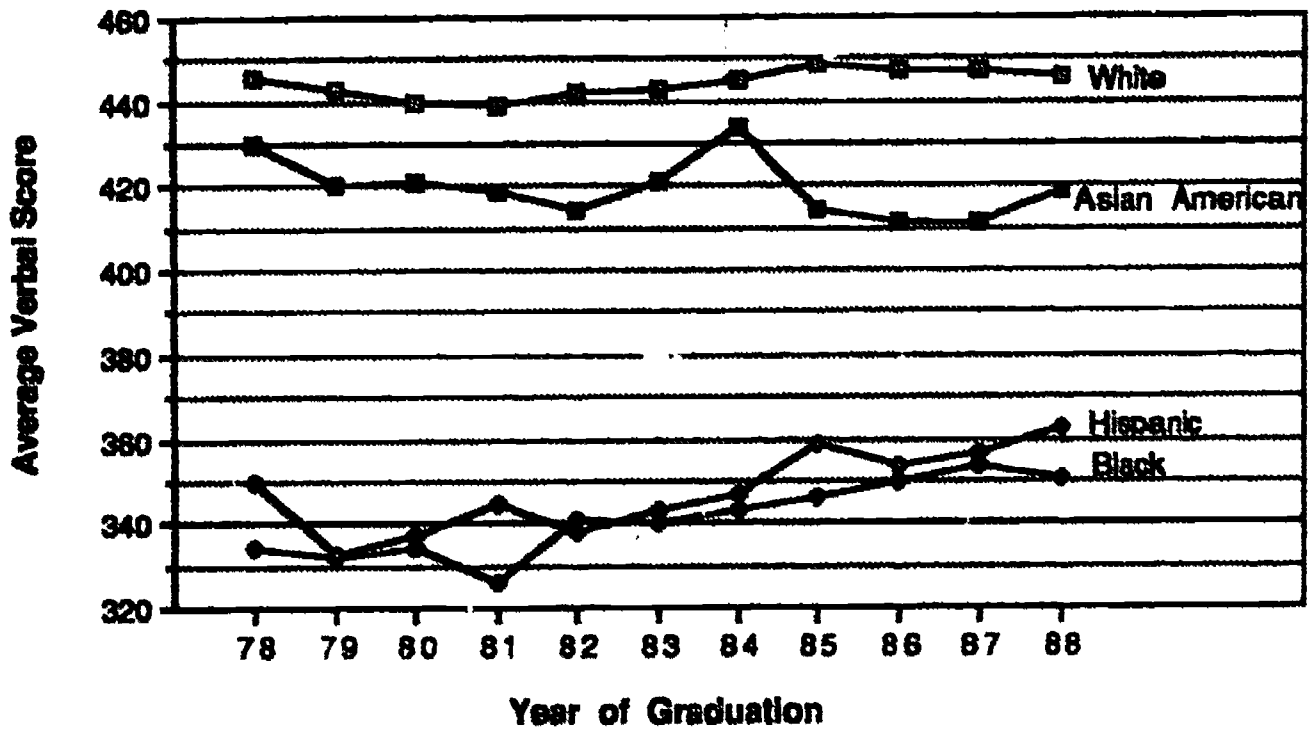
Academic Year	Verbal		Mathematical	
	CT	Nation	CT	Nation
1987-88	8.1%	7.3%	17.1%	17.6%
1986-87	9.1%	8.1%	18.2%	18.3%
1985-86	9.0%	7.9%	17.9%	17.9%
1984-85	9.0%	7.9%	17.5%	17.1%
1983-84	8.6%	7.3%	16.2%	16.7%
1982-83	7.8%	6.9%	15.2%	15.9%
1981-82	7.8%	7.1%	14.6%	15.3%
1980-81	7.3%	7.0%	13.4%	14.4%
1979-80	7.9%	7.2%	14.8%	15.1%
1978-79	8.5%	7.7%	14.3%	15.0%
1977-78	8.6%	7.9%	15.0%	15.8%

When SAT scores are compared by ethnic groups, some consistent trends emerge. During the past ten years whites and Asian American college-bound seniors have scored higher than black and Hispanic college-bound seniors. Although the relative position of each ethnic group has remained the same, the actual differences have continued to decrease. The average verbal SAT score for white students was essentially the same as it was ten years ago. During the same period, the average for Hispanic students increased more than ten points while the average for black college-bound seniors increased by more than 15 points. During the same period the average verbal score for Asian Americans has decreased by more than ten points (see Figure 3).

