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ABSTRACT

An overview is provided of the issues related to the participation and retention of minorities in higher education in Missouri and the nation. Part I argues that significant interventions are needed to increase minority enrollment in postsecondary education in order to avert serious social and economic consequences. This section cites demographic, educational, and labor market trends that support this contention and presents the Missouri State Higher Education Executive Officers' recommendations regarding necessary interventions. Part II offers birth rate and college-age population projections by racial/ethnic group for the years 1990 to 2050, emphasizing the rapid growth of the minority population in the United States, especially within the traditional college-age group. Part III examines national and statewide enrollment and retention trends among minorities, stressing that past gains in minority participation in higher education, both as students and faculty, have eroded at a precipitous rate. Drawing from a review of the literature, part IV highlights state policies and exemplary institutional programs and strategies for recruiting minorities and improving their retention in higher education. Finally, part V identifies the types of databases that will be needed by educators to develop intervention strategies for improving minority participation; highlights five areas in which comprehensive needs assessments should be conducted; and suggests the development of several types of programs focusing on outreach, articulation, testing, remediation, work-study, financial aid, and faculty recruitment. The appended paper, "Trends and Issues of Minority Participation in American Higher Education," examines high school graduation and college participation rates, the transition from high school to college, minority enrollment in undergraduate and postgraduate education, community college transfers, recruitment and retention in four-year institutions, minority faculty role models, campus climate, institutional support services, and faculty recruitment and retention trends. (JMC)

CHALLENGES AND OPPORTUNITIES: MINORITIES IN MISSOURI HIGHER EDUCATION

MISSOURI COORDINATING BOARD FOR HIGHER EDUCATION

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Shaila R. Aery
Commissioner of Higher Education
State of Missouri

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FOREWORD

By the year 2000 minorities will comprise 30 percent of the typical college-age population. In the next twelve years, 18 million additional jobs will be created with the number of new jobs requiring baccalaureate degrees rising by 45 percent to include 20 percent of all available employment. The majority of new entrants into this workforce will be minorities.

Projections for Missouri show that, by the year 2000, almost half of all available employment will be in the high-skill demand service and retail sectors while the manufacturing sector will employ only 17 percent of the workforce. Rapid advances in technology will require that workers have the educational preparation to enable them to readily adapt to these changes and remain productive participants in the labor force.

The competence and productivity of the current and emerging workforce is seen as a major force in the competition between states and other nations for new jobs and economic growth. Prospects for future economic growth are directly related to increasing minority participation at all levels of education, and particularly in higher education. Yet minorities, and especially blacks from lower and middle income groups, remain seriously underrepresented in our colleges and universities.

Success in enhancing minority participation in higher education will require serious commitment and sustained effort at the state and institution level if Missouri is to remain economically competitive.

Shaila R. Aery
Commissioner

CHALLENGES AND OPPORTUNITIES: MINORITIES IN MISSOURI HIGHER EDUCATION

I. INTRODUCTION

Minority participation in all levels of education and the work force are topics that recently have received considerable attention by education, business, and government officials. Much of the impetus for this concern has resulted from the recognition that, despite nearly two decades of progress, the full participation of minority students in our nation's schools, colleges and universities, and the labor force remains a goal yet to be achieved. The changing demographics in Missouri and the nation require a major effort to improve minority participation in higher education. Not addressing this issue now has sobering economic and social consequences for the future of Missouri and the nation.

In the year 2000, minorities will comprise 30% of the college age population.

The minority population in the United States is growing rapidly. Black and Hispanic birth rates are substantially higher than those for whites and are projected to remain so well into the next century. Current population demographics and projections suggest that, by the year 2000, the proportion of 18-24 year-olds in the U.S. population will comprise less than 10 percent of the total. Of these, approximately 30 percent will be minorities. By the year 2025 the proportion of minorities in the 18-24 year-old group is expected to rise to 39 percent and by the year 2050, to 44 percent.

Blacks, Hispanics and other minority groups, however, remain seriously underrepresented in higher education both as students and faculty. The result is that a growing segment of our population is effectively excluded from making a productive contribution to the economic well-being of the nation.

The U.S. Department of Labor has estimated that between now and the turn of the century, 18 million additional jobs will be created and 90 percent of these jobs will be in service industries. The two fastest-growing labor markets will be in the business and health service sectors, both of which demand high skill levels (Fortune, 1987). By 1995, approximately 20 percent of all available employment will require four or more years of college—up from 16 percent in 1984. Of those jobs newly created, the number requiring baccalaureate degrees will rise by 45 percent over the same period, an increase three times as great as the projected rise in new positions generally (Sargent, 1986).

Eighty percent of the new entrants into this workforce will be either women, immigrants or minorities. Most of these jobs will require some postsecondary education and skills in the use of English, mathematics, and reading ability. Yet approximately 30 percent of

the youth in this country who enter high school do not finish. Forty percent of those who do finish high school have difficulty reading above the eighth grade level. The recent National Assessment for Educational Progress (NAEP) by the U.S Department of Education found that among 21-25 year-olds:

- only about 60 percent of whites, 40 percent of Hispanics, and 25 percent of blacks could locate information in a news article or an almanac;
- only 25 percent of whites, 7 percent of Hispanics, and 3 percent of blacks could decipher a bus schedule;
- only 44 percent of whites, 20 percent of Hispanics, and 8 percent of blacks could correctly determine the change they were due from the purchase of a two-item restaurant meal (reported in Workforce 2000, 1987).

It will be increasingly difficult for Americans lacking such basic skills to succeed in job markets created by the forces shaping the U.S. economy.

Labor demand and economic projections for Missouri (Missouri Opportunity 2000 Commission) show that, by the year 2000, the service and retail sectors will account for 47 percent of the state's wage and salaried workers while the manufacturing sector will fall from a current 22.2 percent of the workforce to 17.1 percent. The largest increase will occur in the service sector (from 20.0 percent currently to 28.9 percent by the year 2000).

The absence of significant interventions to increase minority participation in higher education will have serious social and economic consequences.

Demographic projections by the Board of Trustees of the Federal Old-Age and Survivors Insurance Trust Funds suggest that by the year 1990, the ratio of contributors to beneficiaries will be 3.3 to 1. This ratio will continue to decrease as the population ages. By the year 2025, each beneficiary will be covered by only 2.2 contributors. The work force in 2025 will include a much higher percentage of minority workers. Everyone has a stake in their competence, employability, and earning power. Clearly future minority workers will provide for the income support and health care needs of an aging population.

In Missouri, we can ill-afford to ignore changing population demographics and future demands for a highly skilled labor force nor can we tolerate significant shortfalls in minority student participation in higher education. In the absence of significant interventions the potential consequences for Missouri and the nation include: (1) reduced economic competitiveness of the nation and states and industries most affected by these populations; (2) higher costs for public services that are a response to poverty or educational/economic disfranchisement; (3) massive disruption in higher education since the pool of applicants will require extensive remediation to meet the challenge of college coursework; and (4) the emergence of a dual society with a large and poorly educated minority underclass (Levin, 1987).

A challenge to the states.

This demographic shift and its economic consequences have rekindled efforts to increase the participation of minorities in the education process. To this end, the State Higher Education Executive Officers' (SHEEO) Task Force on Minority Student Achievement produced ten recommendations relevant to the development and implementation of a comprehensive and systematic plan of action for increasing minority participation and achievement in education at all levels. Specifically, the task force recommended that:

1. State higher education coordinating and governing boards establish the issue of minority student achievement as a preeminent concern for the higher education community within their states.
2. Both states and the federal government do their full share to remove economic barriers to college attendance.
3. SHEEOs put in place a formal institutional planning and reporting process dedicated to improving minority student access and achievement.
4. SHEEOs be creative and persistent in their search for resources to support minority-related programming and that they make special efforts to pursue cooperative ventures in this regard.
5. SHEEOs, and higher education in general, actively pursue more aggressive involvement with elementary and secondary education.
6. SHEEOs encourage institutions to rely on broader and more effective means of assessing students for admission.
7. SHEEOs ensure that opportunities are available to minority students at two- and four-year institutions alike.
8. SHEEOs support institutional programming that meets two equally important ends: to better equip minority students to function well in the institutional environment, and to adapt that environment to better accommodate the needs and interests of minority students.
9. SHEEOs institute broad-based programs to promote racial and ethnic diversity among higher education's professional ranks.
10. SHEEOs regularly disseminate information, both to the public and the higher education community, about higher education opportunities for minority students and progress in meeting their needs. (SHEEO, July, 1987)

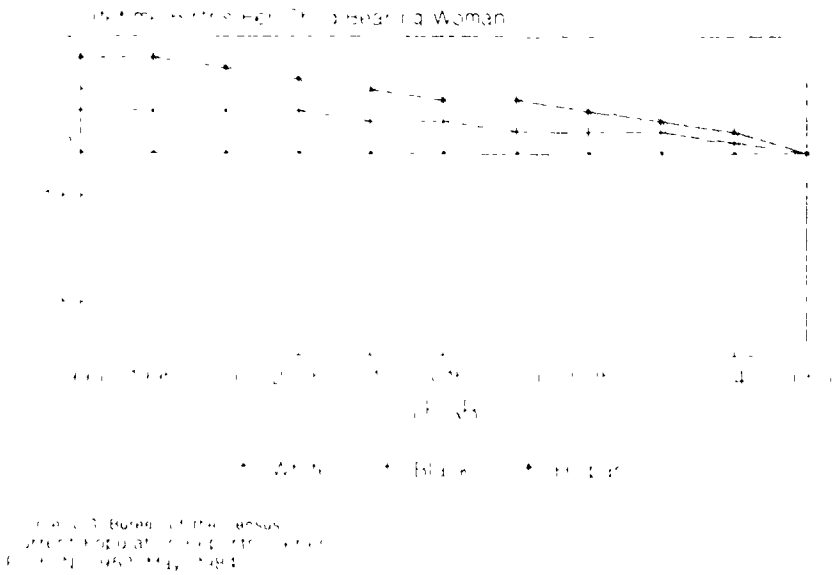
The Missouri Coordinating Board for Higher Education (CBHE) is engaged in developing strategies to increase minority recruitment and retention in Missouri higher education. To aid in this development, the staff of the CBHE has undertaken a comprehensive review of the issues regarding those factors which relate to minority participation and retention in higher education. The intent of this review is to provide background for the Coordinating Board as it considers the issues and the need for CBHE policies to increase the participation and retention of Missouri's minority population in the state's system of higher education.

II. THE CHANGING POPULATION DEMOGRAPHICS

Birth Rate Projections

One of the major elements of demography involves projections based on differential birth rates--some groups have more children than others and are projected to represent different proportions of future generations. Figure 1 displays national birth rate projections by race/ethnicity from 1990-2050 and shows that black and Hispanic females will be producing more children than their white counterparts. This trend is likely to continue well into the next century until the year 2050 when projections show similar birth rates for all three groups. Demographers estimate that a birth rate of 2.1 children per child-bearing woman is required for a group to maintain a stable population. It is clear from the differential birth rates shown that the white population will continue to represent a decreasing proportion of the total while blacks and Hispanics will represent an increasing proportion. Because of varying birth rates, the average age of groups in the U.S. is increasingly different. The 1980 Census shows that the average white in America is 31 years old, the average black 25, and the average Hispanic, 22. This average age differential produces population momentum for minorities because the typical black and Hispanic female is now moving into the peak of childbearing years while the average white female is now moving past them.

