

DOCUMENT RESUME

ED 447 757

HE 033 600

AUTHOR Lerner, Robert; Nagai, Althea K.
TITLE Preferences in Maryland Higher Education: Racial and Ethnic Preferences in Undergraduate Admissions at Maryland Four-Year Public Colleges and Universities.
INSTITUTION Center for Equal Opportunity, Washington, DC.
PUB DATE 2000-00-00
NOTE 34p.
AVAILABLE FROM Center for Equal Opportunity, 815 15th Street, N.W., Suite 928, Washington, DC 20005. Tel: 202-639-0803; Fax: 202-639-0827; Web site: <http://www.ceousa.org>.
PUB TYPE Reports - Descriptive (141)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Admission Criteria; *Affirmative Action; Asian American Students; Black Students; *College Admission; Higher Education; Hispanic American Students; *Public Colleges; *Racial Differences; Remedial Instruction; *State Universities; Tables (Data)
IDENTIFIERS *Maryland; *Racial Preference

ABSTRACT

This study examined the extent to which racial and ethnic preferences were used in the admissions policies of Maryland's four-year public colleges and universities. Ten institutions provided data on in-state enrollees (race, sex, and SAT scores). Data analysis indicated that white in-state enrollees on average had substantially higher SAT scores compared to black in-state enrollees. At most schools, the SAT math score gap between blacks and whites was large, and the verbal score gap was moderate or large. There was less of a systematic pattern regarding white-Hispanic and white-Asian test score differences, though the former gaps were greater and more common than the latter. Especially at large institutions, the greater gaps between groups were mirrored in lower graduation rates for minorities. Blacks were subject to remediation at a greater rate than members of other racial and ethnic groups, and the disparities in remediation rates were generally related to gaps in enrollee test scores. Remediation, however, did not close the gap with respect to the rate of retention. (SM)

Preferences in Maryland Higher Education

*Racial and Ethnic Preferences in
Undergraduate Admissions at
Maryland Four-Year Public Colleges and Universities*

By Robert Lerner, Ph.D. and
Althea K. Nagai, Ph.D.

**EMBARGOED UNTIL
SEPTEMBER 27, 2000**

Prepared for the
Center for Equal Opportunity



Linda Chavez, President
815 15th Street, NW, Suite 928
Washington, DC 20005
Phone: 202-639-0803
Fax: 202-639-0827
<http://www.ceousa.org>

PERMISSION TO REPRODUCE AND
DISSEMINATE THIS MATERIAL HAS
BEEN GRANTED BY

J. Amselle

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)

1

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

Executive Summary

- At Maryland four-year public colleges and universities, white in-state enrollees on average have substantially higher SAT scores compared to black in-state enrollees. There are large gaps in median verbal SAT scores at St. Mary's College, Salisbury, Bowie, Frostburg, and College Park, moderate gaps at Towson and Eastern Shore, and basically no gap at Baltimore County. At most schools (St. Mary's, College Park, Bowie, Salisbury, Frostburg, and Eastern Shore), the math SAT gap between whites and blacks is large. There is a moderate gap at Towson and Baltimore County.
- There is less of a systematic pattern regarding white-Hispanic and white-Asian test score differences, although the former gaps are greater and more common than the latter. At College Park and Bowie, for example, white scores on verbal and math SATs are much higher than Hispanic scores. (At Towson, on the other hand, Hispanic scores are slightly higher on both tests.) White scores on verbal SATs are generally higher than Asian scores, while white-Asian math score gaps show no pattern. (At Salisbury, Asians score higher on both SATs.)
- Especially at the large institutions, the greater gaps between groups are mirrored in lower graduation rates for minorities. This is especially the case for College Park. In contrast, where gaps in test scores are smaller (e.g., Baltimore County and Towson), proportionately more blacks graduate.
- Without racial preferences, all Maryland schools would still have many minority enrollees. Minorities, particularly blacks, would not be locked out of admission to the four-year institutions. This is particularly the case for the top quartile black enrollees at most schools.
- Blacks are subject to remediation at a greater rate than members of other racial and ethnic groups, and the disparities in remediation rates are generally related to gaps in enrollee test scores. Remediation does not, however, close the gap with respect to the rate of retention. In general, those with more remedial courses also are proportionately less likely to be at that institution in subsequent years, and have lower rates of graduation in four years. Institutions admitting minorities with substantially lower test scores increase the probability of minority enrollment in remedial courses and lessen the chances the students at the school will graduate in four years. Racial preferences create permanent differences in the relative qualifications of different enrollee racial groups, and those preferences cannot be justified by arguing that gaps in academic performance can be overcome after the students are admitted.

Acknowledgments

We would like to thank the Maryland Association of Scholars for its help in obtaining the data from the Maryland Higher Education Commission used in this report.

Introduction

For nearly thirty years, racial and ethnic preferences have played a key role in how admissions officers at the nation's public and private colleges and universities have chosen their undergraduate classes. A system of racial and ethnic preferences in admissions operates by establishing different standards of admission for individuals based upon their racial or ethnic background, with some students held to a higher standard and others admitted at a lower standard. Earlier in this century, some colleges and universities denied admissions to Jews, blacks, women, and members of other groups even when their grades, test scores, and other measures of academic achievement surpassed those of white males who were offered an opportunity to enroll. The passage of new civil rights legislation in the 1960s made this kind of blatant discrimination illegal.

Since then, however, many colleges and universities created "affirmative action" programs meant to boost the enrollment of students whose backgrounds previously had excluded them from pursuing a higher education—especially blacks and, to a lesser extent, Hispanics—by granting them preferences during the admissions process. These policies, when their existence was made public, became immediately controversial, and they remain so today. Defenders of racial and ethnic preferences claim that these policies are not discriminatory and help administrators choose between equally or almost equally qualified students, giving a slight edge to applicants who likely have faced discrimination or have come from disadvantaged backgrounds. Critics of preferences say that these policies are no better than the discriminatory ones they replaced and that, in any event, the advantages they confer upon certain applicants are much greater than supporters are willing to admit.

Public colleges and universities have seen their ability to use racial and ethnic preferences increasingly restricted. The enactment of California's Proposition 209 (also known as the California Civil Rights Initiative) forbids discrimination against or granting special treatment to any applicant on the bases of race, ethnicity, or sex in the public programs of the country's largest state. A similar ballot initiative in Washington state was approved by a large majority of voters in 1998. Grassroots activists elsewhere are trying to place similar proposals on their own state ballots, and lawmakers—both in Congress and in state capitals—may enact legislation modeled on the California law.

This study examines the extent to which racial and ethnic preferences are used in the admissions policies of Maryland's four-year public universities and colleges.

This report is the latest in a series published by the Center for Equal Opportunity (CEO), a public policy research organization. Earlier CEO studies have focused on the public colleges and universities of Colorado, Michigan, Minnesota, North Carolina, and Virginia, the University of Washington and Washington State University, the U.S. Military Academy and U.S. Naval Academy, as well as the branches of the University of California at Berkeley, Irvine, and San Diego. Previous reports have shown that blacks and Hispanics receive large amounts of preference in undergraduate admissions.

Methodology

The ten public colleges and universities examined in this study are all the four-year public institutions of higher education in the state of Maryland. Figure 1 lists the schools and their rankings in *Barron's Profiles of American Colleges*. Data were obtained from the Maryland Higher Education Commission. The available data consist of individual records of in-state enrollees, and includes the institution in which the student enrolled and his or her race, sex, and SAT verbal and math scores. (The vast majority of students at these Maryland schools are in-state.)

The data are not as good as those used in the most recent CEO studies. They do not contain data on those rejected by the ten Maryland four-year public colleges and universities, nor do we have data on those admitted but who chose not to enroll. We also lack data on high-school grades.

Figure 1
Profile of Four-Year Public Colleges and Universities in Maryland

<i>School</i>	<i>Abbreviation</i>	<i>Barron's Ranking</i>
Bowie State University	Bowie	Less Competitive
Coppin State College	Coppin	Competitive
Frostburg State University	Frostburg	Competitive
Morgan State University	Morgan	Less Competitive
Salisbury State University	Salisbury	Very Competitive
St. Mary's College of Maryland	St. Mary's	Highly Competitive
Towson State University	Towson	Competitive
University of Maryland, College Park	UMCP	Very Competitive
University of Maryland, Baltimore County	UMBC	Very Competitive
University of Maryland, Eastern Shore	UMES	Less Competitive

Analysis was performed on 1997 freshmen, the latest data available at the time it was obtained. We omit from our data analyses those cases for which race or ethnicity is listed as "other," "missing," or "unknown." We also omit American Indians because of their small numbers in this context. Lastly, we omit cases with missing test scores.

We do not report group means for test scores. Using group means places greater weight on extreme values than is warranted. A few unusually high or low scores can have a substantial effect on the value of the mean. Standard deviations, which are based on squared deviations from the mean, are even less useful for describing the spread of cases for asymmetrical, badly skewed distributions because standard deviations reflect the mathematical square of these extreme values.

In contrast, the median and related statistics are far less affected by the values of extreme cases. The median represents the middle of the distribution so that 50 percent of all students have higher scores and 50 percent have lower scores.

We also report scores at the 25th and 75th percentile, again to deal with the problem of extreme cases. While the median represents the middle of the distribution, the 25th and 75th percentile scores taken together represent the actual spread of scores. For example, a 25th percentile score of 650 means that 25 percent of the scores were below 650, while 75 percent of the scores were above it. A 75th percentile score of 700 means that 75 percent of the scores were below 700 and 25 percent were above it.