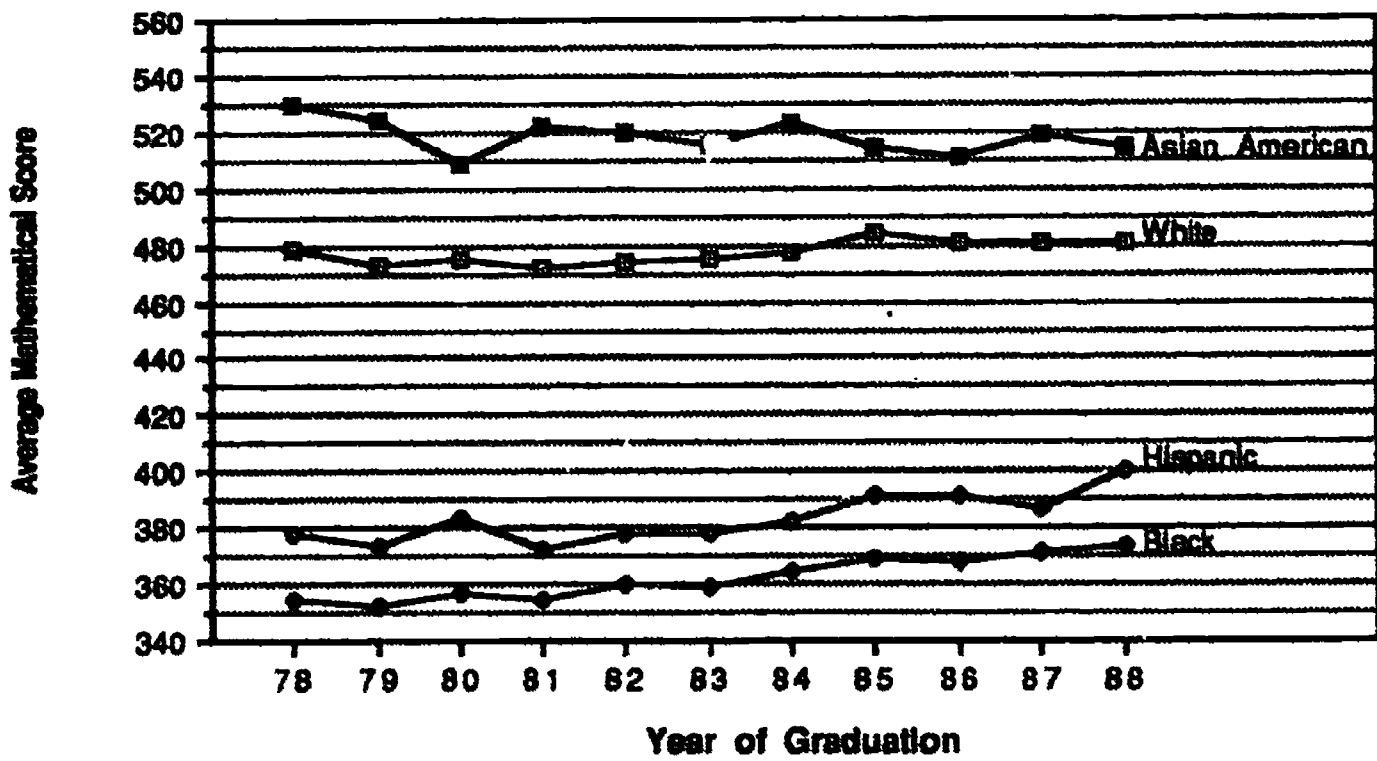
Similar trends were evident for average mathematical SAT scores. The scores of white students are the same as they were ten years ago. The average score for Hispanic students exceeds the level of ten years ago by more than 20 points and that of black students has increased by 15 points. By contrast, the average scores for Asian American students decreased by more than ten points (see Figure 4).

Consistent with previous reports, the SAT scores of white students are compared to each ethnic group. The average verbal score for blacks decreased for the first time in the last five years and now stands at 351. This is 25 points above the 1980-81 low and 17 points above the 1977-78 level. Their current mathematical average of 374, a record high, is 3 points higher than last year's previous record high of 371. The verbal average for black students in 1987-88 was 95 points below the white average, an improvement from the 115-point difference that existed in 1975-76. This is the third consecutive year the gap has been less than 100 points. The pattern in mathematics is similar. The current deficit of 107 points equals the difference that existed in 1975-76, and represents an improvement of 3 points since last year.





**Figure 3**  
**Scholastic Aptitude Test**  
**Verbal Scores by Ethnic Group**



**Figure 4**  
**Scholastic Aptitude Test**  
**Mathematical Scores By Ethnic Group**

Comparisons with prior years must be made cautiously because students now identified as "other Hispanic" seem to have been placed in the Puerto Rican, and "other minority" categories in prior years. The average verbal score for Hispanic students is 363, seven points more than last year and 31 points above the 1978-79 low. Their mathematics average of 400 was 13 points above last year, and 28 points above the 1980-81 low. This is the sixth consecutive year that the average difference between Hispanic and white students on the verbal SAT has narrowed. The difference is now 83 points. In the past decade the verbal gap has ranged from 90 points (1984-85) to 110 points (1978-79). The 81-point gap between Hispanic and white students on the mathematical SAT is 13 points lower than the previous year.

Asian Americans have a completely different pattern. Their 1987-88 average verbal score of 419 was eight points above last year's record low but 15 points below the 1983-84 high. Their mathematical average of 514 is five points below last year's level; it has ranged from 509 to 530 over the past ten years. The 27-point difference between Asian American and white students on the verbal SAT was nine points lower than last year. However, this difference was as small as 11 points as recently as 1983-84. Asian Americans have always had higher mathematical SAT averages than whites, but the difference is narrowing. Asian American college-bound seniors currently average 33 points higher than their white counterparts, five points less than last year. In the past ten years the difference has ranged from 52 points (1977-78) to 30 points (1984-85 and 1985-86).