Figure 1
Birth Rate Projections
by Race/Ethnicity, 1990-2050

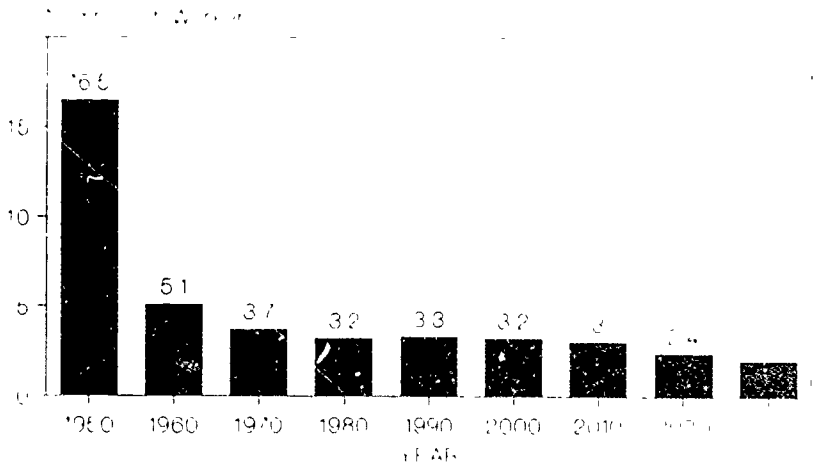


For Missouri, blacks represented the largest minority in the state's population in 1980 comprising 10.5 percent of the total. By 1987, the black population in Missouri had risen to about 10.7 percent, and by the year 2000, is expected to rise to 11.2 percent (U.S. Bureau of the Census projection). Other projections show Missouri's black population reaching 14.2 percent of the total by 2005 (Woods and Poole Economics, 1986). Of the seven states comprising the Central Region of the U.S. (Colorado, Kansas, Missouri, Nebraska, North Dakota, South Dakota, and Wyoming), only Missouri comes near national averages (12 percent, averaged across states) with the greatest number of blacks. Other states in the Central Region show significantly lower percentages of blacks or other minorities.

Currently, blacks and Hispanics comprise approximately 24.6 percent of the total U.S. population, but by the year 2020 this figure will rise to 34.3 percent (given census projections). Also, by the year 2020 most of the "Baby Boom" generation (currently 26.4 percent of the population) will be retired. The nation's economic well-being and security will be the responsibility of a smaller proportion of the population. The impact of this can be inferred by examining the social security beneficiaries per contributors projections shown in Figure 2. These projections show that by the year 1990 there will be 3.3 contributors for each benefit recipient. By the year 2020, this ratio will shrink to about 2.4 contributors to each recipient, and by the year 2030, only 2 workers will be contributing to the benefits of each recipient. In contrast, in 1950, 16.5 workers contributed to the benefits of each recipient with white males comprising the significant majority of contributors. A large proportion of future contributors will be minorities.

The nation's economic well-being and security will be the responsibility of a smaller proportion of the population.

Figure 2
Number of Workers Contributing to the Benefits of each Social Security Recipient



1988 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance Trust Funds.

In 2050, Minorities will comprise 44.4% of the college-age population.

College-age Population Projections

Equally important is the demographic trend which shows the dramatic shift in the age composition of the population. From 1950 to 1982, the number of 18-24 year-olds (the traditional college-age population) increased in the U.S. from 16 million to almost 30.4 million. The years 1982-1995 will witness a steady decrease in the size of this population (down to approximately 23.7 million). Beginning in the mid-1990s, the college-age population will again increase, so that by the year 2000, the number will nearly equal the 1970 figure of 24.7 million. The total is expected to increase slowly from 2000 to 2050, reaching approximately 25.7 million (Table 1). Shown in Figure 3 is the proportionate decline in the percentage of the total population represented by 18-24 year-olds. This age group comprised 13.2 percent of the total population in 1980 and is projected to fall to 9.6 percent by the year 2000.

In terms of absolute numbers, the minority college-age population will also decrease between 1985 and 1995, but the rate of recovery is expected to be much more rapid. By the year 2000, the minority college-age population will exceed the 1983 level of 7.3 million. Then the numbers are projected to increase rapidly to almost 10 million in 2025 and 11.4 million by 2050. The white college-age population has shown a steady decline since 1980 and is expected to continue to decline through the 1990s. Demographers predict a slight reversal of this trend for the year 2000, but then the downward trend will continue to the year 2050 when the white college-age population will be only slightly more than it was in 1950.

Minority representation in the 18-24 year-old population showed a slow but steady increase during the thirty-year period from 1950-1980 (from 11.8 percent to 15.5 percent, a net increase of

Table 1
Population Trends (18-24 year-olds), 1950-2050

Year	Total (in thousands)	White	Minority	Minority Percent
1950	16,075	14,186	1,889*	11.8*
1960	16,128	16,169	1,959*	12.1*
1970	24,712	21,532	3,180*	13.0*
1975	27,735	23,775	3,959*	14.3*
1980	30,081	25,415	4,666*	15.5*
1982	30,344	23,074	7,270	24.0
1983	30,054	22,736	7,318	24.3
1984	29,476	22,181	7,295	24.7
1985	28,715	21,491	7,224	25.2
1990	25,777	18,768	7,009	27.2
1995	23,684	16,753	6,931	29.3
2000	24,590	17,062	7,528	30.6
2025	25,447	15,468	9,979	39.2
2050	25,659	14,278	11,381	44.4

Source: 1950-1970 U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 311, p. 22, No. 519, Table 1, No. 704, Table 8, No. 880, Table 1, No. 870, Table 1, No. 917, Table 1, as reported in 1986-87 Fact Book on Higher Education, American Council on Education, page 4.
1975-1980 Current Population Reports, Series P-25, No. 917, Table 1.
1982-2050 Current Population Reports, Series P-25, No. 922, Table 2, No. 995, Table 2.

Note. Minority 1982-2050 arrived at by subtracting "Spanish origin" from "White" and redistributing to "Black and other."

*Does not include Spanish origin population if they were classified as "White" rather than Black and other in the survey data.

3.7 percentage points). From 1980 to 1982 however, minority representation increased to 24 percent of the college-age population and will show a continual increase until, by the year 2050, when minorities will comprise 44.4 percent of the typical undergraduate college-age population (Table 1 and Figure 4).

Figure 3
U.S. College-age Population
18-24 Year-olds (Total)

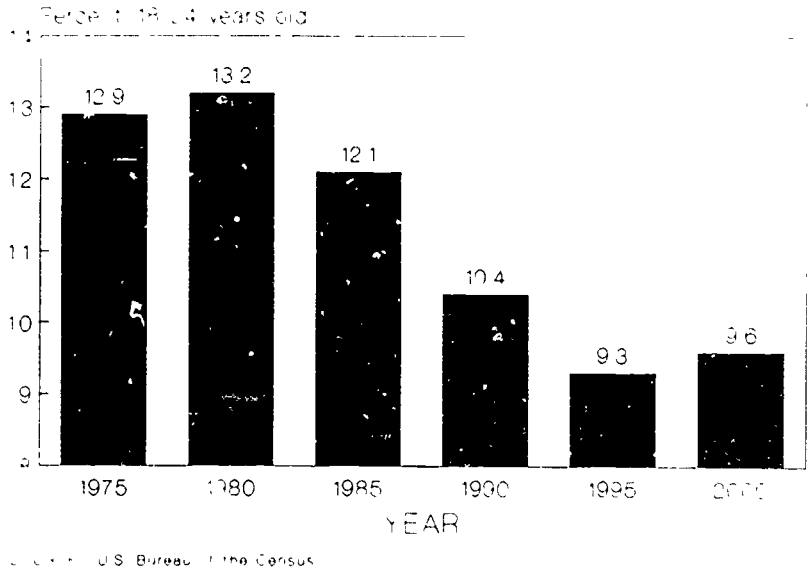
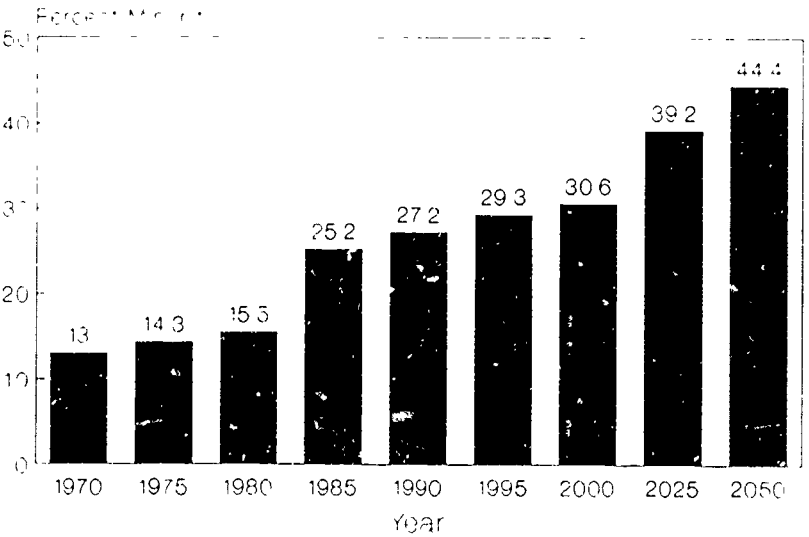


Figure 4
Minority College-age Population
18-24 Year-olds



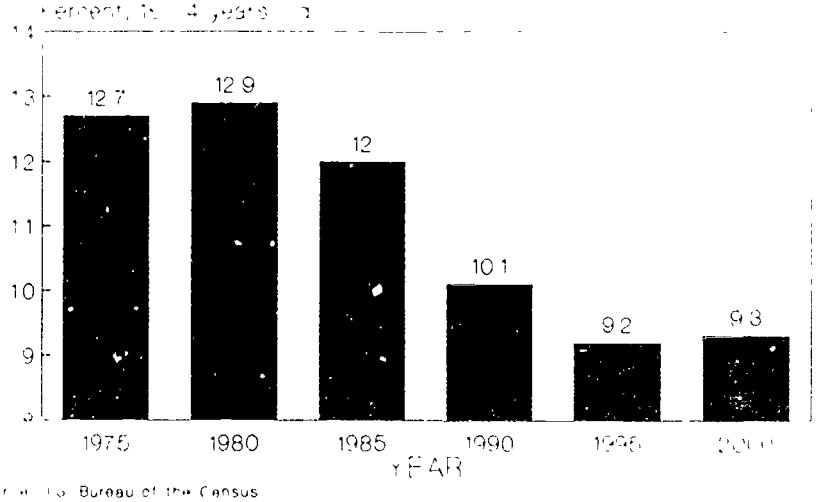
SOURCE: U.S. Bureau of the Census

The U.S. Bureau of the Census (Spencer, 1986) predicts that Hispanics alone will contribute 25 percent of the total population growth between 1980 and 2000. Non-Hispanic whites are expected to fall from being 75 percent of the college-age population in 1985 to about 70 percent in 2000. Hispanics are expected to increase from approximately 8 to 11 percent of the 18-24 year-old population group, blacks from 14 to 15 percent, and other races from 3 to 4 percent. The Population Reference Bureau predicts that, if current trends continue, by the year 2080 more than half of all Americans will be Hispanic, Asian, or black.