Racial and Ethnic Differences in Enrollee Qualifications

We examine three pairs of differences in qualifications: white-black, white-Hispanic, and white-Asian. Treating each pair of comparisons separately makes it easier to see whether substantial racial and ethnic differences exist, and where they are greatest.

One of the limitations of our study is that, because we have only enrollee data, observed differences in qualifications between black and white enrollees may not always be due to racial preferences in admission decisions. Instead, differences in qualifications between black and white enrollees may exist even in the absence of preferential admissions policies because of differences in test scores between the black and white populations. Since these differences in enrollee qualifications are also the expected consequences of preference policies, which always require some form of double standard, we are faced with the problem of ascertaining in any given case whether the observed qualifications differential is due to the test-score gap or whether it is due to the operation of preferential admissions policies. We adopt the rule that SAT enrollee differences of less than 30 points are as likely to be due to the test-score gap as to the existence of preferential admissions policies (see Lerner and Nagai, *Pervasive Preferences: Racial and Ethnic Discrimination in Undergraduate Admissions across the Nation*, forthcoming from the Center for Equal Opportunity). Greater enrollee differences are likely to be due to operation of preferential admissions policies.

Regardless of their source, these gaps have consequences. Our subsequent analysis of remediation data shows that lower test scores are associated with an increasing likelihood of need for collegiate remedial education.

Differences between Whites and Blacks

White enrollees on average have considerably better credentials than do black enrollees, on both the SAT verbal and the SAT math. Figure 2 shows the white-black gaps in median verbal and math SATs. They range from a high of 135 points at St. Mary's College to a low of 10 points at UMBC. The white-black gaps in median verbal SAT scores are large (i.e., 60 points or greater) at St. Mary's, Salisbury, Bowie, Frostburg, and College Park. The white-black gaps in median verbal SAT scores are moderate in size (i.e., 30 points or more but less than 60 points) at Towson and UMES. There is only a 10-point white-black gap in verbal SATs at UMBC.

At most of Maryland's public colleges and universities, the math SAT gap between whites and blacks is large. At St. Mary's, College Park, and Bowie, the gap is 100 points or more. It is 95 points at Salisbury, and 70 points at Frostburg and UMES. The math SAT gaps between whites and blacks are moderate at Towson and UMBC.¹

¹ White median verbal and math scores for Coppin and Morgan are not reported because there were fewer than five whites with reported scores. It is our practice not to report data on groups with fewer than five members.

Figure 2
White-Black Enrollee Differences

Verbal SAT Gaps			
	<i>White</i>	<i>Black</i>	<i>Difference in Median Scores</i>
St. Mary's	650	515	135
Salisbury	560	490	70
Bowie	520	450	70
Frostburg	490	430	60
UMCP	600	540	60
Towson	540	505	35
UMES	460	430	30
UMBC	580	570	10
Coppin	NA	420	NA
Morgan	NA	470	NA
Math SAT Gaps			
	<i>White</i>	<i>Black</i>	<i>Difference in Median Scores</i>
St. Mary's	630	520	110
UMCP	620	510	110
Bowie	540	440	100
Salisbury	560	465	95
Frostburg	490	420	70
UMES	480	410	70
Towson	540	490	50
UMBC	590	550	40
Coppin	NA	400	NA
Morgan	NA	470	NA

Differences between Whites and Hispanics

There are seven schools with sufficient numbers of Hispanic and white enrollees to make comparisons of these two groups possible (see Figure 3).² Whites usually outperform Hispanics at these seven schools.

At Bowie, St. Mary's, UMBC, and College Park, the white-Hispanic gap in verbal SAT scores is large. It is 95 points at Bowie, and 60 points at St. Mary's, UMBC, and College Park. There is a moderate gap (30 points) at Salisbury. In contrast, there is no gap at Frostburg, while at Towson the median Hispanic verbal SAT is 15 points higher than the median white verbal SAT.

² There were fewer than five Hispanics with reported verbal and math SAT scores at Coppin, Morgan, and UMES. It is our practice not to report data on groups with fewer than five members.

There is less of a pattern regarding white-versus-Hispanic median math SAT scores. At Bowie and College Park, there is a large white-Hispanic gap in math scores. Whites outscore Hispanics on average at Bowie by 105 points; at College Park, by 80 points. At Frostburg, there is a moderate gap, with whites outscoring Hispanics on average by 40 points. At UMBC, there is a small gap of 10 points, and there is no gap at Salisbury. At Towson and St. Mary's, the Hispanic median math SAT is higher than the white median by 15 and 20 points respectively.

Figure 3
White-Hispanic Enrollee Differences

Verbal SAT Gaps			
	<i>White</i>	<i>Hispanic</i>	<i>Difference in Median Scores</i>
Bowie	520	425	95
St. Mary's	650	590	60
UMBC	580	520	60
UMCP	600	540	60
Salisbury	560	530	30
Frostburg	490	490	0
Towson	540	555	-15
Coppin	NA	NA	NA
Morgan	NA	NA	NA
UMES	460	NA	NA
Math SAT Gaps			
	<i>White</i>	<i>Hispanic</i>	<i>Difference in Median Scores</i>
Bowie	540	435	105
UMCP	620	540	80
Frostburg	490	450	40
UMBC	590	580	10
Salisbury	560	560	0
Towson	540	555	-15
St. Mary's	630	650	-20
Coppin	NA	NA	NA
Morgan	NA	NA	NA
UMES	480	NA	NA

Differences between Whites and Asians

There are seven schools with sufficient numbers of whites and Asians to make comparisons (see Figure 4).³ St. Mary's is the only school where a white-Asian gap in verbal SATs favoring whites is large (85 points). There are moderate gaps at UMES (50 points), Frostburg (45 points), Towson (40 points), and UMBC (30 points). There is only a small gap of 10 points at College Park, while there is a large gap of 80 points favoring Asians at Salisbury.

Gaps in median math SAT scores are much smaller. The largest is only moderate, at St. Mary's, where the white median is 30 points higher than the Asian median. At Frostburg, it is 15 points and at Towson, 10. In the other direction, there is a moderate (30 point) gap favoring Asians at College Park and UMES. There are small gaps favoring Asians by 20 points at Salisbury and 10 points at UMBC.

Figure 4
White-Asian Enrollee Differences

Verbal SAT Gaps			
	<i>White</i>	<i>Asian</i>	<i>Difference in Median Scores</i>
St. Mary's	650	565	85
UMES	460	410	50
Frostburg	490	445	45
Towson	540	500	40
UMBC	580	550	30
UMCP	600	590	10
Salisbury	560	640	-80
Bowie	520	NA	NA
Coppin	NA	NA	NA
Morgan	NA	NA	NA
Math SAT Gaps			
	<i>White</i>	<i>Asian</i>	<i>Difference in Median Scores</i>
St. Mary's	630	600	30
Frostburg	490	475	15
Towson	540	530	10
UMBC	590	600	-10
Salisbury	560	580	-20
UMCP	620	650	-30
UMES	480	510	-30
Bowie	540	NA	NA
Coppin	NA	NA	NA
Morgan	NA	NA	NA

³ There were fewer than five Asians with reported verbal and math SAT scores at Bowie, Coppin, Morgan, and UMES. It is our practice not to report data on groups with fewer than five members.

How Preferences Affect Graduation Rates

Figure 5 summarizes the four-year graduation rates for different groups. Four-year completion is a function of many factors. Students may take longer because required courses are unavailable or they work part- or full-time. Others may transfer to another school, while some may leave higher education for good. The completion rates in Figure 5 do not reflect individual student reasons why they did not finish school in four years.

Figure 5
Four-Year Graduation Rates

	<i>Blacks</i>	<i>Asians</i>	<i>Hispanics</i>	<i>Whites</i>
Bowie	39%	NA	NA	46%
Coppin	28%	NA	NA	16%
Frostburg	49%	50%	41%	62%
Morgan	37%	NA	NA	NA
Salisbury	43%	86%	83%	66%
St. Mary's	71%	83%	NA	82%
Towson	53%	49%	48%	63%
UMBC	59%	46%	37%	55%
UMCP	45%	66%	56%	66%
UMES	36%	NA	NA	37%

Nevertheless, if students gain admission to colleges and universities for reasons other than their academic preparation, it is likely that they will face greater hurdles in school than will their peers who have met a higher admission standard. This increases the chance of not earning a degree. We would, therefore, expect that those groups who “benefit” from racial and ethnic preferences to have lower graduation rates at schools affording those preferences than do other groups. We also expect that, at schools which do not use preferences, differences in graduation rates among racial and ethnic groups would be smaller.

This is generally what we find. Especially for the larger schools, the white-black differences in graduation rates generally follow the same pattern as the test score gaps discussed previously. At UMBC, blacks graduate at a higher rate than whites, and UMBC is also where the white-black test score gap is smallest for both verbal scores (10 points) and math scores (40 points). At Towson, where the black-white gaps are only moderate (35 for verbal, 50 for math), whites graduate at a relatively modest 10-percent higher rate than blacks.

In contrast, the white-black test score gaps are large at College Park and Salisbury—60 points in verbal SATs and 110 points in math SATs at College Park, and 70 points in verbal SATs and 95 points in math SATs at Salisbury—and blacks graduate at a much lower rate than whites at College Park (21 percent lower) and Salisbury (23 percent lower).