#### TEST OF STANDARD WRITTEN ENGLISH (TSWE)

Scores on the Test of Standard Written English have been very consistent over the past ten years. Generally, there was very little change in the test scores. The Connecticut female score decreased by 0.2 points and the Connecticut total decreased by 0.1 point in the past year. These are small fluctuations on a scale that ranges from 20 to 80 points. The TSWE scores have been very stable for both Connecticut and the nation during the period extending from 1977-78 to 1987-88. Little change has occurred both within and between groups. Connecticut scores are higher than the corresponding national averages and females outperform males (see Table 6).

**Table 6**  
**Test of Standard Written English**

Academic Year	Males		Females		Total	
	CT	Nation	CT	Nation	CT	Nation
1987-88	42.7	42.3	44.2	43.7	43.5	43.0
1986-87	42.7	42.3	44.4	43.7	43.6	43.0
1985-86	42.1	41.9	43.6	43.2	42.8	42.6
1984-85	42.6	42.0	44.1	43.1	43.4	42.7
1983-84	42.5	41.9	44.1	43.3	43.3	42.6
1982-83	42.1	41.6	43.7	43.0	43.0	42.3
1981-82	42.3	41.7	43.1	42.8	42.5	42.3
1980-81	41.9	41.5	43.3	42.9	42.6	42.2
1979-80	42.3	41.7	43.7	43.0	43.0	42.4
1978-79	42.3	41.8	44.2	43.2	43.3	42.5
1977-78	42.8	42.0	44.6	43.5	43.7	42.8

## ACHIEVEMENT TESTS

In Connecticut, 10,427 students (33.6% of SAT takers) took at least one achievement test in 1987-88; last year 34.3 percent of Connecticut SAT takers took at least one achievement test. Nationwide the figure was 19.8 percent. In rank order, English Composition, Mathematics Level 1, American History, Mathematics Level 2, Biology, French and Chemistry are the tests taken most frequently in Connecticut. Nationally, the six most frequently taken tests do not include French. The results of the six most popular tests of both student groups are presented for comparison (see Table 7).

For those students taking at least one achievement test, Connecticut seniors scored slightly higher than seniors in the nation on the verbal SAT and substantially lower than seniors in the nation on the mathematical SAT. For these Connecticut students, the average verbal SAT of 519 was two points above the national average and the same as last year's state average. The Connecticut mathematical SAT average of 568 was 13 points below the national average and one point below last year's state average for students who took an achievement test. The verbal and mathematical SAT scores of Connecticut students taking at least one achievement test are, respectively, 83 and 96 points above the overall current state averages.

The English Composition Achievement Test was taken by 31.5 percent of Connecticut SAT takers and 18.2 percent of SAT takers in the nation. These Connecticut students had an average verbal SAT score of 521, as did their peers in the nation. The Connecticut average on the English Composition Achievement Test was 524, four points above last year. This was three points above the national average and 13 points above the ten-year low average of 511 (1980-81).

The difference between the Connecticut and national average on the Mathematics I Achievement Test was consistent with the difference in the mathematical SAT of the students who took this achievement test. In 1987-88 the Connecticut mean score on the Mathematics I Achievement Test of 540 was nine points below the national average, while the mathematical SAT score of this Connecticut group was three points below the comparable national average. The Connecticut average was one point below last year's average but 15 points above the 1979-80 low. In the state, 25.5 percent of the college-bound seniors took this achievement test. Nationwide, 14.0 percent of college-bound students took this achievement test.

The average score of Connecticut students on the American History Achievement Test was below the national average for the sixth year in a row. The Connecticut score of 521 in 1987-88 equalled the ten-year high, set in 1981-82 and again in 1984-85, but was eight points below the national average. In the past ten years, the percentage of college-bound seniors taking the test has declined both in Connecticut and in the nation. In 1987-88, 7.9 percent of the state's college-bound seniors took this test, compared to a high of 9.2 percent in 1978-79. Nationwide, 4.5 percent of the college-bound seniors took this test. The combined average SAT score (the sum of the verbal and mathematical tests) of the Connecticut students taking the American History Achievement Test was 10 points below that of the comparable national group.

The Connecticut average score of 544 on the Biology Achievement Test was four points above last year. However, it was still nine points below the 1987-88 national average. This occurred even though this group of Connecticut students had a similar combined SAT score with students nationwide (1128 versus 1129). Yet, a greater percentage of Connecticut students took this test compared to students nationwide (6.3% versus 4.2%).