The increase in minority populations will impact differently on different regions of the country. Blacks will be concentrated mostly in the south, followed by the midwest, the northeast, and the west. Among Hispanics, Puerto Ricans and Cubans will reside mostly in the East, Mexicans in the Southwest and West. The Sun Belt states will have some of the largest concentrations of nonwhites. By 1990 over 45 percent of the children born in California and Texas will be minorities. For California, predictions indicate that minorities will collectively constitute a majority of the state's population soon after the turn of the century. In Texas, only 43 percent of the population will be non-Hispanic white by the year 2035.

Demographic trends for the population of 18-24 year-olds in Missouri are shown in Figure 5. These trends pattern the nation, showing a steady decline through the 1990s. A slight increase is expected by the year 2000, but this increase is expected to be no more than one-tenth of one percent. Data on projected changes in the minority composition of Missouri's college-age population are not currently available but might be expected to follow those of the nation when projected increases in the size of Missouri's black population and nonwhite Hispanic immigration are considered.

Figure 5
Missouri College-age Population
18-24 Year-olds



Source: U.S. Bureau of the Census
National Center for Higher Education Statistics
and Missouri Division of Budget and Planning

III. MINORITY ENROLLMENT AND RETENTION TRENDS

In the United States

Many past gains in minority participation in higher education are eroding at a precipitous rate.

What follows is a summary of trends and issues related to minority participation in higher education at the national level. A more detailed presentation of relevant data and discussion is appended to this report.

Minority participation in higher education is directly related to the rates of participation at various educational levels, from high school through graduate school. Major factors relating to postsecondary recruitment and retention include administrative commitment to increasing minority access, availability of financial aid, presence of minority faculty, and the availability of institutional support services for minorities.

Nationally, the total number of high school graduates is declining and will continue to do so into the 1990s. By the year 2000, however, the number of high school graduates will be almost 10 percent more than in 1986-87. Minority high school graduation rates, while increasing, still remain far below those for whites due to their higher dropout rates. Also, the percentage of minority high school graduates immediately enrolling in college upon graduation peaked in 1976 and has steadily declined since.

From 1968 to 1986, the total number of students enrolled in higher education institutions grew from less than 5 million to more than 12 million. White representation, as the percentage of total enrollment, fell from about 91 percent in 1968 to 79 percent in 1986 while minority representation nearly doubled, from about 9 percent in 1968 to 18 percent in 1986. The black enrollment share peaked in 1976-78 (actual headcount peaked in 1980) after significant increases in federal aid to low income students. Since 1978 the black enrollment share has steadily declined while enrollment shares for Asian-Americans and Hispanics steadily increased. Also, minorities tend to be concentrated in two-year institutions, thus much of the increase in minority enrollment can be attributed to the proliferation of community colleges, many of which are located near urban areas.

Compared to whites, fewer minorities transfer from two- to four-year institutions, indicating that many minority students are not seeking bachelor's or higher degrees. Equally problematic is the higher rate of reverse transfers (from four- to two-year institutions) for minorities which further exacerbates the problem of minority participation in graduate education. Also, proportionally more black, Hispanic, and American-Indian students drop out of college than do whites or Asian-Americans.

Even with enrollment share and headcount increases, minorities continue to complete their undergraduate degrees at rates lower than whites. For example, in 1984-85 blacks comprised about 9 percent

of all undergraduate students but received only 6 percent of the baccalaureate and 8 percent of the associate degrees conferred. Whites comprised 80 percent of undergraduate enrollment, yet received 85 percent of the baccalaureate degrees.

At the postgraduate level, total enrollment in the U.S. declined 1.4 percent between 1976 and 1984. Graduate enrollment for blacks, however, declined over 22 percent while Hispanic and Asian-American enrollments showed substantial increases (up 14 and 48 percent, respectively). Blacks, whites, and Hispanics show an increasing preference for enrolling in postgraduate business programs which are viewed as a more direct route to employment and income. This shift away from enrollment in the more traditional academic graduate programs, while understandable considering other current labor market opportunities, comes at a time when openings for new faculty will become more plentiful due to retirements and expected enrollment increases from children of the baby-boom cohort.

A key element for the successful recruitment of minority students into both graduate and undergraduate programs is the presence of minority faculty to serve as mentors and role models. Black representation as full-time faculty at public and private four-year institutions declined over 6 and 11 percent, respectively, between 1977 and 1983. In 1983, full-time black faculty representation in predominately white institutions was only slightly more than 2 percent and is declining in most states. Longitudinal studies of minority faculty reveal that blacks had the lowest promotion and tenure rates among minority groups. While Hispanic and Asian-American faculty representation is increasing, the significant underrepresentation of blacks in academe poses serious problems for the recruitment and retention of black students.

In summary, many of the gains in minority participation in higher education made in the late 1960s and early 1970s are eroding at a precipitous rate. Changing population demographics and future labor market demands for a highly skilled workforce require that renewed effort be directed toward increasing the minority presence at all levels of higher education.

In Missouri

One of the most important factors affecting college enrollment levels in a given year is the number of high school graduates. Table 2 shows the Missouri public high school graduation rates, attrition rates, and college enrollment rates for the years 1976 to 1988. The number of Missouri high school graduates peaked in 1978 (64,564) and steadily declined through 1986. There was a slight increase in high school graduates in 1987 and 1988 (up 4.3 percent from 1986 to 1988) but the 51,316 graduates in 1988 are 20.5 percent fewer in number than those of 1978. The number of public high school graduates will reach approximately 53,000 in 1988-89, but then is expected to vary between 47,000 and 52,000 throughout the 1990s and into the early 2000s.

Attrition, or the high school dropout rate, has remained fairly stable, averaging 24.2 percent for the period 1976-1987. From 1985 to 1988, however, the attrition rates have increased from 22.6 percent to 24.5 percent. No data are available concerning the race/ethnicity of Missouri high school dropouts. Since future labor markets will demand higher levels of education from the workforce, these data on dropout rates by race will prove helpful in planning effective remediation strategies.

The number of Missouri high school graduates reported as entering college (either full- or part-time) peaked in 1980 (26,663) and steadily declined through 1986 (24,266). This represents a decrease of 9 percent. In 1987, the number entering college began to increase (26,191), up 7.9 percent over the 1986 figure. The percent of Missouri high school graduates reported as entering college has steadily increased from 1979 (39.3 percent) through 1987 (51.5 percent), except for a slight decrease in 1982. Also, between the years 1981-82 and 1987-88 the percentage of black high school students taking the ACT test has remained constant at 7 percent. The number of whites taking the ACT has remained at around 88 percent. This perhaps indicates that, as their numbers and high school graduation rates are increasing, fewer blacks may be interested in pursuing higher education.

Table 2
Missouri Public High School Graduation Rates, Attrition Rates, and College Enrollment Rates, 1976-1988

Year	High School Graduates	Graduation Rate	Attrition Rate	Number Entering College	Percent Entering College
1976	63,942	77 5	22 5	25,953	40 6
1977	64,471	75 7	24 3	26,467	41 1
1978	64,564	75 2	24 8	25,879	40 1
1979	64,163	74 7	25 3	25,224	39 3
1980	62,265	73 7	26 3	26,663	42 8
1981	60,340	74 0	26 0	26,210	43 4
1982	59,872	75 4	24 6	25,899	43 3
1983	56,420	76 2	23 8	25,205	44 7
1984	53,388	77 3	22 7	24,641	46 2
1985	51,306	77 4	22 6	24,604	48 0
1986	49,204	76 6	23 4	24,266	49 3
1987	50,840	76 1	23 9	26,191	51 5
1988	51,316	75 5	24 5	Available September 1989	

Source Missouri State Department of Elementary and Secondary Education

Note Graduation and Attrition Rates are based on the difference between 9th grade enrollment figures four years prior to the number of graduates in a given year

Even though total enrollments have increased approximately 4.9 percent from 1987 to 1988, the impact of the recent decline in numbers of high school graduates on Missouri's public higher education institutions can be seen in Figures 6 and 7. As illustrated in Figure 6, enrollment between 1981 and 1987 for first-time

freshmen attending full-time has decreased sharply for most Missouri public colleges and universities. The total decrease in enrollment of first-time freshmen for all institutions was 17.96 percent.

Enrollment trends for total full-time enrollment are shown in Figure 7. Between 1981 and 1987, total full-time enrollment decreased 3.97 percent. The largest decreases occurred with most of the four-year institutions. The state two-year institutions showed an increase in full-time enrollment of 6.18 percent.

Although the decrease of first-time freshmen for all institutions was 17.96 percent, the decrease of total full-time enrollment was much less (3.96 percent), suggesting that many more nontraditional students are attending college, especially at the two-year level. In fact, 11 percent of Missouri's full-time undergraduate population attending public colleges and universities is over age 25.

Figure 6
FTE Enrollment Change, 1981-1987
Public First-time Freshmen

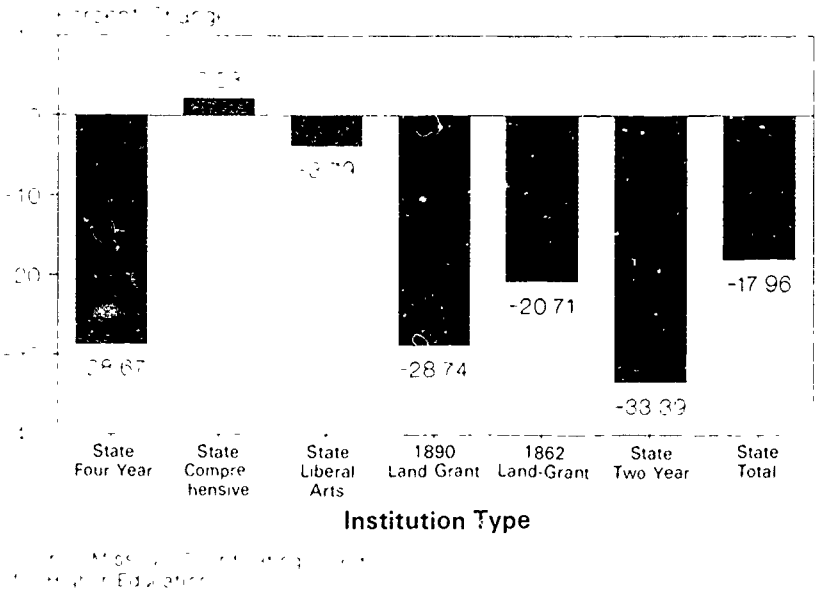
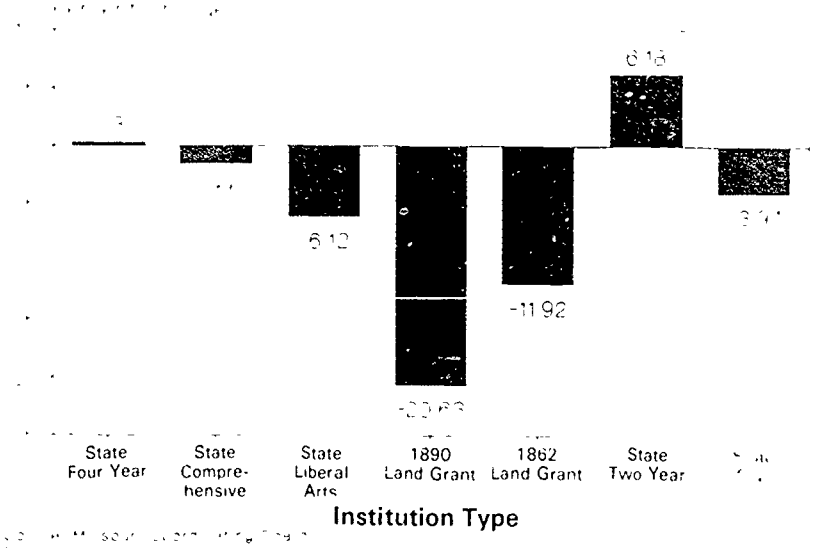


Figure 7
Total FTE Enrollment Change
1981-1987



Minority Enrollment Trends

From 1981 to 1987, Black enrollment in Missouri's public institutions had decreased by 13.9%.