The pattern also holds, but to a lesser extent, at Frostburg and St. Mary's. At both institutions, blacks enter with much lower test scores and graduate at a lower rate than whites. (Nonetheless, while St. Mary's has the largest white-black gap of all schools for test scores, the white-black difference there in four-year graduation rates is only a rather modest 11 percent, and the black graduation rate is by far the highest of all schools. This

is probably due to St. Mary's being one of the smallest and most selective public colleges.)

White-Hispanic differences and white-Asian differences follow less of a pattern. At College Park, Hispanics' test scores are generally much lower than white scores, and their graduation rates are also lower, while Asian scores are roughly the same as whites, as are Asian graduation rates. At Salisbury, Hispanic scores are somewhat lower than white scores, but the Hispanic graduation rate is much higher; Asian test scores there are higher than whites, and so is the Asian graduation rate. At Towson, Hispanic scores are slightly higher than white scores, but the Hispanic graduation rate is lower. On the other hand, Asian scores are somewhat lower than white scores there, and their graduation rate is also lower. At UMBC, Hispanics' scores are somewhat lower than whites', and their graduation rates are lower, too.

Racial Preferences and Remedial Education

A common consequence of enrolling students who are selected according to different standards is that those selected under more lenient standards—that is, those who are given a preference, racial or otherwise—will not on average perform as well as those selected according to more stringent standards. Discussion of the consequences of racial and ethnic preferences have generally focused on two kinds of outcomes: graduation rates and performance while in school. Graduation-rate data are available at an aggregate level and were assessed in the preceding section.

Other measures of academic achievement include whether or not one is required to attend remedial classes before (or simultaneously with) taking regular college classes; overall college grade-point averages and, especially, grades in particularly demanding courses; and receiving honors upon graduation such as cum laude or Phi Beta Kappa. While we were not given any data on college grade-point averages or honors at graduation, we did have access to a study of remediation at Maryland institutions of higher education.

In 1996, the Maryland Higher Education Commission released a study of remedial education at Maryland's public universities and colleges. The study examined the numbers and types of students who required remediation, the college policies used for remediation assignments, the success of remediated students in completing college, as well as the cost and staffing of remedial courses. The study provided figures on remediation, broken down by race at the statewide level. The study did not provide figures on remediation for each public institution, however, broken down either by race or in the aggregate. Thus, while we could tell how many first-year students were in remediation at each institution, we could not tell from the data what proportion of entering freshmen at College Park, for example, needed remediation in reading or mathematics, or the racial and ethnic makeup of the students there.

The Commission found large numbers of underprepared students and extensive use of remedial education at all institutions. Nine of the ten schools in our study offered remedial programs, with St. Mary's as the lone exception.⁴ Eight institutions assess all new students in some form. Salisbury and Towson focus assessment on those who score within a particular SAT range, for instance, while College Park administers a placement

⁴ Maryland Higher Education Commission, *A Study of Remedial Education at Maryland Public Campuses*, May 1996, pp. 26-27.

test to students in mathematics to determine whether they need a remedial class before taking a college mathematics course for credit.

All nine schools offering remedial programs use standardized tests, but methods for determining cutoff scores vary widely by institution. All rely on some form of “locally developed norms” (we assume this means standards developed using the college’s own pool of enrollees over time as the basis for establishing cutoff scores), as opposed to nationally developed norms (although UMBC uses both).

Figure 6 shows the percentage of first-year students taking remedial courses. The proportion of students needing remediation varies widely. At three of the four majority-black institutions, most enrollees required some form of remediation. In contrast, no students at St. Mary’s (the most selective of the four-year institutions) required remediation.

College Park has a relatively high remediation rate of 30 percent. UMBC, in contrast, has much lower rates of remediation. Like College Park, it is rated “very competitive” by *Barron’s*, and it has comparable SAT scores. UMBC, however, has a significantly smaller gap in test scores between whites and other groups; indeed, College Park has one of the largest white-black SAT gaps in the state of Maryland.

Figure 6
First-Year Students in Remediation⁵

	<i>No Remediation</i>	<i>Some Form of Remediation</i>
St. Mary’s	100%	0%
Salisbury	97%	3%
Frostburg	88%	12%
UMBC	87%	13%
Towson	82%	18%
Morgan	73%	27%
UMCP	70%	30%
Bowie	47%	53%
UMES	44%	56%
Coppin	34%	66%

There is a racial gap in remediation rates. In Figure 7, the data are recalculated to compare, within groups, the percentage of students needing remediation as opposed to those not needing remediation. Black enrollees receive some form of remediation at more than twice the rate of whites and Asians. Sixteen percent of first-year whites and 18 percent of first-year Asians at Maryland public four-year colleges and universities must take at least one remedial course. Forty-three percent of blacks and 30 percent of “others” (Hispanics, Native Americans, etc.) take remedial courses.

⁵ Calculated from Table 1, *ibid.*, “Percentage of 1993-1994 Freshmen at Maryland Public Colleges and Universities Who Received Remediation,” p.17.

Figure 7
Proportion of Groups Needing Remediation⁶

	<i>No Remediation</i>	<i>At Least One Remedial Course</i>
Asian (n=619)	82%	18%
Black (n=1895)	57%	43%
White (n=3667)	84%	16%
Other (n=201)	70%	30%

Whether or not a student is required to enroll in remedial courses appears to be related to his or her SAT scores. Figure 8 displays our calculation of the percentage of freshmen needing remediation within SAT groups. They were calculated separately for English and/or reading, versus mathematics. Higher SATs produce smaller percentages of students in remedial courses.

Figure 8
Proportion Needing Remediation, by SAT Scores⁷

<i>Verbal SAT Score</i>	<i>Number Needing Remediation in English/Reading</i>	<i>Total Students</i>	<i>% Needing Remediation</i>
290 or Less	293	409	72%
291-340	292	652	45%
341-390	251	1047	24%
391-440	147	1374	11%
441-490	153	1310	12%
491-540	15	901	2%
Over 540	10	1116	1%

<i>Math SAT Score</i>	<i>Number Needing Remediation in Math</i>	<i>Total Students</i>	<i>% Needing Remediation</i>
290 or Less	165	263	63%
291-340	267	446	60%
341-390	317	788	40%
391-440	207	850	24%
441-490	177	1033	17%
491-540	144	1103	13%
Over 540	200	2278	9%

⁶ *Ibid.*

⁷ *Ibid.*

The figures are especially dramatic if we focus on verbal SAT scores and English/reading remediation. Seventy-two percent of those with scores of 290 or less require remediation; 45 percent of those with scores between 291 and 340 require remediation in either English or reading; 12 percent of students between 441 and 490 require remediation; while only 1 percent with scores over 540 require remediation.

Mathematics remediation is no different. We find that 63 percent of those with math SATs of 290 or less require remediation; 60 percent of those with scores between 291 and 340 require remediation; for those with math SAT scores between 441 and 490, 17 percent require math remediation; only 9 percent of those with scores over 540 require it.

Although the racial gap in remediation is large, it is largely due to SAT score differentials. Figure 9 displays the results of our calculations. The racial gap in remediation rates hardly exists when controlling for SAT scores. It is more prominent for those with lower SAT scores in English and reading remedial course. Otherwise, the percentage of blacks and whites needing remediation is roughly comparable at each level of SAT scores.

Figure 9
Blacks and Whites in Remediation, by SAT Scores⁸

<i>Verbal SAT Score</i>	<i>Total Blacks</i>	<i>% of Blacks in English-Reading Remediation</i>	<i>Total Whites</i>	<i>% of Whites in English-Reading Remediation</i>
290 or Less	237	73%	172	70%
291-340	333	56%	319	33%
341-390	508	32%	539	17%
391-440	442	18%	932	7%
441-490	268	7%	1042	13%
491-540	121	1%	780	2%
Over 540	98	5%	1018	0%

<i>Math SAT Score</i>	<i>Total Blacks</i>	<i>% of Blacks in Math Remediation</i>	<i>Total Whites</i>	<i>% of Whites in Math Remediation</i>
290 or Less	162	62%	101	63%
291-340	260	57%	186	64%
341-390	442	40%	346	41%
391-440	404	23%	446	26%
441-490	314	17%	719	17%
491-540	224	13%	879	13%
Over 540	201	5%	2077	9%

Remediated students generally start out behind and stay behind (see Figure 10). The more remediation required of the student, the greater the likelihood that the student will

⁸*Ibid.*

drop out of school. Retention rates are highest for those with no remediation for every year in school. Those with no remediation are more likely to graduate in four years (26 percent) than those with one remediation course (18 percent for math only and for reading only, 13 percent for English only); for those with two remedial courses, one in ten or less graduate in four years, while 14 percent of those with three remedial courses graduate at the same time. This relationship, of course, does not control for SAT scores. It is possible that if one controls for SAT scores, there may be a positive relationship between remediation and graduation rates.