**Table 7  
Selected Achievement Test Scores**

Academic Year	Connecticut		Nation		Connecticut		Nation	
	Percent Taking	Mean Score	Percent Taking	Mean Score	Percent Taking	Mean Score	Percent Taking	Mean Score
<b>English Composition</b>								
1987-88	31.5%	524	18.2%	521	25.5%	540	14.0%	549
1986-87	32.0%	520	18.4%	524	26.0%	541	14.2%	548
1985-86	33.7%	520	19.2%	522	27.4%	532	14.9%	541
1984-85	33.2%	525	19.3%	523	27.0%	536	15.2%	540
1983-84	33.0%	519	19.0%	518	27.6%	535	15.2%	542
1982-83	32.4%	518	18.4%	518	27.0%	537	14.8%	543
1981-82	31.4%	521	18.3%	520	25.8%	539	14.7%	545
1980-81	32.2%	511	18.4%	512	25.8%	534	14.7%	539
1979-80	33.2%	517	18.6%	518	26.3%	525	14.7%	536
1978-79	33.2%	512	18.9%	514	26.4%	527	14.7%	537
1977-78	34.9%	514	19.7%	512	27.5%	532	14.8%	541
<b>Mathematics Level 1</b>								
<b>American History</b>								
1987-88	7.9%	521	4.5%	529	6.3%	544	4.2%	553
1986-87	7.8%	517	4.3%	529	6.5%	540	4.3%	550
1985-86	7.7%	519	4.4%	528	7.0%	539	4.5%	551
1984-85	7.5%	521	4.4%	525	6.8%	541	4.4%	554
1983-84	7.6%	514	4.5%	521	6.8%	532	4.5%	550
1982-83	7.5%	514	4.5%	516	7.4%	524	4.4%	544
1981-82	8.0%	521	5.6%	511	6.8%	529	4.1%	548
1980-81	7.9%	514	5.5%	508	7.3%	522	4.1%	546
1979-80	8.4%	509	5.6%	501	7.9%	525	4.1%	551
1978-79	7.6%	483	5.8%	480	7.8%	528	4.3%	547
1977-78	7.2%	508	6.1%	496	8.3%	528	4.8%	544
<b>Biology</b>								
<b>Chemistry</b>								
1987-88	5.8%	569	3.2%	577	6.3%	656	5.0%	664
1986-87	6.0%	566	3.4%	574	6.4%	653	5.0%	662
1985-86	6.5%	562	3.7%	571	6.3%	652	5.0%	660
1984-85	6.8%	567	3.7%	576	6.2%	651	4.7%	658
1983-84	6.3%	562	3.8%	573	5.2%	660	4.3%	659
1982-83	6.8%	555	3.7%	569	4.7%	654	4.1%	655
1981-82	6.3%	557	3.5%	575	4.5%	654	3.8%	661
1980-81	6.3%	556	3.5%	571	4.9%	651	3.8%	654
1979-80	6.0%	551	3.5%	573	4.9%	649	3.5%	653
1978-79	5.9%	551	3.4%	575	4.7%	655	3.5%	657
1977-78	6.0%	553	3.5%	577	4.3%	664	3.3%	665
<b>Mathematics Level 2</b>								



The Connecticut average of 569 on the Chemistry Achievement Test was three points above last year but eight points below the national average. In the previous ten years the Connecticut average had ranged from 9 to 24 points below the national average. The Connecticut students who took this achievement test had a combined SAT of 1187, which was equal to the comparable national average. However, the math component of this total was greater for all students, whereas verbal scores were higher for Connecticut college-bound seniors. In Connecticut, 5.8 percent of the college-bound seniors took the Chemistry Achievement Test compared to 3.2 percent nationally.

The average Mathematics Level 2 Achievement Test score in Connecticut rose three points to 656 in the past year and the percentage of students taking the test fell 0.1 percentage point to 6.3 percent. The Connecticut average is eight points below the national average. There was only a two-point difference in the mathematical SAT average. Since 1977-78 the Connecticut average on this achievement test has ranged from one point above to nine points below the national average.

## COLLEGE PLANS

The intended degree goals of Connecticut college-bound seniors have fluctuated over the past ten years. In 1987-88, 5.3 percent of these students planned to complete a two-year training program or obtain an associate's degree, 32.1 percent planned to obtain a bachelor's degree, 24.3 percent a master's degree, and 12.4 percent a professional degree; 24.8 percent were undecided. Compared to last year, fewer students were undecided and more students intended to pursue graduate degrees. For the third consecutive year, the percentage of females intending to get an M.D., Ph.D., or other professional degree exceeded the percentage of males (12.8 to 11.9). In the past ten years the major shifts have included a 2.0 percentage point decrease in the percentage intending to enter a two-year training program, and an increase in the percentage of college-bound seniors intending to pursue a bachelor's (1.1%) or master's (1.3%) degree. While the total percentage with a professional degree as a goal has declined over the past ten years, the decline has not occurred evenly among males and females. Ten years ago, 16 percent of the males and 12 percent of the females cited this level of education as their goal, compared to the current percentages of 11.9 and 12.8, respectively (see Table 8).

The many possible fields of study listed in the Student Descriptive Questionnaire were grouped into six categories for analysis. The arts and humanities area includes architecture, art, the languages, music, philosophy, religion and theater. The biological sciences category includes agriculture, biology, forestry, nursing, therapy, premedical and similar areas of concentration. The physical sciences area includes computer science, engineering, mathematics, chemistry, geology and physics. The social science area includes education, ethnic studies, geography, history, home economics, library science, military science, psychology and similar courses. The other categories are business, commerce and communication, and miscellaneous.

The intended areas of study in college have changed significantly in the past year, highlighted by a large decline in the physical sciences, a continued decline in interest in the biological sciences, a continued increase in interest in business, commerce and communications, and a renewed interest in education. Also evident in the last year was an decrease in the percent of undecided college-bound seniors.

Changes in intended areas of study differed among college-bound males and females. Since last year there has been a decreased interest in the physical sciences in both groups. For males, interest in all other areas, including education, has increased. Among females, interest has increased in the arts and humanities as well as the social sciences, particularly education (see Table 9).