Blacks are the predominate minority in Missouri, comprising approximately 10.8 percent of the population. Consequently, presentations of minority enrollment data for illustrative and comparative purposes are mainly limited to blacks and whites.

The educational status of blacks is substantially lower than that of whites in Missouri. An analysis of 1980 census data revealed that the proportion of high school graduates among blacks (52.7 percent) was about 12 percent lower than among whites (64.6 percent) and at the highest level of education, the proportion of whites who were college graduates (14.4 percent) was nearly double that of blacks (7.9 percent) (Amonker and Gerlach, 1988).

Enrollment data for black students in Missouri's public higher education institutions are shown in Table 3. These figures show the numbers and percents of total enrollment in public four- and two-year institutions from 1981 to 1987. Total black enrollment was highest in 1983 at 16,702, representing 9.07 percent of the total enrollment. By 1987, the total black enrollment had dropped to 13,833, a decrease of 13.9 percent. Total black representation had also declined to 7.98 percent of the total enrollment. At Missouri's public four-year institutions, black enrollment has shown some cyclical variation, but was highest in 1981 (6,923). In 1987, black enrollment was 6,811 and represented 6.06 percent of the four-year student population.

In the community colleges, black enrollment was highest in 1983 (9,466) representing 15.01 percent of the total two-year college enrollment. From 1983 to 1987, black enrollment at the community colleges had decreased 25.8 percent to 7,022, and their representation in those schools had fallen to 11.5 percent.

The data also show that, from 1981 through 1984, blacks were much more heavily concentrated in Missouri's two-year institutions. From 1985 on, this disparity began to diminish until, in 1987, 51 percent of the black enrollment was in two-year institutions and 49 percent in four-year institutions.

Table 3
Black Student Enrollment in Missouri Public Institutions of Higher Education, Fall 1981-Fall 1987

	1981		1982		1983		1984		1985		1986		1987	
	No	%	No.	%	No	%	No	%	No	%	No	%	No	%
Four year Institutions	6,923	5 98	6 599	5 76	6,606	5 79	6 646	5 95	6,.95	6 21	6 309	5 67	6,811	6 06
Two year Institutions	8 996	15 71	8,644	14 55	9 466	15 01	8 228	14 10	7 383	13 00	7,248	12 45	7,022	11 53
Total	15,919	9 21	15,243	8 76	16,072	9 07	14,874	8 75	14 278	8 51	13.557	8 00	13,833	7 98

Missouri transfer rates from two- to four-year institutions for the years 1982 to 1988 are shown in Table 4. These data show some cyclical variation in the yearly number of transfers, averaging 3,503 transfers per year. In 1988, the total number of transfers (3,163) was 10.5 percent fewer than 1987. This decrease is due to the fewer number of students transferring from two-year public to four-year independent colleges and universities (616).

The number of students transferring to the four-year public colleges and universities peaked in 1982 (2,807). By 1988, this number had fallen to 2,547, a decrease of 9.3 percent. Unfortunately, no data are available on the race/ethnicity of these transfers which would facilitate a more precise analysis of minority trends.

Table 4
Numbers and Percents of Students Transferring from Missouri Two-year Public Colleges to Four-year Public and Independent Colleges and Universities, 1982-1988

	Total Undergraduate Transfers	Total From 2-Year Public	Percent From 2-Year Public
1982			
4-year Public	9,900	2 807	28 4
4-year Independent	3,782	891	23 6
Total	13,6o2	3,698	27 0
1983			
4 year Public	9,242	2 693	29 1
4 year Independent	3,154	742	23 5
Total	12,396	3 435	27 7
1984			
4 year Public	9 021	2 559	28 4
4 year Independent	3 154	742	23 5
Total	12 396	3 41	27 2
1985			
4 year Public	8,938	2 684	30 0
4 year Independent	4 090	968	23 7
Total	13,028	3,652	28 0
1986			
4 year Public	8,907	2,684	30 1
4-year Independent	3 942	941	23 9
Total	12,849	3 625	28 2
1987			
4 year Public	8 744	2 517	28 8
4 year Independent	3,557	1 019	28 6
Total	12,301	3 536	28 7
1988			
4 year Public	8,760	2 547	29 1
4 year Independent	3 636	616	16 9
Total	12 396	3 163	25 5

Source Missouri Coordinating Board for Higher Education DHE/IPEDS Data Collection, 1982 1988

Table 5 shows the enrollment and degrees conferred to blacks and whites in Missouri public higher education institutions for 1987-88. While blacks represented 11.5 percent of the enrollment in two-year institutions, they received only 9.8 percent of the associate degrees conferred. In the four-year institutions, blacks represented 6.5 percent of the undergraduate enrollment, yet received only 3.7 percent of the bachelor's degrees.

Data from Missouri's Student Achievement Study revealed that only 16 percent of blacks enrolling in higher education institutions in the state had taken a college preparatory curriculum in high school whereas the comparable figure for whites was about 25 percent. Also, the average college GPA of those students taking college preparatory courses in high school was significantly higher than for those not taking such courses. Adequate high school preparation is a major factor underlying academic achievement and retention in college. Missouri high schools should place greater emphasis on counseling black students into college prep courses to provide them with the academic background necessary for academic success in college.

Adequate high school preparation is a major factor underlying academic achievement and retention in college.

A similar trend in black underrepresentation and educational "fall-out" in the transition from undergraduate to graduate and professional schools observed nationally (see Table 4A, appendix) can be seen in Missouri. Blacks received 3.2 percent of the master's degrees and 2.5 percent of the doctorate and first professional degrees. While a similar transition "fall-out" can be observed for whites, they do not have the problem of underrepresentation as do blacks and other minorities.

Table 5
Enrollment and Degrees Conferred for Blacks and Whites in Missouri Public Higher Education Institutions, 1987-1988

	Blacks	Whites
Enrollment		
Two year Institutions	7 022	52,516
% of Total	11 5	86 3
Four-year Institutions*	6 113	84 110
% of Total	6 5	88 03
Degrees Conferred		
Associate Two year	435	3 908
% of Total	9 8	88 1
Associate Four year	17	474
% of Total	3 3	93 3
Bachelor's	528	13 290
% of Total	3 7	92 3
Master's	113	2,942
% of Total	3 2	82 9
Ph D & First Professional	24	811
% of Total	2 5	84 5

Source Statistical Summary of Missouri Higher Education, Missouri Coordinating Board for Higher Education 1987 1988

*Undergraduate enrollment

Black representation among faculty in Missouri's public colleges and universities has shown some erosion between 1981 and 1987. The total number of black faculty has remained essentially the same from 1981 to 1987 (225 and 224, respectively) as has their total level of representation (3.2 percent).

However, the number and percent of black faculty with tenure has decreased. In 1981, 64 black faculty were tenured, representing 1.8 percent of all tenured faculty. In 1987, the comparable figures are 51 and 1.5 percent. Even though the number of tenured blacks in the four-year institutions has risen from 46 to 51, they still represent less than 1.6 percent of the tenured faculty. Also, blacks comprise only 2.4 percent of all faculty in the four-year colleges and universities in Missouri while black students comprise over 6 percent of the undergraduate population (in 1987)

Significant increases in the recruitment and retention of black students are not likely to occur unless there is a noticeable increase in the hiring and retention of black faculty.

IV. STRATEGIES FOR INCREASING MINORITY RECRUITMENT AND RETENTION IN HIGHER EDUCATION

Recent attempts by states to increase minority participation in higher education have resulted from the recognition of changing demographics and competition between states and with other nations for new jobs and economic growth. The competence and productivity of the current and emerging work force is perceived as a major weapon in that competition. With the changing demographics, the prospects for economic growth are directly related to minorities' prospects for success in graduating from high school and completing some form of postsecondary education including graduate and professional studies (Callan, 1987).

The prospects for economic growth are directly related to minorities' prospects for completing postsecondary education.

A 1987 survey of states' policy initiatives and strategies for increasing minority enrollment and degree achievement was conducted by SHEEO and the Education Commission of the States (ECS). Information was obtained from 33 states on the types of programs that were being implemented. A summary of programs by states is shown in Table 6.

Table 6
Types of Programs Used by States to Increase Minority Recruitment and Retention in Higher Education

States / Programs	Recruitment Programs	Monitoring Mechanisms	Outreach to Schools	Faculty/Administrator Development Programs	Preparatory Efforts	Transfer Student Articulation Programs	Discipline Based Efforts	Comprehensive Services	Financial Aid Programs	Graduate and Professional School Recruitment & Retention	Teacher Education Programs	Enhancement of Black Institutions
Arizona	●	●										
Arkansas	●			●						●		
California	●				●	●	●	●				
Colorado					●		●					
Connecticut			●	●				●	●			
Florida	●		●	●	●			●		●		
Georgia	●				●			●				
Illinois		●	●		●				●	●	●	
Indiana	●	●	●	●					●			
Iowa	●							●				
Kansas			●				●	●		●		
Kentucky	●		●		●							
Louisiana	●		●	●	●					●		
Maryland	●		●					●		●		●
Massachusetts			●	●			●	●	●		●	
Michigan	●			●						●		
Mississippi				●	●			●				
Missouri	●											
Nebraska												
New Jersey		●	●	●	●		●	●		●		
New York	●		●				●	●	●	●	●	
North Carolina	●		●	●				●		●		●
North Dakota	●		●					●				
Oklahoma				●						●		
Oregon	●	●			●			●				
Pennsylvania	●				●			●		●		
Rhode Island			●		●		●	●				
Tennessee				●	●			●	●	●		
Texas		●		●	●	●		●	●	●		●
Virginia	●		●	●	●	●	●		●	●	●	●
Washington	●				●	●		●	●			
West Virginia	●		●				●	●				
Wisconsin			●						●	●	●	

Source Callen, Patrick "Minority Degree Achievement and the State Policy Environment Paper presented at the conference "From Access to Achievement Strategies for Urban Institutions," Los Angeles 1987

Some common strategies programs for increasing minority participation are:

1. Outreach to Schools (17 states)—collaborative programs between high schools and colleges emphasizing the academic preparation and recruitment of high school students.
2. Recruitment Programs (20 states)—programs/information dissemination designed for targeted groups of students, including marketing techniques and special college nights.
3. Graduate and Professional School Recruitment and Retention (17 states)—programs designed to promote the recruitment and retention of minority students in graduate and professional schools.
4. Comprehensive Services (20 states)—programs designed to promote a positive learning environment for minority students in higher education.
5. Preparatory Efforts (16 states)—programs that provide remediation or enhance the academic preparation of high school graduates entering higher education.
6. Financial Aid (10 states)—programs providing financial support to students with unmet financial needs at the undergraduate level.
7. Faculty/Administrator Development Programs (14 states)—programs targeted to the recruitment and development of minority faculty and administrators
8. Monitoring Mechanisms (6 states)- Strategies directed toward colleges and universities to monitor their development and implementation of plans for enhancing minority access and achievement. Monitoring mechanisms often carry the threat of budgeting sanctions if institutions fail to perform satisfactorily.
9. Transfer Student Articulation Programs (4 states)—programs designed to promote close articulation agreements between community colleges and four-year institutions within the state.