Figure 10
Remediation and Retention Rates

	<i>Retention After ...</i>			Enrolled after 4 Yrs.	Graduated in 4 Yrs.
	1 Yr.	2 Yrs.	3 Yrs.		
No Remediation	83%	72%	67%	36%	26%
Math Only	81%	68%	65%	42%	18%
English Only	80%	64%	55%	36%	13%
Reading Only	83%	68%	62%	36%	18%
Math & English	85%	65%	54%	35%	8%
Math & Reading	64%	59%	59%	33%	10%
Reading & English	61%	67%	56%	42%	10%
Math, English, & Reading	65%	58%	53%	32%	14%

The commission did not provide separate remediation rates by race within the individual colleges. We are, therefore, unable to calculate the likelihood of students with particular SAT scores of different racial or ethnic groups having to take a remedial course for each school. Nor can we calculate for different groups the likelihood of a student in a remedial course for different groups graduating in four years at that school. Nevertheless, we surmise that when the students selected under preference policies, especially black enrollees at institutions such as College Park, Salisbury, and Frostburg, enter with low SAT scores relative to the rest of the student population, they come with increased risk for taking remedial courses, and still not completing school. The contrast is with Towson and UMBC, where the test score gaps are smaller, overall remediation rates are lower, and gaps in graduation rates narrower.

One consequence of racial preference policies, then, is to place a greater proportion of blacks than whites in remedial courses. The remediation gap is not likely to be closed in subsequent college performance. Thus, individuals admitted on a preferential basis do not close the performance gap that separated them from their nonpreferred counterparts upon freshman enrollment. Preferences create permanent differences between members of different groups, and that cannot bode well for future intergroup relations. Preference policies cannot be justified by arguing that the gap in academic qualification can be overcome after students are admitted.

What Colorblind Admissions Would Mean for Maryland

If racial and ethnic preferences ended in Maryland public institutions of higher education, would minorities, particularly blacks, be locked out of opportunities to pursue a higher education? As a result of the enactment of California's Proposition 209 into law, experience at the University of California provides plausible answers. Recent information indicates that, while the most competitive universities had a smaller black enrollment, other universities actually gained black students or at least did not lose them. Despite critics' fears, all of the University of California's institutions—including the system's top two schools, Berkeley and UCLA—have enrolled many blacks.

To address this question for Maryland public colleges and universities, we compared the combined median SATs of black enrollees at an individual school with the 25th percentiles of white enrollees at each of the other schools. For analysis here only, we do not examine the schools where blacks are a majority. This is because the question we are addressing is, if racial and ethnic preferences were eliminated, would this lead to a re-segregation of higher education in Maryland? Blacks in Maryland would have access to the historically black colleges but, without racial preferences, would they have access to the other schools? In other words, would the campuses where whites are the majority become all-white? The results are summarized in Figure 11.

Figure 11
Probable Access to Schools for
Average Black Enrollees at Various Schools

• = Where Average Black Enrollees Could Attend						
<i>Average Black Enrollees at the Following Schools</i>	Frostburg	Salisbury	St. Mary's	Towson	UMBC	College Park
UMBC	•	•		•	•	
UMCP	•	•		•		
St. Mary's	•			•		
Salisbury	•					
Towson	•					
Frostburg						

Based on combined SATs, the average black enrollee at UMBC could enroll at every college and university except College Park and St. Mary's, while the average black enrollee at College Park could attend three of the six schools. Black enrollees at St. Mary's could attend Frostburg and Towson. Those at Salisbury and Towson could go to Frostburg.

The same calculations were made for the top quartile of black enrollees (those at the 75th percentile) for each school and then compared to the white 25th percentiles at all public schools (see Figure 12).

Figure 12
Probable Access to Schools for
Top Black Enrollees at Various Schools

• = Where Top Black Enrollees Could Attend						
<i>Top Black Enrollees at the Following Schools</i>	Frostburg	Salisbury	St. Mary's	Towson	UMBC	College Park
UMBC	•	•	•	•	•	•
St. Mary's	•	•		•	•	•
UMCP	•	•		•	•	•
Towson	•	•		•	•	
Salisbury	•	•		•		
Frostburg	•					

Based on these combined SATs, we find that the top quartile of black enrollees at UMBC could attend all of Maryland's public colleges and universities. The black enrollees in the top quartile at St. Mary's and at College Park have combined scores higher than white enrollees at the 25th percentile at all institutions but St. Mary's and thus would be able to attend five of the six schools examined above. The top quartile of black enrollees at Towson could attend all but St. Mary's and College Park, while those at Salisbury would be able to attend three of six schools (Towson, Salisbury, and Frostburg). The top quartile of enrollees at Frostburg would be able to attend Frostburg.

Individual School Analysis

Bowie State University

In 1997, 253 individuals enrolled at Bowie State.⁹ The overwhelming proportion of enrollees for the entering class of 1997 was black.

- 91 percent black
- 2 percent Hispanic
- 1 percent Asian
- 5 percent white

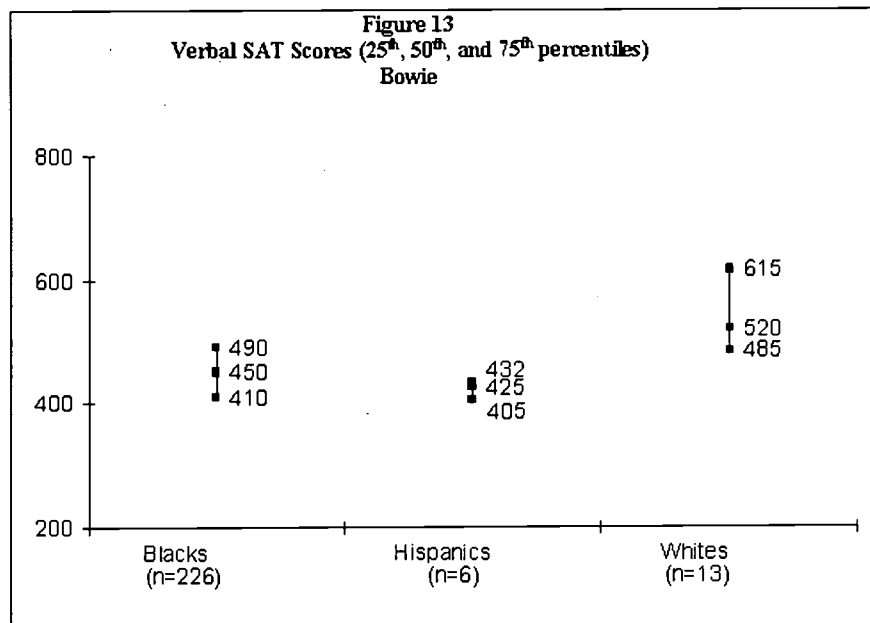
Differences in Verbal SAT Scores

Figure 13 shows the range of verbal SAT scores for enrollees. There are substantial white-black differences in verbal SAT scores. The median verbal SAT score of whites is 70 points higher than the median score for blacks. The gap is even greater at the 75th percentile between white and black enrollees (125 points). The white score at the 25th percentile (485) is only 5 points lower than the black score at the 75th percentile (490), meaning that

the overwhelming majority of blacks enter with substantially lower scores than whites.

The gaps between whites and Hispanics are even greater. The white median verbal SAT is 95 points higher than the median score for Hispanics. The white score at the 25th percentile is over 50 points higher than the Hispanic

score at the 75th percentile, meaning that most Hispanic enrollees enter Bowie State with substantially lower verbal scores compared to whites.



⁹ All enrollment data excludes "Others," "Missing," "Unknown," and individuals with missing data.

The Hispanic scores are also somewhat lower than those of black enrollees. The black median verbal SAT is 25 points higher, while the black-Hispanic gap at the 75th percentile is almost 60 points. Scores are roughly the same only at the 25th percentile (410 for blacks, 405 for Hispanics).

There were fewer than five Asian enrollees, so these scores are not reported.

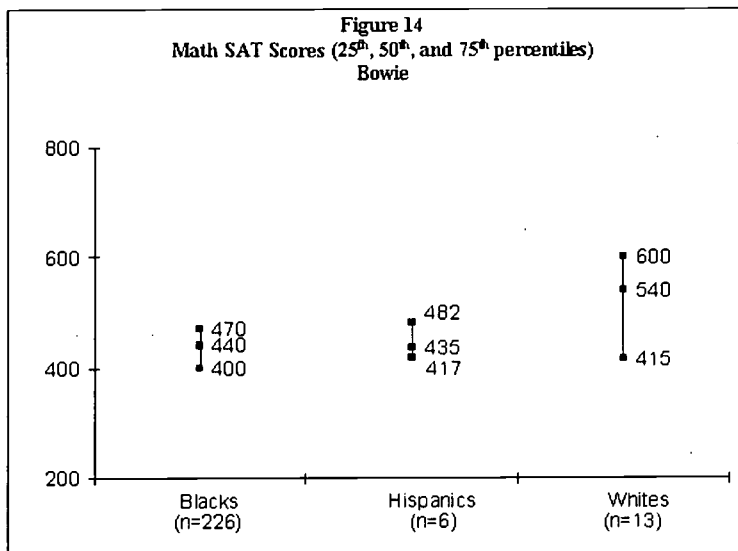
Differences in Math SAT Scores

There are also substantial white-black differences in math SAT scores (see Figure 14). The median math SAT score of whites is 100 points higher than that of black enrollees. The math SAT score for whites at the 75th percentile is 130 points higher than that of blacks at the same percentile. The scores are comparable only at the 25th percentile, where the white score is only 15 points higher than the black score.

The differences are similar for whites compared to Hispanics. The gap in median math SAT scores is 95 points, while the gap at the 75th percentile is 118 points. The scores are about the same at the 25th percentile (415 for whites, 417 for Hispanics).