**Table 8  
Degree-Level Goals**

Goal	Sex	1977-78	1982-83	1986-87	1987-88
Two-Year Training Program	Male	4.0	4.5	2.3	2.3
	Female	5.0	3.6	1.9	1.9
	Total	4.0	4.0	2.5	2.0
Associate in Arts Degree	Male	2.0	1.6	2.7	2.3
	Female	5.0	4.5	4.8	4.1
	Total	4.0	3.2	3.8	3.3
Bachelor's Degree	Male	30.0	32.8	33.7	34.5
	Female	32.0	34.4	31.7	30.1
	Total	31.0	33.7	32.6	32.1
Master's Degree	Male	25.0	27.4	23.6	24.4
	Female	22.0	24.8	22.4	24.3
	Total	23.0	26.0	23.0	24.3
M.D., Ph. D., Other Professional Degree	Male	16.0	14.6	11.6	11.9
	Female	12.0	12.8	11.8	12.8
	Total	14.0	13.6	11.7	12.4
Other or Undecided	Male	24.0	19.0	26.0	24.6
	Female	24.0	20.0	27.3	26.9
	Total	24.0	19.6	26.7	24.8

**Table 9  
Intended Area of Study**

	1977-78		1982-83		1986-87		1987-88	
	Male	Female	Male	Female	Male	Female	Male	Female
Arts and Humanities	9.2	15.4	9.0	12.5	10.8	13.2	11.4	13.2
Biological Sciences	18.2	28.9	11.4	22.8	9.6	17.8	10.2	16.1
Business, Commerce and Communications	22.9	18.6	24.5	25.2	30.8	30.0	31.6	28.6
Physical Sciences	24.0	5.4	34.1	12.0	23.4	5.5	20.5	5.2
Computer Science	3.7	2.0	11.6	7.4	4.4	1.9	3.5	1.6
Engineering	14.9	1.2	19.0	2.4	16.5	2.2	14.3	2.2
Mathematics	1.8	1.2	1.3	1.3	0.7	0.8	0.9	0.6
Social Science	18.0	25.8	13.5	20.8	14.3	25.8	16.2	28.7
Education	3.4	10.2	1.8	6.3	2.3	8.6	3.0	10.1
Miscellaneous and Undecided	7.8	6.1	7.4	6.7	11.1	8.2	10.1	8.1



Interest in the physical sciences declined in the past year by 2.9 percentage points for males and 0.3 percentage points for females. This area is now cited by 20.5 percent of males and 5.2 percent of females compared to the 1982-83 levels of 34.1 and 12.0 percent, respectively. Interest in computer science has waned. This area was cited by 3.5 percent of the males and 1.5 percent of the females in 1987-88. Five years ago, this area was chosen by 11.6 percent of the males and 7.4 percent of the females. Interest in engineering, which had been increasing, declined in the past year from 16.5 to 14.9 percent for males but remained the same at 2.2 percent for females.

The biological sciences was the other area which had reduced interest in the past year. Unlike physical sciences, which experienced a period of increased interest in the late 1970s and early 1980s, interest in the biological sciences has been steadily declining. However, more males intended to study biological science in 1987-88 (10.2%) than the previous year (9.6%). The rate for females has declined and was at 16.1 percent for the most recent year. Ten years ago, 18.2 percent of the males and 28.9 percent of the females were interested in the biological sciences.

With the decline in interest in the biological and physical sciences, there has been increased interest in the arts and humanities, business, commerce and communications, and the social sciences. More students than five or ten years ago are undecided about a college major. Student interest in business, commerce and communications continued to grow in the past ten years from 22.9 to 31.6 percent for males and from 18.6 to 28.6 percent for females. Male interest in the arts and humanities is at one of the highest levels in ten years (11.4%), while female interest is at a lower level than ten years ago (13.2%). Female interest in the social sciences has increased to 28.7 percent compared to 25.8 percent ten years ago. Male interest in this area has increased to 16.2 percent in 1987-88 from 14.3 percent last year, but remained below the 18.0 percent level of ten years ago.

Of particular interest to educators is college-bound seniors' interest in education. For the third consecutive year since The College Board began reporting these data, both males and females in Connecticut showed an increased interest in education. The percent of males interested increased by 0.7 percentage points to 3.0 percent and the percentage of females increased by 1.5 percentage points to 10.1 percent. The levels are approaching those of 1977-78. Ten years ago, 3.6 percent of the males and 10.2 percent of the females intended to enter this area.