All of the states responding to the survey, except Nebraska, indicated the use of some type of program or strategy to increase minority participation. Of all the other states attempting to increase minority access to higher education, Missouri is the only state reported as using only one methodology. Twenty-seven states indicated the use of three or more types of programs/strategies and fourteen states use five or more.

No data were presented concerning the efficacy of these state-level programs. However, if Missouri is to remain competitive with other states for future economic development, policy initiatives for the development of a multiplicity of intervention strategies are necessary.

Apart from state initiatives, many higher education institutions are addressing the issue of minority participation by offering an array of programs and services. Crossen (1987) identified four areas

in which institutional attention could enhance minority participation: (1) precollege programs and services, (2) programs addressing academic preparation problems and the academic environment, (3) programs and services promoting student involvement in campus life, and (4) attention to campus racial climate.

Clewell and Ficklin (1986) examined programs and policies at four predominately white institutions having good minority retention in an attempt to identify the major variables that enhance retention. Although much diversity was found between institutions and among the various programs, certain common characteristics across programs were identified that appear to be elements of successful retention efforts. These characteristics were: (1) the presence of a stated institutional policy on minority enrollments; (2) a high level of institutional commitment toward increasing minority participation; (3) a high level of institutionalization of the program(s); (4) providing comprehensive services; (5) committed staff; (6) strong faculty support; (7) systematic data collection, monitoring (evaluation), and follow-up; and (8) the non-stigmatization of program participants.

A general model was developed from the study that provides a framework for formulating a retention program. The necessary steps involve (1) having stated policy decisions to enhance minority retention, (2) conducting needs assessments and developing a data base to examine minority enrollment patterns, and (3) designing, implementing, monitoring and evaluating intervention programs.

A report from the Western Interstate Commission for Higher Education (WICHE) describes eighteen "exemplary" programs designed to enhance the participation and success of minority students in higher education. The 18 programs included in the report represented a cross-section of over 80 programs reviewed by WICHE in five southwest states (Arizona, California, Colorado, New Mexico, and Texas). Although little evaluative data were provided, the programs were considered "exemplary" in that they were innovative and responsive to the needs of minority students and incorporated ideas and approaches that might be successfully applied in other settings. The evaluative data which are presented for each of the programs generally indicate that the programs are successful in achieving their goals.

Various types of programs are described (recruitment, retention, early intervention, placement, and curriculum enrichment) and shared certain characteristics related to their successful implementation. Common features are:

1. All of the programs were developed specifically to increase the numbers of minority students on their respective campuses.
2. Each program established specific goals and offered a variety of services congruent with its goals.
3. All programs were supported, in part, by their respective institutions and most had successfully solicited external funds.

4. All programs maintained good lines of communication with the community, secondary schools, and community colleges from which they drew their students.

There is sufficient evidence that programs designed to enhance minority participation and achievement in higher education can be developed and successfully implemented. What is needed now, is the commitment to do it.

V. IMPLICATIONS FOR POLICY DEVELOPMENT

To remain economically competitive, Missouri will need an educated and skilled workforce.

The literature clearly demonstrates that the issue of minority participation in higher education is complex with a multiplicity of factors affecting minority degree achievement. Success in enhancing minority participation and retention will require serious commitment and sustained effort at the state and institution level if Missouri is to develop the skilled workforce necessary to remain economically competitive with other states. Unless special efforts are made to recruit potential minority students and to convince them that they are truly welcome at an institution, then far too many will assume that college is not a viable option. Special efforts must be made to make college a preferred option.

Intervention strategies will require a comprehensive needs assessment and the construction of additional data bases to provide sufficient information to those engaged in their development. Data bases should be constructed to provide information on the following:

1. Comprehensive information on high school students including race/ethnicity of students in college preparatory programs and student dropouts.
2. Race/ethnicity of students transferring from two- to four-year colleges and universities and those transferring in reverse from four- to two-year institutions.
3. Race/ethnicity of undergraduate and graduate student enrollments by programs.
4. Race/ethnicity of students applying for, and receiving, financial aid at the undergraduate and graduate levels either as grants or loans, fellowships and assistantships, or as participants in on-campus work-study programs.

Assessments should be made of the following:

1. Institutional goals and future plans for increasing minority undergraduate and graduate enrollments and whether these goals are reflected in institutional policy statements. The effectiveness of any existing recruitment programs should be examined to determine their level of institutional support and effectiveness.
2. Institutional track records and policies regarding the hiring and retention of minority faculty.
3. The existence and effectiveness of on-campus services designed to enhance minority student retention, especially diagnostic, remedial, and counseling services.
4. The nature and extent of any course-credit transfer problems that may exist for students transferring from two- to four-year institutions.

5 The types of counseling services and assistance provided by two-year institutions to students seeking to transfer to four-year colleges and universities.

Information yielded from these assessments and the data bases would provide the framework for the development of comprehensive recruitment and retention programs and services. The development of such programs and services would necessitate the allocation of additional funds for instructional support services at the state and institutional level. In fiscal year 1990, the Coordinating Board is recommending an appropriation of $1.7 million for programs tailored to meet the needs of "high risk" students at eight of Missouri's four year institutions.

The types of programs that may need to be developed from these funds could include:

1. Outreach programs targeted at junior high and high schools and community colleges for prospective students and their parents. These programs should provide more than information dissemination and could include; precollege advising, precollege academic preparation including coaching for standardized tests, help with enrollment and financial aid applications, and campus visits for students and parents. Ideally, these programs should use minority faculty and students (perhaps as part of work-study) in providing these services.

2. Community college to four-year college transfer/articulation programs. The Coordinating Board's present articulation agreement provides a basis for course credit transfer but for minority students in particular, there is a special need for pretransfer advising and academic preparation.

3. On-campus diagnostic testing and remediation programs to overcome deficiencies in prior academic preparation. Methods for the early detection of problems in mastering course content should be a part of these programs In many courses students are not tested until mid-semester, when content-mastery problems might be too great to be overcome.

4. Increased work-study opportunities for minority students. Work-study programs serve to keep students on campus and provide for a greater degree of social interaction and participation in campus activities. Also, work-study programs enable students to decrease the amount of debt incurred for their education.

5. Minority graduate student and faculty recruitment programs may need to be implemented to increase the presence of minority faculty to serve as mentors and role models for minority students.

6. Increases in financial aid in the form of assistantships and fellowships may be required to attract more minorities into graduate programs.

7. Incentives may need to be created for greater white faculty involvement in the social/academic integration of minority students to create a campus climate more conducive to minority recruitment and retention.

These types of programs could address the current and short-term future problem of minority participation in higher education. The long-range scenario demands that fundamental changes occur in our elementary and secondary schools. These changes include hiring teachers and administrators committed to enhancing the educational development of minority children, providing the curriculum enrichment experiences necessary for full participation in a technological society, increasing high school graduation requirements, and fostering a positive self-image and desire to achieve in their students.

APPENDIX

TRENDS AND ISSUES OF MINORITY PARTICIPATION IN AMERICAN HIGHER EDUCATION

TRENDS AND ISSUES OF MINORITY PARTICIPATION IN AMERICAN HIGHER EDUCATION

Preliminary Considerations

Any general discussion of the educational status of minorities must be preceded by recognizing that available data are not as current, complete, or precise as might be desired. Further, categories such as "Hispanic" or "Asian" embrace a wide variety of constituent subgroups having different cultural heritages. One must also be cognizant of the major changes that have occurred in the structure of households in the past thirty years.

In 1955, 60 percent of the households in the U.S. consisted of a working father, a housewife mother, and two or more school-age children. In 1980, that family unit was only 11 percent of households, and in 1985 was only 7 percent. More than 50 percent of the workforce are women and that percentage is expected to increase. Of the 80 million households in the U.S., almost twenty million consist of people living alone. Projections based on Census data reports indicate that 59 percent of the children born in 1983 will live with only one parent before reaching age 18. Of every 100 children born in 1985:

- 12 were born out of wedlock;
- 40 were born to parents who will divorce before the child is 18;
- 5 were born to parents who will separate;
- 2 were born to parents of whom one will die before the child reaches 18; and
- 41 will reach age 18 being members of a traditional family unit (Hodgskinson, 1985).

The U.S. today is faced with a tremendous increase in the number of children born out of wedlock—and 50 percent of these children are born to teenage mothers. It has been estimated that every day in America, 40 teen-age girls give birth to their third child. Teen-age mothers tend to give birth to children who are premature—due primarily to a lack of adequate prenatal care and poor diet while pregnant. Prematurity leads to low birth weight which increases the chance of major health problems due to the lack of development of the child's immune system. Low birth weight often is a good predictor of learning difficulties when the child goes to school. It has been estimated that about 21 percent of the 1985 cohort of 3.3 million births are seriously "at risk" of being educationally retarded or "difficult to teach" (Hodgskinson, 1985).

High School Graduation Rates

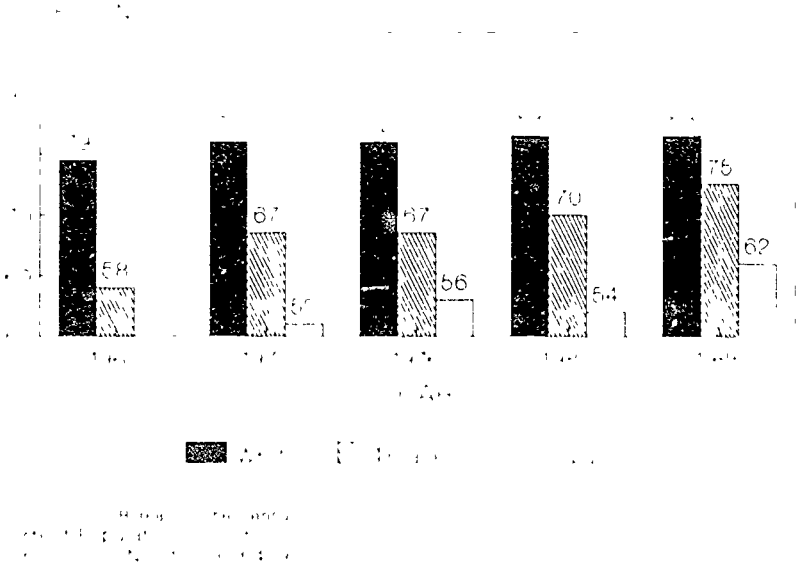
Minority participation in higher education is a function of the status of minority students at various transition points through the educational "pipeline" from high school through graduate school.

In 1976-77, the number of high school graduates reached an all-time high of 3,154,000; however, this number has gradually declined over the last ten years. Except for a temporary upward trend in the late 1980s (from about 2.6 to 2.8 million from 1986-1989), the projected number of graduates will continue to decline into the 1990s. By 1992, the number of high school graduates will fall to less than 2.4 million (NCES Projection of Education Statistics, 1982-83). From then on, the trend will begin to reverse, showing gradual increases for most years. By 2003-4, the number of high school graduates is projected to reach 2.9 million, with a large portion comprised of minorities.