Unlike the verbal SATs, math SAT scores are roughly the same for blacks and Hispanics. The black median math SAT is 5 points higher than the Hispanic median (440 to 435), while the Hispanic math score is 12 points higher than the black math score at the 75th percentile (482 to 470) and 17 points higher at the 25th percentile (417 to 400).

There were fewer than 5 Asians so their scores are not reported.



Four-Year Graduation Rates

- 39 percent of blacks
- 46 percent of whites

The graduation rates for blacks and whites are below 50 percent, although the white graduation rate is somewhat higher. Graduation rates for Hispanics and Asians are not reported because there are fewer than five members of each group.

Coppin State College

Coppin's 432-member freshman class was almost all black (99 percent). There were six whites, one Asian, and no Hispanics; some of the whites failed to report SAT scores, so for Coppin we present SAT data only on black enrollees. The verbal SAT scores were

390 at the 25th percentile, 420 at the 50th percentile, and 460 at the 75th percentile. The math SAT scores were 360 at the 25th percentile, 400 at the 50th percentile, and 430 at the 75th percentile.

Four-Year Graduation Rates

- 28 percent of blacks
- 16 percent of whites

Frostburg State University

There were 914 freshmen enrollees in the 1997 entering class at Frostburg State. A large proportion of the enrollees was white.

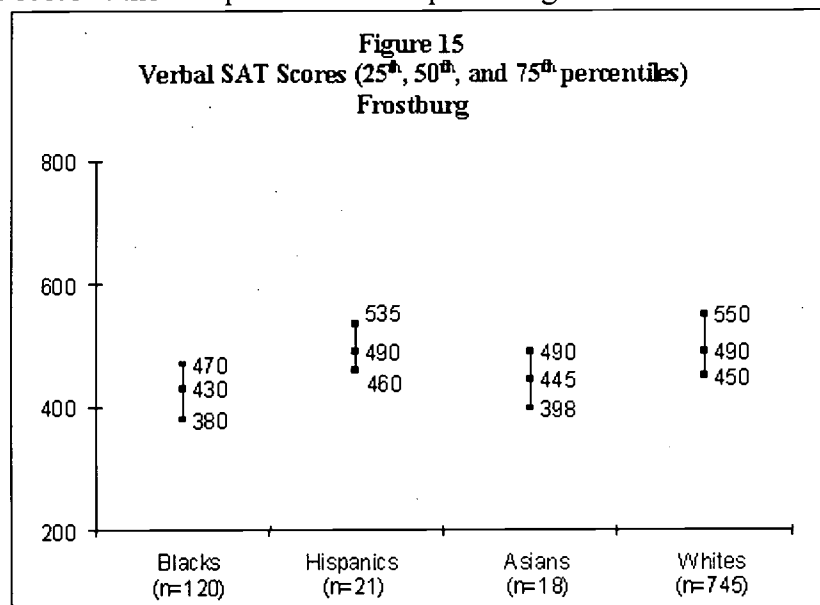
- 13 percent black
- 2 percent Hispanic
- 2 percent Asian
- 82 percent white

Differences in Verbal SAT Scores

Figure 15 shows the range of verbal SAT scores by racial and ethnic group. White and Hispanic verbal scores at Frostburg are roughly the same. The medians are identical; at the 25th percentile, the Hispanic score is 10 points higher than the white score, while at the 75th percentile, the white score is 15 points higher. These are relatively small differences.

The white-black gap is more substantial. There is a 60-point gap between white and black medians; the white score at the 25th percentile is 70 points higher than the black score at the same percentile. It is 20 points higher than the black median, meaning that at least half the black enrollees enter with lower verbal scores than at least 75 percent of white enrollees. The black score at the 75th percentile falls between white scores at the 25th and 50th percentiles.

Like the scores of black enrollees, Asian scores are substantially lower than white and Hispanic scores. The median Asian score is



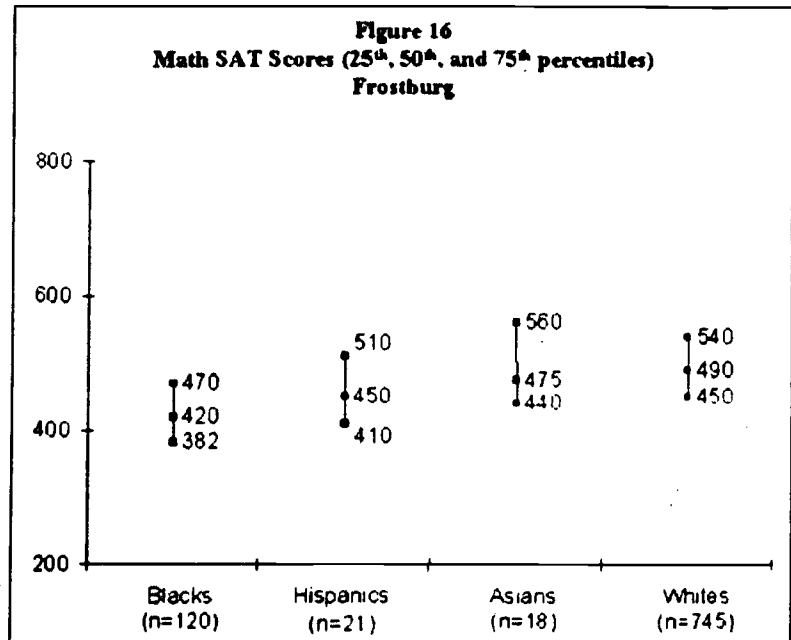
45 points lower than that of whites. The Asian score at the 75th percentile is the same as the white median, meaning that 75 percent of Asian enrollees enter with verbal scores lower than that of the average white enrollee.

Differences in Math SAT Scores

There is also a substantial white-black gap for math SAT scores (see Figure 16). There is a 70-point gap in median math scores between whites and blacks. The black score at the 75th percentile is 20 points lower than the white median, and the black median is 30 points lower than white scores at the 25th percentile. That is, a large majority of blacks enter Frostburg with substantially lower math scores compared to the average white.

Hispanic math scores are also substantially lower than white scores. The median Hispanic score is 40 points lower than the white median, and is the same as the white score at the 25th percentile.

Whites on average also enter with higher math scores than Asians, but here the gaps are much smaller. The white median is 15 points higher than the Asian median, while the white score is 10 points higher than the Asian score at the 25th percentile. At the 75th percentile, the Asian score is 20 points higher.



Four-Year Graduation Rates

- 49 percent of blacks
- 50 percent of Asians
- 41 percent of Hispanics
- 62 percent of whites

At Frostburg State, a larger proportion of whites graduates in four years compared to all other groups.

Morgan State University

Morgan's 500 freshmen enrollees were 99 percent black. There were two whites, no Asians, and three Hispanics; since there are so few enrollees for these groups, we will not report their scores. The verbal SAT scores for blacks were 430 at the 25th percentile, 470

at the 50th percentile, and 520 at the 75th percentile. The math SAT scores were 420 at the 25th percentile, 470 at the 50th percentile, and 510 at the 75th percentile.

Four-Year Graduation Rates

- 37 percent of blacks graduate in four years. Other groups are not reported since for each there are fewer than five cases.

Salisbury State University

There were 707 Salisbury State enrollees in 1997. The overwhelming majority was white.

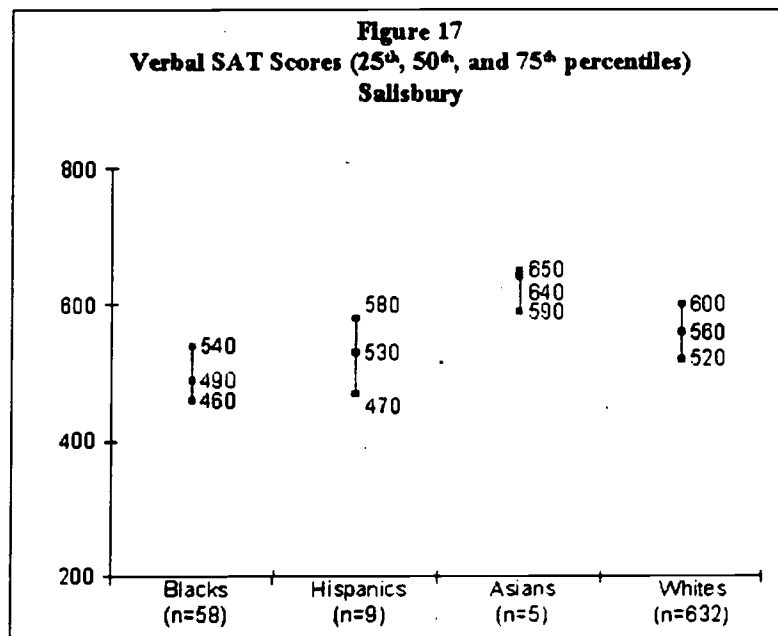
- 8 percent black
- 1 percent Hispanic
- 1 percent Asian
- 90 percent white

Differences in Verbal SAT Scores

There is a substantial white-black gap in verbal SAT scores (see Figure 17). The white median verbal score is 70 points higher than the black median, and is also higher than the black score at the 75th percentile.

There is a smaller gap between whites and Hispanics. The white-Hispanic gap in median scores is 30 points, and is 20 points at the 75th percentile. It is largest at the 25th percentile (50 points).

In contrast, at the 25th, 50th, and 75th percentiles, Asian scores are all substantially higher than white scores.