#### **STUDENTS INTENDING TO STUDY EDUCATION**

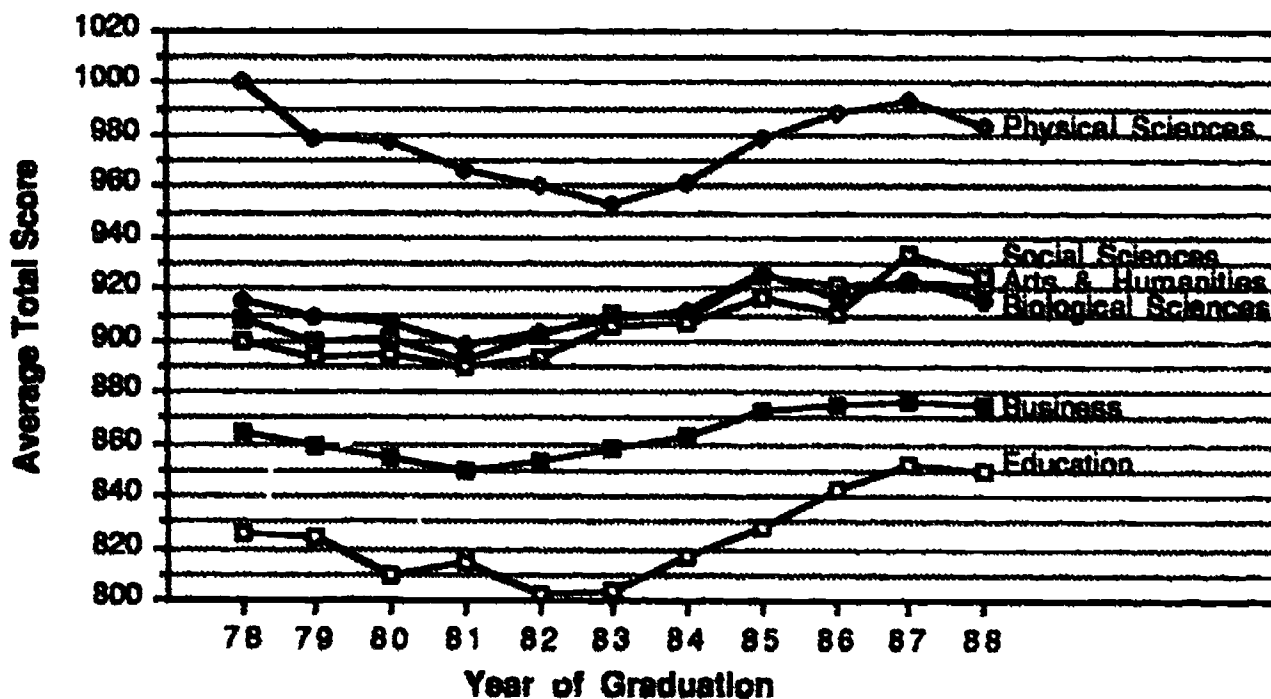
The number of Connecticut college-bound seniors intending to major in education provides an estimate of the supply of new teachers available four years later. In 1987-88, 1,845 students indicated an intent to study education. This figure may underestimate the actual number of intended education majors because only 87.5 percent of those taking the SAT responded to this question. The estimated number of students intending to study education increased in the past year from 1,702 to 1,845. This represents 6.8 percent of all students who took the SAT compared to 5.7 percent in 1986-87. This was the largest single year increase in the past ten years (see Table 10).

The verbal and mathematical SAT averages of those intending to study education have continued to increase for a combined total of 47 points in the past five years. The SAT verbal average of those intending to study education declined from 403 to 395 between 1977-78 and 1982-83, but since then has increased by 17 points to 412. The SAT mathematical average of these seniors declined from 422 in 1977-78 to 408 in 1981-82, but since then has increased by 31 points to 439. The verbal score is four points below last year's record high level, while the math score is three points above last year's record high level (see Table 10).

**Table 10**  
**Average SAT Scores of Connecticut Students**  
**Intending to Study Education**

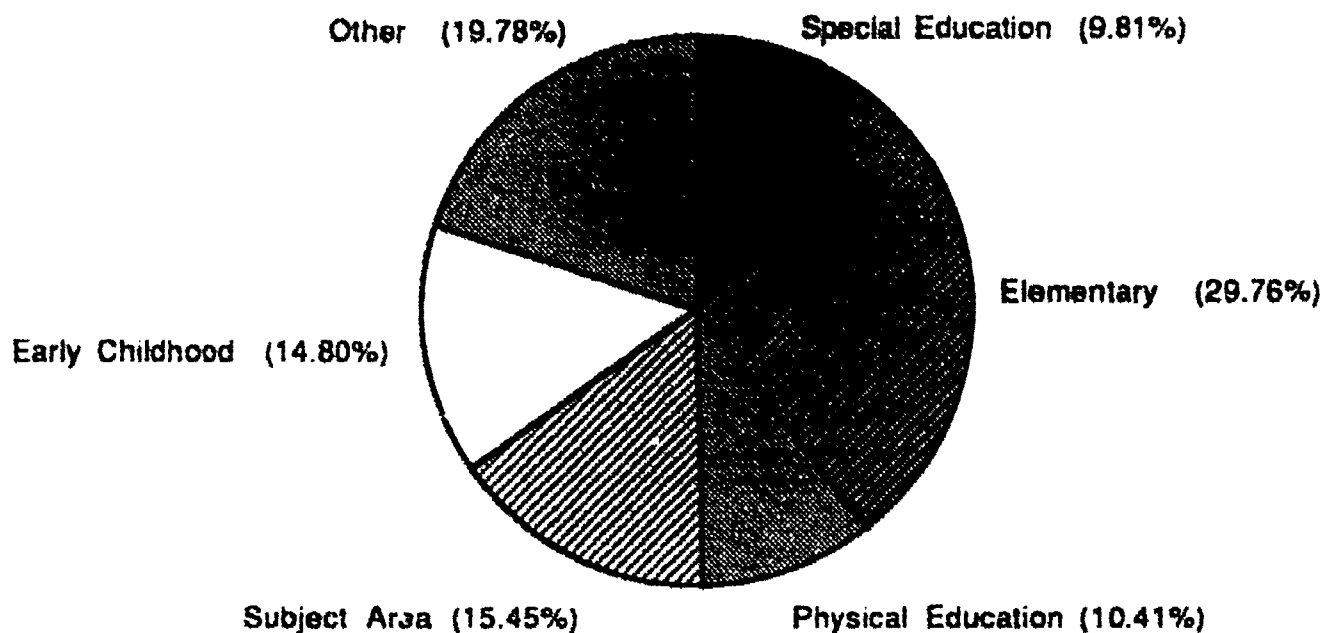
Academic Year	Estimated Percent of Students	Number of Students	SAT Verbal	SAT Math
1987-88	6.8	1,845	412	439
1986-87	5.7	1,720	416	436
1985-86	5.2	1,485	413	430
1984-85	4.2	1,180	407	421
1983-84	4.4	1,300	401	416
1982-83	4.2	1,290	395	409
1981-82	4.5	1,390	395	408
1980-81	5.7	1,780	396	418
1979-80	6.1	1,870	391	419
1978-79	6.5	2,070	402	422
1977-78	7.1	2,190	403	422