National figures on high school graduation rates for whites, blacks, and Hispanics from 1968-1985 are shown in Figure 1A. The white graduation rate has increased little compared to the rates of blacks and Hispanics and has appeared to stabilize at 83 percent. The graduation rates for blacks and Hispanics, although showing substantial increases (from 58 to 75 percent and 52 to 62 percent, respectively), still remain far below those of whites.

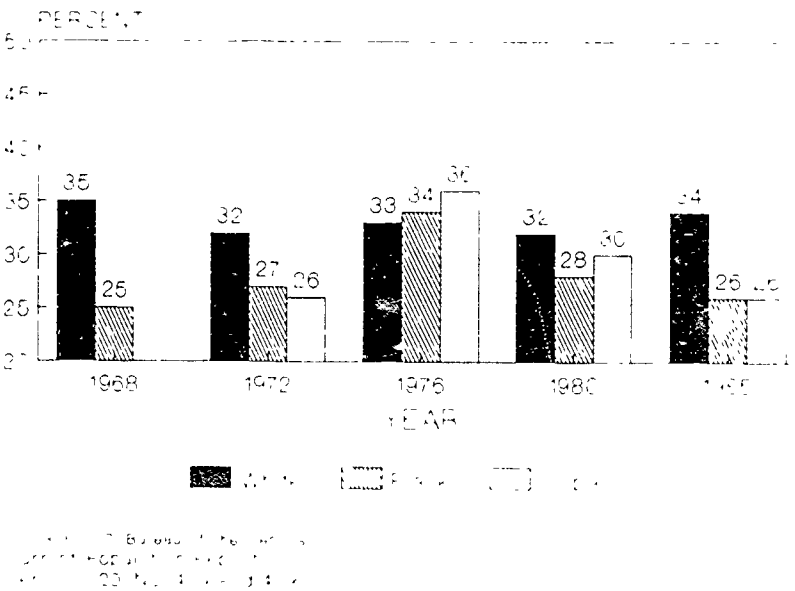
The lower graduation rates of minorities are directly related to their higher dropout rates. A 1982 study by the Commission on the Higher Education of Minorities reported a high school dropout rate of 28 percent for blacks, 45 percent for Puerto Ricans and Mexican-Americans, and 17 percent for whites.

Figure 1A
High School Graduation Rates
1968-1985



National figures on college participation rates by white, black, and Hispanic 18-24 year-old high school graduates are shown in Figure 2A. College participation rates by blacks and Hispanics peaked in 1976 and have steadily declined since. In 1976, black and Hispanic college participation rates were 34 and 36 percent, respectively. By 1985, their respective rates had fallen to 26 percent. Although showing a decrease from 1968 to 1972, the white college participation rate for high school graduates has remained relatively stable from 1976 to 1985, showing a slight increase from 33 to 34 percent.

Figure 2A
College Participation Rates
By High School Graduates, 1968-1985



One of the major factors affecting the college participation of minorities is their high school preparation. Studies have shown that black and Hispanic students who took academically oriented high school programs had higher percentages who earned bachelor's degrees than did black and Hispanic students in other high school programs (Brown, S.V., 1987).

However, black and Hispanic participation rates in "college prep" high school programs are much lower than the rates for whites, as shown in Table 1A. The data in Table 1A (based on 1980 high school seniors) also show that blacks and Hispanics had lower high school grade point averages than did whites.

Table 1A
High School Performance and Curricular Track of 1980 Seniors

	Grade Point Average	Education Track (Percent)		
		Vocational	General	College Prep
Black	2 6	24 5	23 0	51 7
Hispanic	2 6	28 6	34 1	37 3
Low SES White	2 8	28 6	35 0	36 3
High SES White	3 0	14 0	20 8	65 3

Source Valerie Lee "Access to Higher Education The Experience of Blacks, Hispanics and Low Socio Economic Whites American Council on Education, 1985 p 51

High School to College Transition

A major problem facing many minority students in the transition from high school to college is their academic preparation in high school. Data from the National Assessment of Educational Progress (NAEP) reveal that 17 year-old black and Hispanic students, on average, read only about as well as 13 year-old white students (Mingle, 1987). Blacks and Hispanics also tend to have a lower high school grade point average (HSGPA) than whites (Table 1A), and studies have shown HSGPA to be a significant predictor of college GPA and adjustment for minority students (Allen, 1981, 1987; Anderson, 1985; Clewell and Ficklin, 1986).

Furthermore, of the 1.05 million high school seniors who took the Scholastic Aptitude Test (SAT) in 1985, just over 70,000 were black (9 percent) and about 17,000 (3 percent) were Hispanic. Of the black students, 73 percent scored below 400 on the verbal section and 64 percent scored below 400 on the math portion. For Hispanic students, 59 percent had verbal scores below 400 and 45 percent had math scores below that level. For whites, 31 percent had verbal scores below 400 and 22 percent had math scores that low (reported in "One-Third of a Nation," 1988).

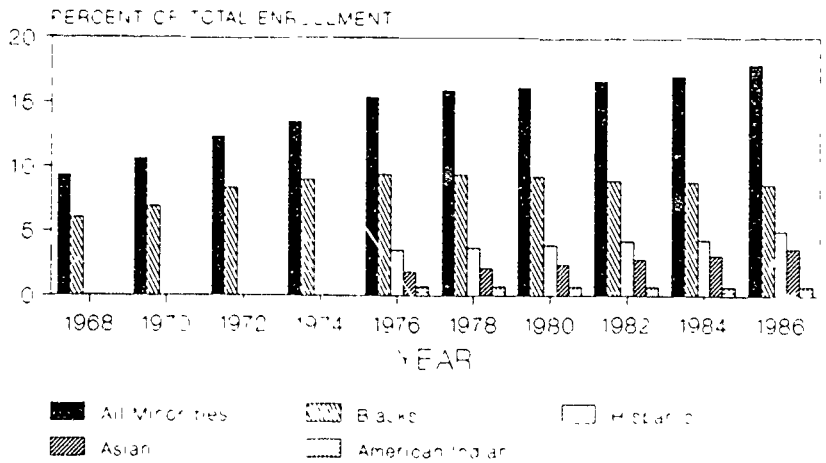
Additional factors which influence black, Hispanic, and American Indian participation in the 1980s include: (1) increased college costs; (2) continuing inflation combined with level funding which serves to rob student aid of about one-fifth of its real purchasing power in the latter half of the 1980s; (3) the shift in aid dollars from predominately grants to loans; and (4) a renewed emphasis on academic "quality" reflected in higher admissions standards (Stampton and Fenske, 1987).

Other factors identified as primarily affecting black enrollment are choosing to enlist in the military (which has shown a 23.5 percent increase in the number of blacks serving between 1976-1987), and choosing to attend vocational-technical and proprietary schools which are perceived to be a more direct route to immediate employment and income (Collison, 1987).

Minority Enrollment Trends in Higher Education

Trends and changes in the representation of total minority and racial/ethnic subgroups as percentages of college enrollment for the years 1968-1986 are shown in Figure 3A. Minority representation in enrollment has shown a steady increase over the 18 year interval and shows no sign of abating. However, since participation rates of high school graduates have declined since 1976 (Figure 2A), it is likely that a significant portion of the recent increase in minority enrollment is due to larger numbers of older students enrolling, especially in two-year institutions.

Figure 3A
College Enrollment By Ethnicity
1968-1986



SOURCE: U.S. Department of Education
Statistical Abstract of the
United States, 1988, ed.

A more detailed analysis of minority enrollment trends can be obtained by examining the data in Table 2A which gives total enrollment figures and shows the percentages of total enrollment for whites and the various minority groups.

From 1968 to 1986, the total number of students enrolled in institutions of higher education grew from less than 5 million to more than 12 million, a net increase of 259 percent. White representation, as the percentage of total enrollment, fell from approximately 91 percent in 1968 to 79 percent in 1986. Total minority representation has nearly doubled, increasing from 9.3 percent in 1968 to 17.9 percent in 1986. The black enrollment share has shown a cyclical trend, peaking in 1976-78 (9.4 percent) after significant increases in federal aid for low-income students. From 1978 to 1986, however, black enrollment has steadily declined, falling to 8.6 percent in 1986. From 1976 on, Hispanic, Asian-American, and nonresident alien enrollment steadily increased while American Indian enrollment has remained stable. The growth in minority enrollment/representation since 1978 can be attributed primarily to enrollment increases by Asian-Americans and Hispanics.

Table 2A
Total Enrollment in Institutions of Higher Education By Race/Ethnicity of Students, Fall 1968-1986

Year	Total (in thousands)	Percentage						
		White	Total Minority	Black	Hispanic	Asian	American Indian	Alien
1968	4,820	90 7	9 3	**6 0	Other	**3 5		
1970	4,966	89 4	10 6	6 9	Other	3 7		
1972	5,531	87 7	12 3	8 3	Other	4 0		
1974	5,639	86 5	13 5	9 0	Other	4 5		
1976	10,986	82 6	15 4	9 4	3 5	1 8	7	2 0
1978	11 231	81 9	15 9	9 4	3 7	2 1	7	2 2
1980	12,087	81 4	16 1	9 2	3 9	2 4	7	2 5
1982	12,388	80 7	16 6	8 9	4 2	2 8	7	2 7
1984	12,162	80 3	17 0	8 8	4 3	3 1	7	2 7
1986	12,501	79 3	17 9	8 6	5 0	3 6	7	2 8
Percentage Points Change 1968 1986	+259 4%*	11 4	+8 6	***	+1 5	***	0 0	+8

Source 1968 1974 U S Department of Education, "Racial and Ethnic Enrollment Data from Institutions of Higher Education," biennial, as reported in Statistical Abstract of the United States 1986, 106th edition, U S Department of Commerce, Bureau of the Census, Table 259, page 153

1976 1984 U S Depaartment of Education, National Center for Education Statistics,"Fall Enrollment in Colleges and Universities" surveys, as reported in "Digest of Education Statistics 1986-1987" and "Digest of Education Statistics 1980", 1986 U S Department of Education, National Center for Education Statistics, as reported in the The Chronicle of Higher Education, Vol XXXIV, Nol 43, July 6, 1988

*Figure represents actual percent change in total enrollment

**Numbers do not equal Total Minority data obtained from "Focus on Minorities Trends in Higher Education Participation and Success", a joint publication of ECS and SHEEO, July, 1987

***Figures not presented due to the curvilinear nature of the trend

Minorities tend to be concentrated in two-year institutions. Table 3A shows enrollment percentages by type of institution and race/ethnicity of students from 1976 to 1986. Minority enrollment and representation in both two- and four-year institutions have tended to show steady growth since 1976; increasing 2.2 percent in four-year institutions and 3.0 percent in two-year institutions. For both types of institutions, black representation has declined and Asian-American and Hispanic representation has increased.

White representation has declined in both types of institutions, yet white students are more heavily represented in the four-year colleges and universities. Minority representation, however, is much higher in two-year institutions (22.5 percent in 1986) than in four-year institutions (15.3 percent in 1986) and has remained so since 1976.

A more precise and current analysis of minority enrollment and representation in higher education institutions can be obtained by examining the data shown in Table 4A. These data show the 1986 enrollment figures and percents for whites and minorities by institution type, sex, and enrollment level.