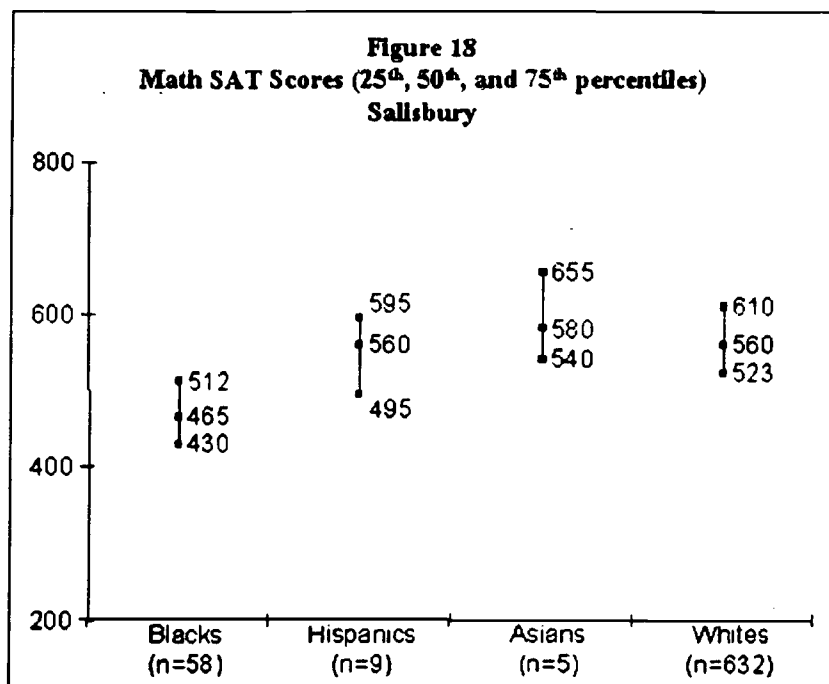


BEST COPY AVAILABLE

Differences in Math SAT Scores

There is also a white-black gap in math SAT scores (see Figure 18). Black scores are significantly lower than white scores at all reported percentiles. The white-black gap at the 25th percentile is 93 points; the gap between median scores is 95 points; at the 75th percentile, the gap is 98 points. Black scores at the 75th percentile are lower than white scores at the 25th percentile, meaning that at least 75 percent of black enrollees enter with lower scores compared to 75 percent of all white enrollees.

There is no difference in median math scores between whites and Hispanics, but Hispanic scores at the 25th and 75th percentiles are somewhat lower than white scores. The white-Hispanic gap is 28 points at the 25th percentile and 15 points at the 75th percentile.



In contrast to the other two groups, Asian math scores are higher than white scores at Salisbury. The Asian median is 20 points higher. Asian scores are also 17 points higher at the 25th percentile and 45 points higher at the 75th percentile.

Four-Year Graduation Rates

- 43 percent of blacks
- 86 percent of Asians
- 83 percent of Hispanics
- 66 percent of whites

Less than half of black freshmen graduated in four years, while two-thirds of whites do so in the same period of time. Asians and Hispanics graduate at much higher rates (86 and 83 percent, respectively) compared to whites and blacks.

BEST COPY AVAILABLE

St. Mary's College of Maryland

There were 233 enrollees at St. Mary's College in 1997. The great majority was white.

- 11 percent black
- 2 percent Hispanic
- 3 percent Asian
- 83 percent white

Differences in Verbal SAT Scores

Figure 19 shows the range of verbal SAT scores by racial and ethnic group.

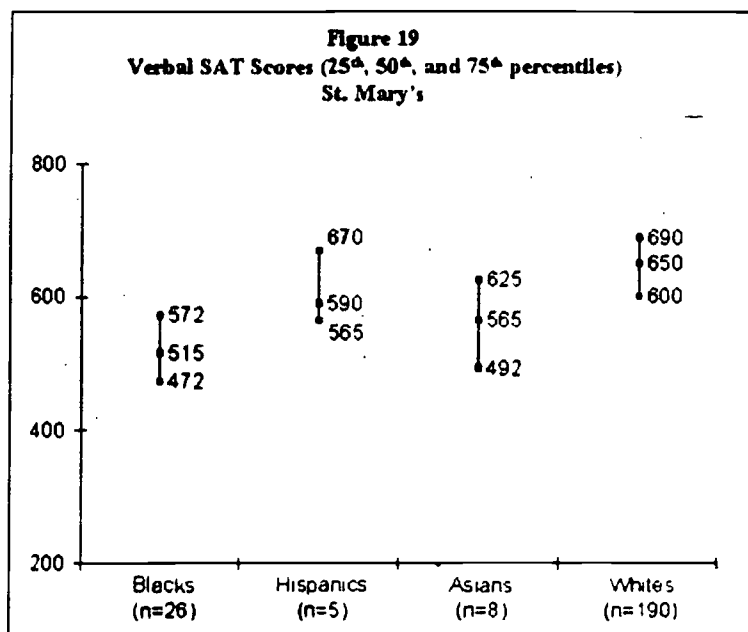
Black and Asian scores are substantially lower than white and, to a lesser extent, Hispanic scores.

There is a large white-black gap in verbal scores at all percentiles. At the 25th percentile, whites outscore blacks by 128 points; at the median, the gap is 135 points; and at the 75th percentile, the gap is 118 points. The black score at the 75th percentile is lower than the white score at the 25th percentile, meaning that at least 75 percent of black enrollees enter with lower scores than 75 percent of white enrollees.

The gaps are smaller comparing whites and

Hispanics, although the gap in median scores is still large (60 points).

The white-Asian gap in verbal SAT scores is large. There is an 85-point difference in median verbal scores, where the white median is 650 versus the Asian median of 565. At the 75th percentile, the Asian score is 65 points lower than the white score.



BEST COPY AVAILABLE

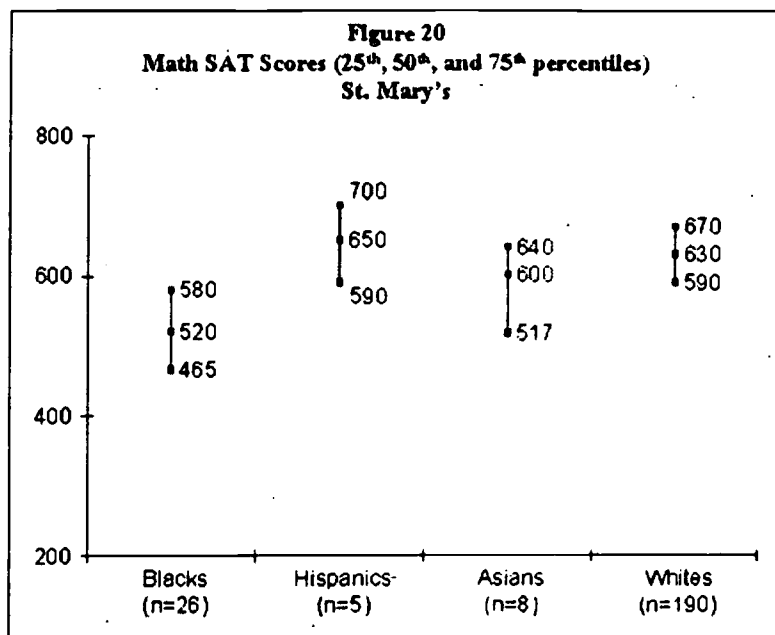
Differences in Math SAT Scores

The white-black gaps are also substantial for math SAT scores at every level (see Figure 20). At the 25th percentile, there is a 125-point gap; at the 50th percentile, there is a 110-point gap; and at the 75th percentile, there is a 90-point gap. The black score at the 75th percentile is 10 points lower than the white score at the 25th percentile, meaning that more than 75 percent of black enrollees have lower math scores than 75 percent of white enrollees.

In contrast, Hispanic enrollees have somewhat higher scores than whites. At the 25th percentile, Hispanic and white scores are identical, but at the

50th percentile, the Hispanic score is 20 points higher, and it is 30 points higher at the 75th percentile.

There is a moderately large white-Asian gap. At the 25th percentile, the white score is 73 points higher, and it is 30 points higher at the 50th and the 75th percentiles.



Four-Year Graduation Rates

- 71 percent of blacks
- 83 percent of Asians
- 82 percent of whites

Large majorities of blacks, Asians, and whites at St. Mary's College graduate in four years, although a larger proportion of Asians and whites graduate compared to blacks. Hispanic graduation rates are not reported because there were fewer than five graduates.

Towson State University

There were 1754 first-year Towson enrollees in 1997. Most were white.