The average total SAT score of the students intending to study education has increased more than that of students indicating any other intended area of study over the past five years. The combined SAT average in Connecticut declined from 907 in 1977-78 to a low of 893 in 1980-81. Since then it has increased by 21 points to 914 in 1985-86 and has decreased slightly to the current level of 912. The combined SAT score of those intending to study education fell 22 points between 1977-78 and 1981-82, followed by a 47-point increase to its current level of 850. The combined SAT scores of all areas except the physical sciences are currently above their 1977-78 levels (see Figure 5).



**Figure 5**  
**Combined SAT Scores of Connecticut Students**  
**by Intended Area of Study**

A total of 1,845 college-bound seniors responded that they intend to study education. Approximately three of every ten of these students intend to study elementary education, one in nine intend to major in special education or physical education. Also, 14.8 percent intend to major in early childhood education and 15.5 percent plan to major in a subject area (e.g., mathematics) within education (see Figure 6).

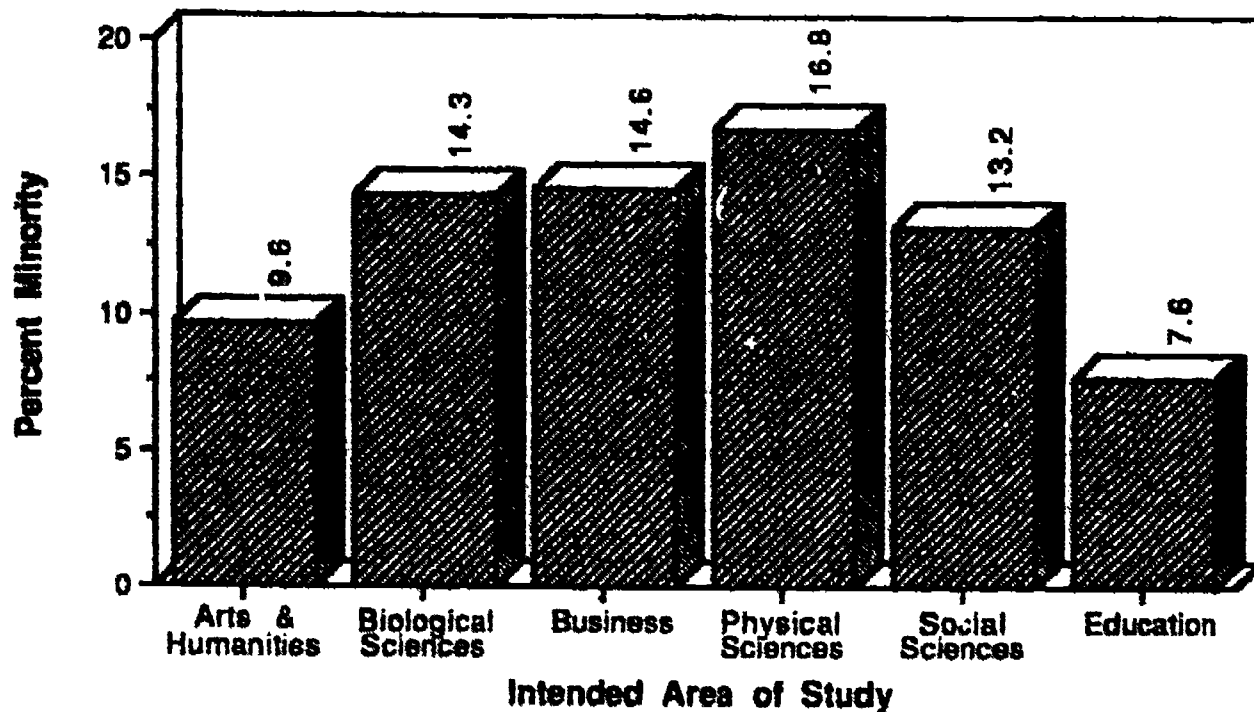


**Figure 6**  
**Intended Major in Education**

Students intending to major in education tend to be female and white. This group was 79.7 percent female and 7.6 percent minority in 1987-88. In September 1988 the teaching staff was 68.8 percent female and 6.3 percent minority. A total of 139 students of the 3,510 (4.0%) minority college-bound students who identified a major intended to major in education. This represents 7.6 percent of all students intending to major in education and an increase of 37 students compared to the 1986-87 college-bound seniors. The percentage of students intending to major in education who are minorities is the smallest of any of the subject area groups. The greatest percentage of minority students intend to study the physical sciences (see Figure 7).