Table 3A
Total Enrollment in Institutions of Higher Education By Type of Institution and by Race/Ethnicity of Students in the United States, Fall 1976-1986

Type of Institution and Race/Ethnicity of Students	Percentage Distribution within Institution Type						NET CHANGE 1976-1986
	1976	1978	1980	1982	1984	1986	
All Institutions	100 0	100 0	100 0	100 0	100 0	100 0	
White	82 6	81 9	81 4	80 7	80 3	79 3	3 3%
Total Minority	15 4	15 9	16 1	16 6	17 0	17 9	+2 5%
Black	9 4	9 4	9 2	8 9	8 8	8 6	8%
Hispanic	3 5	3 7	3 9	4 2	4 3	5 0	+1 5%
Asian	1 8	2 1	2 4	2 8	3 1	3 6	+1 8%
American Indian	7	7	7	7	7	7	0 0%
Nonresident Alien	2 0	2 2	2 5	2 7	2 7	2 8	+ 8%
4 year Institutions	100 0	100 0	100 0	100 0	100 0	100 0	
White	84 4	83 7	82 9	82 5	81 9	81 0	3 4%
Total Minority	13 1	13 5	13 9	14 1	14 5	15 3	+2 2%
Black	8 5	8 5	8 4	8 0	8 0	7 9	6%
Hispanic	2 5	2 6	2 9	2 9	3 1	3 6	+1 1%
Asian	1 7	1 9	2 1	2 5	2 8	3 3	+1 6%
American Indian	5	5	5	5	5	5	0 0%
Nonresident Alien	2 5	2 8	3 2	3 5	3 7	3 7	+1 2%
2 year Institutions	100 0	100 0	100 0	100 0	100 0	100 0	
White	79 3	78 6	78 6	77 8	77 6	76 5	-2 8%
Total Minority	19 5	20 1	19 8	20 8	21 1	22 5	+3 0%
Black	11 0	11 0	10 4	10 3	10 1	10 0	1 0%
Hispanic	5 4	5 6	5 6	6 1	6 4	7 4	+2 0%
Asian	2 0	2 4	2 7	3 3	3 7	4 0	+2 0%
American Indian	1 1	1 1	1 0	1 0	1 0	1 1	0 0%
Nonresident Alien	1 1	1 3	1 4	1 3	1 2	1 1	0 0%

Source: U S Department of Education, National Center for Education Statistics, Digest of Education Statistics 1987, Table 97 (as reported in "Focus on Minorities Trends in Higher Education Participation and Success", a joint publication of ECS and SHEEO, July, 1987

1978 data source National Center for Education Statistics, "Fall Enrollment in Institutions of Higher Education," 1978, Digest of Education Statistics 1980 (as reported in "Focus on Minorities Trends and Issues in Higher Education Participation and Success", a joint publication of ECS and SHEEO, July, 1987

1986 data source U S Department of Education, National Center for Education Statistics, as reported in The Chronicle of Higher Education, Vol XXXIV, No 43, July 6, 1988

The data show that, overall, female students outnumber males and female students are more heavily represented among whites, blacks, and Hispanics. Significantly higher percentages of whites and nonresident aliens attend independent institutions than do other groups. Black enrollment in historically black colleges and universities (HBCUs) accounts for their relatively high percentage representation (20.9) in independent institutions.

The data also show that over 7.8 million students were enrolled in four-year institutions and over 4.6 million were enrolled in two-year institutions. In both types of institutions, the majority of students were white (81 percent and 76.5 percent in four- and two-year institutions, respectively). Almost 28 percent more whites attend four-year as opposed to two-year institutions (63.9 percent versus 36.1 percent, respectively).

Black and Asian-American enrollment is higher in four-year (56.9 and 58.5 percent, respectively) than in two-year institutions (43.1 and 41.5 percent) but both groups comprise few of the students enrolled in either type of institution. Blacks represent 7.9 percent of four-year institution students and 10 percent of students attending two-year institutions. Asian-Americans represent 3.3 percent of students attending four-year institutions and 4 percent of students in two-year institutions.

Hispanic and American Indian students are more heavily concentrated in the two-year institutions (55.3 and 56.6 percent, respectively) yet represent relatively few of the students attending either type institution. Hispanics represent 3.6 percent of the four-year student population and 7.4 percent of the two-year student population. American Indians comprise .5 percent of four-year students and 1.1 percent of two-year students.

Inspection of the data on enrollment levels (Undergraduate, Graduate, and Professional) reveals that minorities are underrepresented at all levels, and especially at the graduate and professional school levels. Minorities represented 25.2 percent of the traditional college-age population in 1985 (refer to Table 1 and Figure 4). However, minorities comprised only 17.9 percent of the 1986 total enrollment for all institutions and levels of higher education (Table 2A). Within levels, minorities comprise 18.9 percent of the undergraduates, 11.5 percent of graduate students, and 13 percent of students enrolled in professional schools (law, medicine, etc.).

Not only are minorities underrepresented at all levels of higher education, the various minority sub-groups (except for Asian-Americans) show significant decreases in representation in the transition from undergraduate to graduate and professional schools. Blacks represent 9.2 percent of the undergraduate enrollment, yet comprise only 5 percent and 5.2 percent of graduate and professional school students. Similar short-falls in representation in the transition from undergraduate to graduate and professional schools can be observed for Hispanics and American Indians. Hispanics represent 5.3 percent of undergraduates but only 3.2 and 3.3 percent of graduate and professional school students. American Indians represent .8 percent of undergraduates and .3 and .4 percent of graduate and professional school students.

Table 4A
1986 Enrollment by Racial/Ethnic Group in Institutions of Higher Education

Percentages of totals within categories — C - Column percent, R - Row percent

	White		American Indian		Black		Hispanic		Asian		Alien		Total (in thousands)
	C%	R%	C%	R%	C%	R%	C%	R%	C%	R%	C%	R%	
Public	77.2	78.7	87.8	0.8	79.1	8.8	86.4	5.5	83.0	3.8	65.7	2.3	9,721
Private	22.8	81.5	12.2	0.4	20.9	8.1	13.5	3.0	17.0	2.7	34.3	4.2	2,779
Men	46.9	78.9	44.4	0.7	40.3	7.4	46.8	5.0	53.3	4.1	67.4	3.9	5,885
Women	53.1	79.6	56.6	0.8	59.7	9.7	53.2	5.0	46.7	3.2	32.3	1.7	6,616
4-year	63.9	81.0	44.4	0.5	56.9	7.9	44.6	3.6	58.5	3.3	84.6	3.7	7,826
2-year	36.1	76.5	56.6	1.1	43.1	10.0	55.3	7.4	41.5	4.0	15.4	1.1	4,676
Undergraduate	86.3	79.2	93.3	0.8	92.0	9.2	91.2	5.3	87.9	3.6	59.3	1.9	10,789
Graduate	11.4	78.9	5.6	0.3	6.7	5.0	7.4	3.2	9.6	3.0	39.5	9.5	1,434
Professional	2.3	85.5	1.1	0.4	1.3	5.2	1.4	3.3	2.5	4.1	1.2	1.5	269
Total (in thousands)	9,914		90		1,081		624		448		344		12,501

Source U.S. Department of Education, National Center for Education Statistics, developed from data reported in The Chronicle of Higher Education, Vol. XXXIV, No. 43, July 6, 1988

Note Because of rounding, details may not always add to totals

A summarization of minority enrollment trends in higher education from 1976 to 1986 is presented in Table 5A. These data show a total enrollment increase of about 1.5 million from 1976 to 1986, representing a 13.8 percent increase. White student enrollment increased little (9.2 percent) compared to minority enrollment increases (32.6 percent). Most of the increase in minority enrollment is due to increases in Hispanic and Asian-American enrollments. Hispanic enrollment increased 62.5 percent and Asian-American enrollment, 126.3 percent. Black student enrollment showed only a 4.6 percent increase.

Table 5A
Total Enrollment by Race, Percent Change, 1976-1986

	Number (in thousands)				Percent Change
	1976	1980	1984	1986	1976-1986
White	9,076	9,833	9,767	9,914	+9 2
All Minority	1 691	1,949	2,063	2,243	+32 6
Black	1,033	1,107	1,070	1 081	+4 6
Hispanic	384	472	529	624	+62 5
Asian American	198	286	382	448	+126 3
American Indian	76	84	83	90	+18 4
Nonresident Alien	219	305	332	344	+57 1
Total	10,986	12,087	12,162	12,501	+13 8

Source U S Department of Education, Fall Enrollment Reports and U S Office for Civil Rights Compliance Reports

(as reported in "Focus on Minorities Trends and Issues in Higher Education Participation and Success", a joint publication of ECS and SHEEO, July, 1987)

1986 U S Department of Education, National Center for Education Statistics, as reported in The Chronicle of Higher Education, Vol XXXIV, No 43, July 6, 1988

Community College Transfers to Four-Year Institutions

In addition to providing students with two-year vocational or technical training programs, community colleges are also pipelines to four-year colleges and universities and the baccalaureate degree. Table 6A shows the percentage of 1980 high school graduates who transferred from two- to four-year institutions and those transferring from four- to two-year institutions. The total two- to four-year transfer rate was 28.8 percent. Blacks and Hispanics, however, had significantly lower transfer rates than other groups. The black transfer rate was 18.4 percent, and for Hispanics, 25.5 percent. The overall low rate of transfer may indicate that many minority two-year college enrollees are not seeking bachelor's or higher degrees.

The total transfer rate from four- to two-year institutions (reverse transfer) was 11 percent. This pattern is of special interest in considering the decline of minorities in graduate education because the movement is away from, rather than toward, graduate study. Although relatively few students transferred in this direction, of those who did, higher percentages are noted for blacks (11.7 percent) and Hispanics (12.1 percent).

This migration pattern represents another type of loss from the education "pipeline" that appears to affect minorities more severely than other groups and is a definite path away from graduate school. It is uncertain whether minorities actually prefer the quicker (and often terminal) Associate of Arts (AA) degree instead of higher degrees. However, data from the 1984 HEGIS survey (as reported by Brown, 1987) show that the fraction of black and Hispanic students (8.7 and 3.7 percent) earning AA degrees was higher than their peers earning bachelor's (5.8 and 2.8 percent), master's (4.9 and 2.4 percent), and doctoral (3.5 and 2.0 percent) degrees. This may, in part, be attributed to the higher standards typically required for admission to four-year institutions.

Other factors relating to the transfer function are (1) adequate high school preparation, (2) assessment and counseling by community colleges, (3) the availability of high-quality transfer courses, (4) clear information about transfer opportunities, requirements and procedures, and (5) close articulation of community college and university plans and programs (Mingle, 1987).

Table 6A
Percentage of 1980 High School Graduates Who Entered Two-year Community Colleges by October 1983 and Who Later Transferred to Four-year Institutions and Those Who Entered Four-year Institutions and Later Transferred to Two-year Institutions, by Race/Ethnicity.