- 8 percent black
- 1 percent Hispanic
- 3 percent Asian
- 87 percent white

BEST COPY AVAILABLE

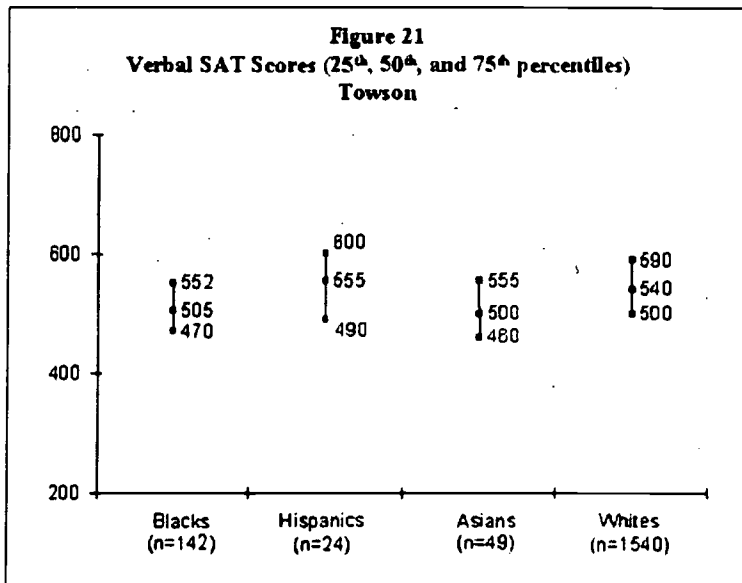
Differences in Verbal SAT Scores

Figure 21 shows the range of verbal SAT scores at Towson.

Black and Asian scores are moderately lower than whites. The white-black gap in median verbal scores is 35 points, and it is 30 points at the 25th percentile and 38 points at the 75th percentile. There is a similar pattern comparing whites and Asians, where white scores are 40 points higher.

Hispanic scores are close to the white scores. The Hispanic median verbal score is 15 points higher than the white median score.

It is 10 points higher at the 75th percentile, and the white score is 10 points higher at the 25th percentile.



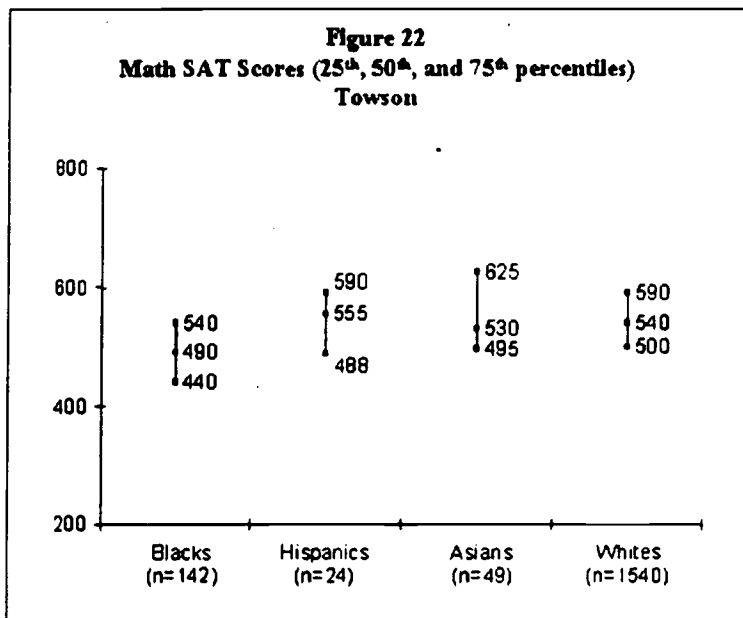
Differences in Math SAT Scores

There is also a white-black gap in math SAT scores (see Figure 22).

The black median math score is 50 points lower than the white median, and the black score at the 75th percentile is the same as the white median. This means that 75 percent of black enrollees have lower math scores than half the white enrollees at Towson.

Hispanic and Asian scores are roughly the same as white math scores. The Hispanic median is 15 points higher than the white median, while the Asian median is 10 points lower.

At the 25th percentile, Hispanic and Asian scores are slightly lower than white scores. At the 75th percentile, Hispanic and white scores are the same, while Asian scores are 35 points higher.



Four-Year Graduation Rates

- 53 percent of blacks
- 49 percent of Asians
- 48 percent of Hispanics
- 63 percent of whites

Whites graduate at a higher rate than blacks, Asians, and Hispanics. Roughly half the enrollees of the other three groups graduate in four years.

University of Maryland, Baltimore County

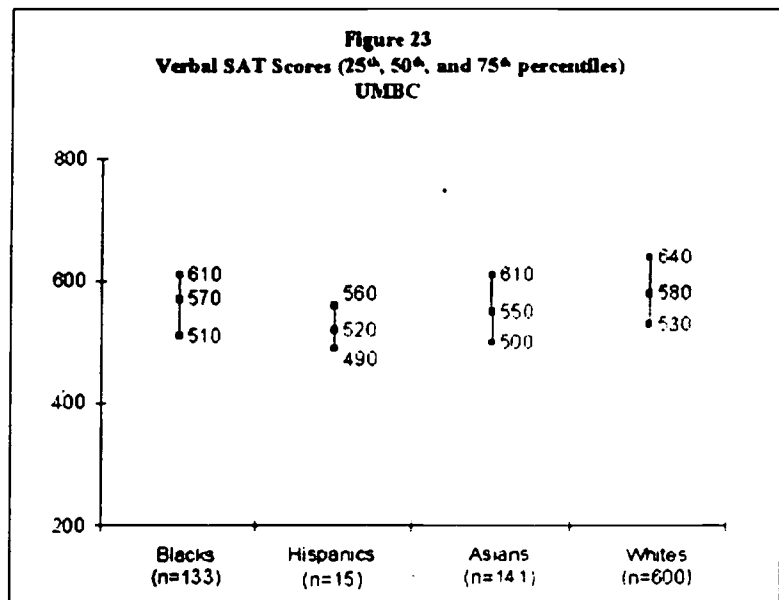
There were 936 first-year enrollees at UMBC in 1997. Two-thirds were white.

- 15 percent black
- 2 percent Hispanic
- 16 percent Asian
- 67 percent white

Differences in Verbal SAT Scores

For whites and blacks, the differences in verbal scores are small (see Figure 23). There is a small difference of 10 points between the white and black medians. At the 25th percentile, the gap is 20 points, and at the 75th percentile, it is 30 points.

Gaps are larger between whites and Asians and between whites and Hispanics. There is a gap of 30 points between the white and Asian median verbal scores. The gap at the 25th and 75th percentiles is also at 30 points.



BEST COPY AVAILABLE

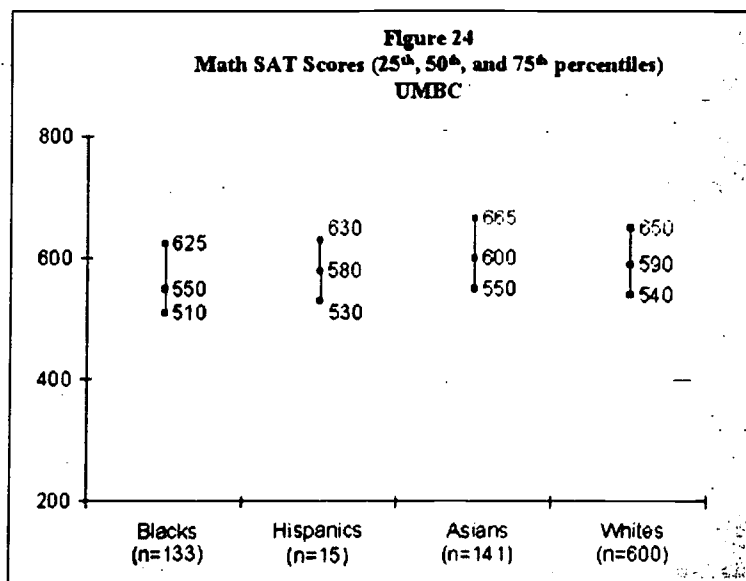
The white-Hispanic gap in median scores is 60 points—a large difference, as is the 80-point gap at the 75th percentile. There is a moderate gap of 40 points at the 25th percentile between whites and Hispanics.

Differences in Math SAT Scores

There is a moderate white-black gap in math scores (see Figure 24). The difference in median scores is 40 points. At the 25th percentile, the white-black gap is 30 points, and at the 75th percentile, it is 25 points.

There is a small white-Hispanic gap, where the difference in median scores is 10 points, the same as the difference at the 25th percentile. There is a 20-point gap at the 75th percentile.

For Asians and whites, the differences in math scores favor Asians, although the differences are small. The Asian median is 10 points higher than the white median, the same as the difference in scores at the 25th percentile. At the 75th percentile, the Asian score is 15 points higher.



Four-Year Graduation Rates

- 59 percent of blacks
- 46 percent of Asians
- 37 percent of Hispanics
- 55 percent of whites

A larger percent of blacks graduate in four years than whites, Asians, and Hispanics. Less than half the Asians and a little more than a third of Hispanics graduate in four years.

University of Maryland, College Park

There were 3328 first-year enrollees at College Park in 1997. Two-thirds were white.