Generally, the parents of students intending to major in education have less formal education and lower incomes than parents of all college-bound students in Connecticut. A college degree was held by 48.5 percent of the fathers and 40.1 percent of the mothers of future education majors, compared to 52.8 percent and 42.9 percent, respectively, of the parents of all college-bound students. The median family income of prospective education majors was \$40,721, compared to \$43,084 for all college-bound students.

Students intending to major in education reported lower class ranks than college-bound students in general: 28.0 percent of the prospective education majors came from the top fifth of their high school class compared to 34.7 percent of the general college-bound population.



**Figure 7**  
**Percentage of Minority Students**  
**by Subject Area**

### **SUMMARY AND CONCLUSIONS**

The percentage of Connecticut high school seniors who take the SAT increased again to a new record high of 73.7 percent. This rate exceeds the percentage of all other states. The cohort of college-bound seniors was 52.1 percent female. Moreover, approximately one in seven were minority students. The percentage of females has been constant over the past ten years, yet the percentage of minority students has increased to the highest level in the past ten years. Finally, the estimated percentage of college-bound students from public high schools has steadily decreased over the past ten years.

The average verbal SAT scores have followed similar patterns of declines and increases for males and females over the past ten years. Scores declined from the late 1970s to the early 1980s. This was followed by an increase which peaked in 1986. Since then average scores have tended to decrease. The average verbal score for males is now above its level of ten years ago, while the average verbal score for females is below its level of ten years ago. The average verbal score for Connecticut males exceeds that of Connecticut females. Similarly, the average verbal score for males in the nation exceeds the average for females. Over the past ten years the scores of Connecticut college-bound seniors have been greater than the national averages. The number of students scoring below 600 on this test has decreased over the past ten years at the state and national levels.

Average mathematical scores have followed different patterns for males and females over the past ten years. The average mathematical score for males has remained relatively stable but has begun to decline over the past two years. The average scores for females have been increasing steadily. Hence, the gap between the scores for males and females continues to decrease. This is true at both the state and national levels. It should also be noted that scores for Connecticut females are comparable to those for females in the nation. The scores for males in Connecticut are higher than their national counterparts. Also, the number of college-bound seniors scoring above 600 on this test has decreased from last year's high, but still exceeds the percentage of ten years ago.



The SAT scores also differed by race. Asian American and white SAT test takers outscored black and Hispanic students on the verbal and mathematical areas. The gap is greater in math than in the verbal section of the test. Moreover, the gap in mathematical scores is decreasing due to steady increases in the average scores of black and Hispanic students and stable or decreasing scores among the other students. Over the past ten years, the average verbal scores have decreased for white and Asian American students and have increased for Hispanic and black students.

The percentage of SAT test takers who also took at least one achievement test exceeded 33 percent. Nationwide, approximately 20 percent of the college-bound seniors took at least one of these tests. While a higher percentage of Connecticut college-bound seniors have taken each achievement test, the average scores have been consistently lower than those of all achievement test takers in the nation. However, over the last ten years the average achievement test scores for Connecticut college-bound seniors have increased in five of the six most widely taken tests. The only decrease occurred in Mathematics Level II.

The intended areas of study in college have changed over the past ten years. More of today's college-bound seniors in Connecticut intend to study the arts and humanities or business than students of ten years ago. Fewer students intend to study the biological sciences, physical sciences and social sciences than ten years ago. Exceptions to these trends are the increase in females interested in studying engineering or the social sciences. The percentage of students intending to study education is comparable to the level of ten years ago. The average total SAT scores is greatest among students intending to study the physical sciences. Although the average score is lowest for those intending to study education, it has increased the most over the past ten years. This increase may represent the leading edge of one of the intended outcomes of Connecticut's program of teaching reform - to make the teaching profession more attractive to the best high school students.

## **POLICY IMPLICATIONS**

The very high SAT participation rate in Connecticut indicates that many high school seniors are interested in pursuing some form of postsecondary education. High participation rates are theoretically associated with low average scores. As more students from different ability levels take the test, the scores are expected to cover a broader range and yield a lower average. This has not happened in Connecticut, where average verbal and mathematical SAT scores have paralleled or exceeded national averages.

The use and interpretation of SAT scores has been less clearly understood. The College Board states, "SAT scores are intended to primarily predict academic performance in college." The SAT score is only one piece of available information. Recent critics question whether the scores enable college admissions officers to make better decisions than they would without the scores.

Also related to test score use and interpretation, The College Board states, "Looking at averages over a number of years can suggest changes in the academic performance of college-bound students who take the SAT and can provide evaluators with an additional factor to use in evaluations." SAT scores are commonly accepted as an indicator of the success of schools. However, there has been no discussion about the meaning of a decrease or increase in the annual average. The meaning of fluctuations in the SAT score are not generally questioned. It is merely accepted as a primary indicator of the state of our education system. More comprehensive studies of school performance are needed to provide a more complete description of the educational process and its outcomes.

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