- 16 percent black
- 6 percent Hispanic
- 12 percent Asian
- 66 percent white

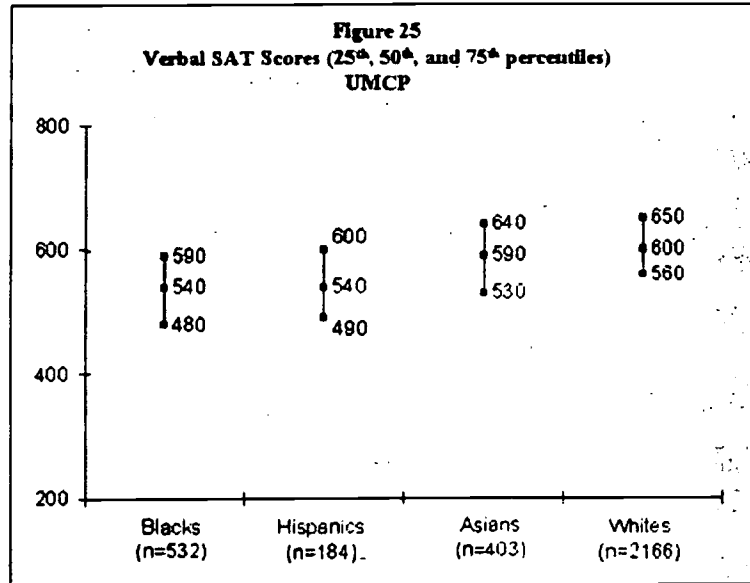
BEST COPY AVAILABLE

Differences in Verbal SAT Scores

White-black and white-Hispanic differences in verbal SAT scores are large (see Figure 25). For whites and blacks, the difference in median verbal scores is 60 points; it is 80 points at the 25th percentile, and 60 points at the 75th percentile. The black score at the 75th percentile is less than the median white score (590 versus 600), meaning that 75 percent of black enrollees at College Park have lower verbal scores compared to the average white enrollee.

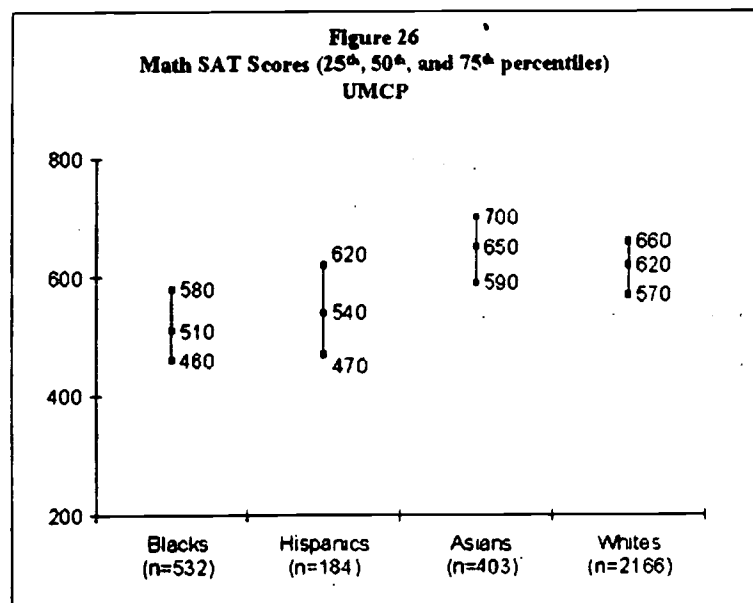
The white-Hispanic difference in median scores is also 60 points. The Hispanic score at the 25th percentile is 70 points lower than the white score and, at the 75th percentile, it is 50 points lower.

The white-Asian differences are small. At the 75th and 50th percentiles, there is a 10-point difference favoring whites, and there is a 30-point difference at the 25th percentile.



Differences in Math SAT Scores

White-black and white-Hispanic differences in math SAT scores are even larger (see Figure 26). The difference between whites and blacks at the median and at the 25th percentile is 110 points. At the 75th percentile, the white-black difference is 80 points. The black score at the 75th percentile is about the same as the white score at the 25th percentile, meaning that roughly three-quarters of black enrollees have math scores lower than roughly three-quarters of white enrollees.



The white-Hispanic gap in math scores is also quite large. There is an 80-point gap in median math scores between whites and Hispanics, a 100-point gap at the 25th percentile, and a 40-point gap at the 75th percentile. The Hispanic median is lower than white scores at the 25th percentile, meaning that a majority of Hispanic enrollees enter with lower math scores compared to three-quarters of whites.

While Asian verbal SAT scores were somewhat lower than whites', Asian math scores in general are somewhat higher. There is a 30-point difference in median scores. The Asian score at the 25th percentile is 20 points higher, and it is 40 points higher at the 75th percentile.

Four-Year Graduation Rates

- 45 percent of blacks
- 66 percent of Asians
- 56 percent of Hispanics
- 66 percent of whites

Blacks at College Park graduate at lower rates compared to the other three groups. Two-thirds of whites and Asians graduate in four years, as do a majority of Hispanics.

University of Maryland, Eastern Shore

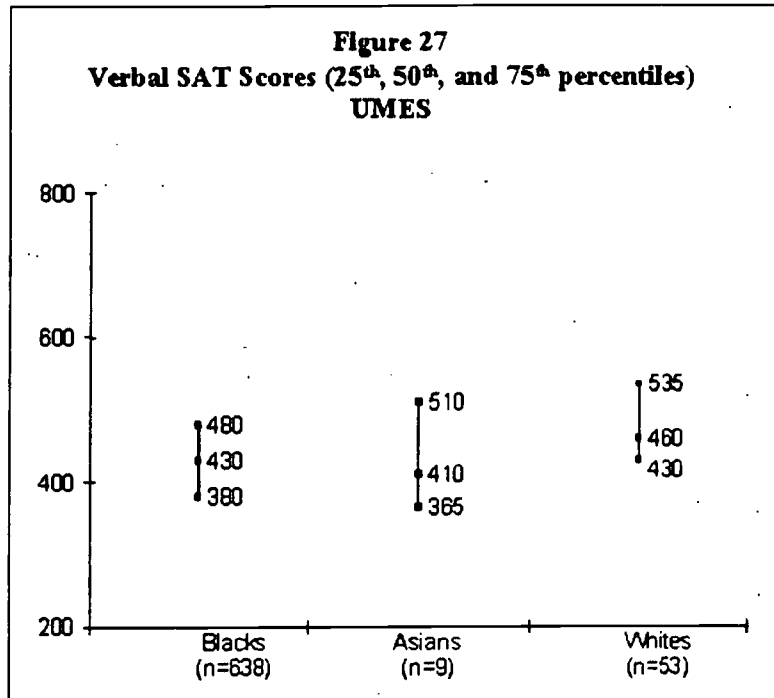
There were 703 first-year students enrolled at UMES in 1997. The overwhelming majority was black.

- 91 percent black
- 1 percent Asian
- 0.4 percent Hispanic
- 8 percent white

Differences in Verbal SAT Scores

There is a white-black gap in verbal scores, but the differences are only moderate in size (see Figure 27). There is a 30-point difference in median scores (460 versus 430), a 50-point gap at the 25th percentile (430 versus 380), and a 55-point difference at the 75th percentile (535 versus 480).

White verbal scores are also generally higher than Asian scores. The gap in median scores is 50 points (460 versus 410), with a 65-point gap at the 25th percentile (430 versus 365) and a 25-point gap at the 75th percentile (535 versus 510).

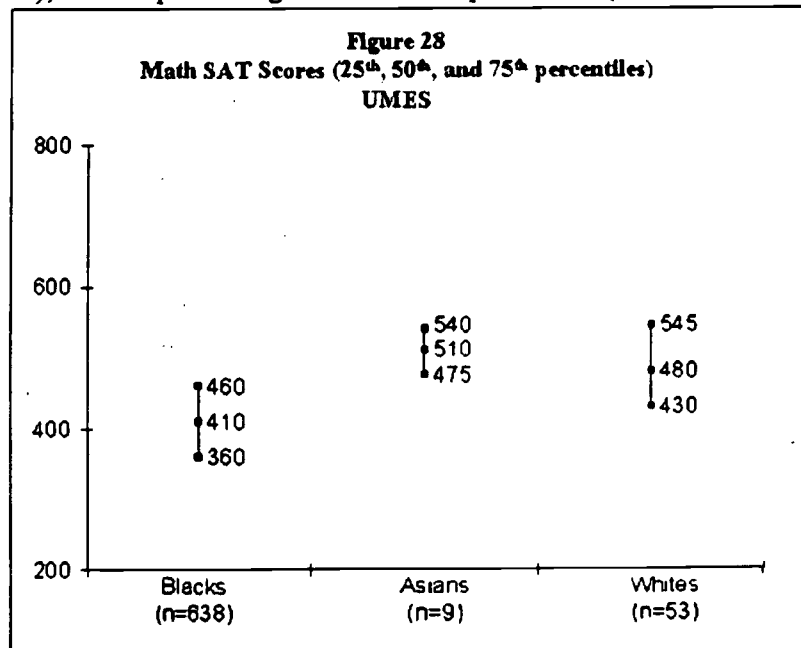


There were too few Hispanic enrollees (fewer than five) to subject to analysis.

Differences in Math SAT Scores

There is a large white-black gap in math scores at UMES (see Figure 28). The median white math score is 70 points higher (480 versus 410). It is also 70 points higher at the 25th percentile (430 versus 360), and 85 points higher at the 75th percentile (545 versus 460). The black score at the 75th percentile is lower than the white median, meaning that 75 percent of black enrollees enter with lower math scores compared to the average white enrollee.

Asian math scores are somewhat higher than white scores. The median



Asian math score is 30 points higher (510 versus 480). The Asian score at the 25th percentile is 45 points higher (475 versus 430), but at the 75th percentile white scores are slightly higher (545 versus 540).

As noted above, there were too few Hispanics to subject to analysis.

Four-Year Graduation Rates

- 36 percent of blacks
- 37 percent of whites

Whites and blacks graduate at roughly the same rate at UMES. Graduation rates for other groups are not reported because there were fewer than five graduates in each group.

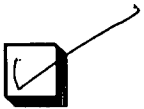


U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)



NOTICE

Reproduction Basis



This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.



This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").

EFF-089 (3/2000)