Race/Ethnicity	2- to 4-year Transfers	4- to 2-year Transfers
White	30.4%	11.0%
Black	18.4%	11.7%
Hispanic	23.5%	12.1%
American Indian	30.2%	4.1%
Asian American	40.8%	9.1%
Total	28.8%	11.0%

Source NCES "Postsecondary Transitions Entry Persistence, Transfer Dropout and Completion for 1980 High School Graduates October 18, 1985

% Includes only those transferring from public 4 year institutions

Postgraduate Enrollment Trends

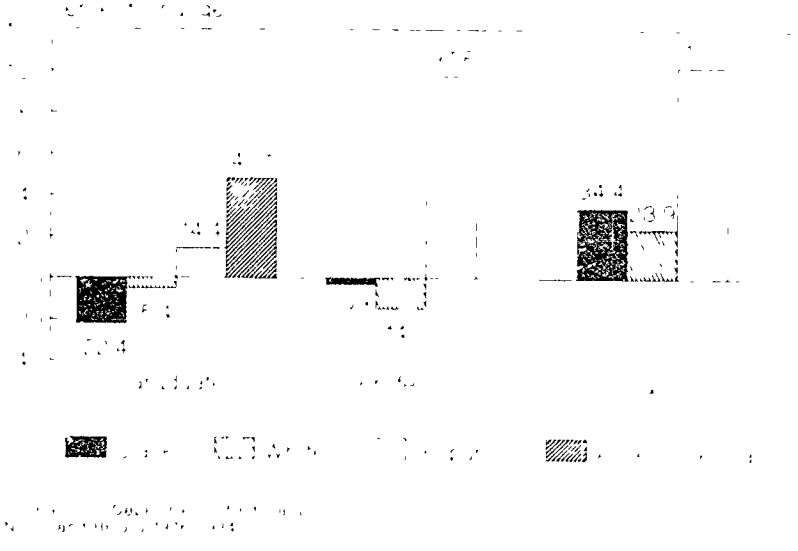
Figure 4A shows the changes in graduate and professional school enrollments by race/ethnicity for the years 1976-1984. Total graduate school enrollment (not shown) declined 1.4 percent for the period. Black enrollment showed the largest decline (-22.4 percent) while Hispanic and Asian-American enrollments showed substantial increases (up 14.4 and 48.1 percent, respectively).

White and black enrollments in most professional degree programs also declined (-14.7 and -3.1 percent, respectively) while Hispanic enrollment increased 97.8 percent. However, within the professional subcategory of Business, enrollments for whites, blacks, and Hispanics showed large increases. These enrollment trends suggest that whites, as well as many minorities, place a higher value on business school degrees and their purportedly greater worth in the labor marketplace than degrees from other, more traditional academic areas.

It has been estimated that up to 50 percent of undergraduates postpone or never enter graduate education, entering the workforce as soon as they leave college (Nettles, 1987). Some of the explanations offered are:

1. Debts already incurred—nearly half of all students rely on loans to finance the costs of a college education and the average student who takes out a loan emerges from a baccalaureate program $6,000 in debt;
2. The shift in student aid from grants to loans; and
3. In many fields of study, the monetary value of a graduate degree is not sufficient to immediately offset the additional educational expenses that would be incurred. Estimates place the average borrower debt for master's degree recipients at $9,000 and for doctoral degree recipients at $13,700 (Boyd and Martin, 1985).

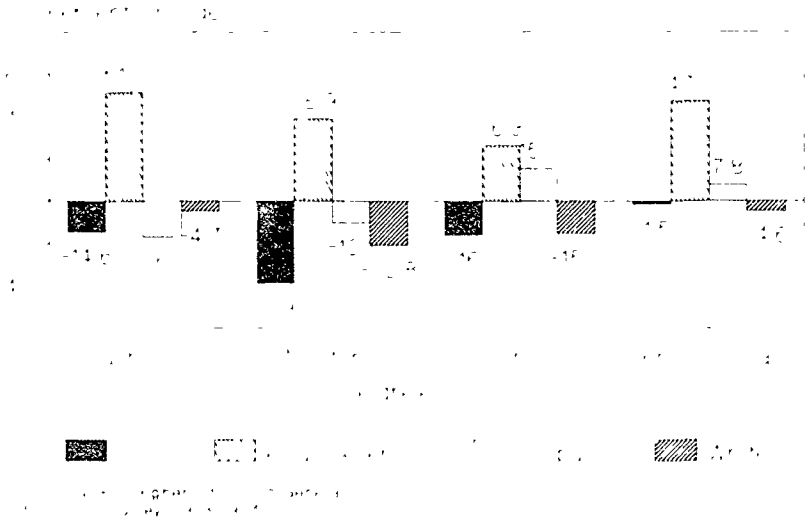
Figure 4A
Percent Change in Graduate and Professional School Enrollments by Race/Ethnicity: 1976-1984



Declines in minority graduate enrollment obviously result in decreases in the number of minorities receiving advanced degrees. Figure 5A summarizes the change in degrees earned by various minority groups from 1978-1984.

At all educational levels Asian-Americans show substantial increases in the number of earned degrees. Blacks, on the other hand, show substantial decreases, especially at the master's (-39 percent) and doctoral levels (-16 percent). Although fewer Hispanics received bachelor's and master's degrees (-16.7 and -10.1 percent) more received doctoral and first professional degrees (up 15.3 and 7.8 percent, respectively). At the baccalaureate and all graduate levels fewer whites received degrees in 1984 than in 1978, yet in 1984 whites still accounted for over 91 percent of all doctoral degree recipients However, noticeable declines for whites can be seen at the master's (-20.8 percent) and doctoral levels (-15.2 percent).

Figure 5A
Percent Change in Total Degrees Earned by Race/Ethnicity and Educational Level, 1978-1984



Existing research on the benefits of graduate education is scarce and focuses entirely on the economic value of a degree to the student. The value of a graduate degree varies significantly depending on the field and whether the student (especially minority students) feels that he or she can advance professionally and economically. Combining data from various sources, Nettles (1987) shows (1) that black full-time employees with five or more years of college earn nearly $7,000 less than their white counterparts; and (2) that in education, the humanities, and the social and behavioral sciences annual starting salaries for those with master's degrees are, on average, only about 13 percent higher than for those with bachelor's degrees. In the field of business administration, however, the master's degree yields a starting salary 40 percent higher than the bachelor's degree. This large salary differential probably accounts for much

of the significant enrollment increase in business schools shown in Figure 4A.

Suggested strategies (Blackwell, 1987; Brown, 1988) for expanding the pool of minorities for graduate education include:

1. Institutional commitments to the goal of increasing the number of minority graduate students;
2. Developing aggressive recruitment strategies for fostering matriculation into graduate programs;
3. Developing effective consortia between traditionally black and predominately white institutions to attract minority students into graduate programs;
4. Increasing the number of graduate fellowships and traineeships available to minority students; and
5. Increasing the number of minority faculty to serve as mentors and role models.

Recruitment and Retention in Four-Year Institutions

Even though high school graduation rates and college enrollment rates for minorities have continued to increase (refer to Figures 1A and 3A), minority group members are far less likely to have a college education than are whites. In 1986, 20.1 percent of whites over the age of 25 had completed four or more years of college compared to a rate of 10.9 percent for blacks and 8.4 percent for Hispanics.

Minority students continue to complete their undergraduate degrees at rates lower than whites. Blacks comprised about 9 percent of all undergraduate students in 1984-85 but received only 6 percent of the baccalaureate and 8 percent of the associate degrees conferred. Hispanics made up 4 percent of undergraduate enrollees and received 3 percent of the baccalaureate and 4.5 percent of the associate degrees. Whites, however, comprised 80 percent of undergraduate enrollment, yet received 85 percent of the baccalaureate degrees ("One-Third of a Nation," 1988).

Minority differences in degree achievement are directly related to attrition rates. Table 7A shows college entry and persistence rates for eight semesters for students in public four-year institutions. Although blacks have higher entry and persistence rates than Hispanics or American Indians, all three groups are disadvantaged by the small numbers entering the education pipeline after high school. Asian-Americans, by contrast, have higher entry and persistence rates than any group, including whites.

Major "fall-outs" occur after the second semester (average decrease of 19 percent) and after the fourth semester (average decrease of 22.6 percent). Persistence rates begin to stabilize from the fifth semester onward, with whites and Asian-Americans showing persistence rates much higher than for other groups.

Table 7A
Entry and Persistence Rates for 1980 High School Graduates Who Entered Public Four-year Colleges and Universities by February 1984 (Adjusted for Delayed E' try) by Race/Ethnic Group and Semester.

Race/Ethnicity	Entry Rate	Semesters Two	Three	Four	Five	Six	Seven	Eight
White	49 6	90 2	72 0	65 9	45 9	43 9	38 4	37 0
Black	53 4	82 3	65 7	60 4	38 8	36 9	32 4	32 7
Hispanic	41 8	87 4	63 9	54 7	33 3	32 7	27 7	27 0
Asian American	63 9	93 2	76 9	75 3	50 2	49 9	46 0	46 7
American Indian	41 6	83 3	62 9	54 5	29 7	29 7	28 6	29 7

Source National Center for Education Statistics, 'Postsecondary Transitions Entry, Persistence, Transfer, Droupout and Completion for 1980 High School Graduates" October 18 1985

Table 8A provides some information on factors that may be related to the attrition of underrepresented minorities. The data show that proportionally more black, Hispanic, and American-Indian students delayed entry, stopped out (i.e., dropped out and later returned to college), and dropped out of college than did white and Asian-American students. Black students have the highest stop out and dropout rates (16.5 and 30.8 percent, respectively), and Asian-Americans, the lowest (9.8 and 17.6 percent).

Table 8A
Percentage of 1980 High School Graduates Who Entered Postsecondary Institutions by February 1984, Who Delayed Entry, Stopped Out, or Dropped Out by Race/Ethnicity

Race/Ethnicity	Delayed Entry	Stopped Out*	Dropped Out**
Hispanic	31 9	14 2	28 3
American Indian	39 7	16 2	27 5
Black	32 3	16 5	30 8
Asian American	15 6	9 8	17 6
White	23 5	12 7	25 7
Total	25 3	13 0	26 1

Source:National Center for Education Statistics 'Postsecondary Transitions Entry Persistence, Transfer, Dropout, and Completion for 1980 High School Graduates ' October 18, 1985

*Stopouts are students who dropped out of college but returned by February 1984

**The dropout rate is based on enrollment in February 1984 adjusted for completions by February 1984 It is possible that dropouts are actually stopouts who may return to complete their education but had not done so by February 1984

A major barrier to minority degree achievement appears to be the inability of colleges and universities to attract and retain large numbers of non-Asian-American minorities. This is true even though many minority students beginning postsecondary education express more interest and plans for advanced study than do white students (Brown, 1987, reporting on a summary of data collected from GRE test takers from 1983-84).

Factors Affecting Minority Enrollment in Higher Education

The major factors identified in the literature that relate to the recruitment and retention of minority students in four-year institutions are concerned with (1) administrative commitment to the goal of increasing the minority presence (access), (2) types and availability of financial aid, (3) the presence of minority faculty to serve as role models, (4) campus "climate," and (5) the availability of institutional support services designed specifically for minority students.

Administrative Commitment

Between the period of the early 1970s and the mid-1980s, the focus at higher education institutions has shifted from one of increasing institutional access for minorities to one of increasing institutional "quality." Beginning in the early 1980s, this renewed concern for quality coincided with a reduction in minority enrollments, matriculation, and decreased public interest in the question of access (Birnbaum, 1987).

A recent survey of college presidents (College Presidents....., 1985) reported that 53 percent believed that maintaining academic quality was a critical issue at their institution, while only 2 percent believed it was not urgent. In contrast, only 28 percent of the presidents described the recruitment of minority students as extremely important, while almost as many (24 percent) said it was not urgent. The general perception is that quality and access are mutually exclusive and that a focus on one yields comparative neglect of the other (Seneca and Taussig, 1987; Hansen and Stampen, 1987). It is also generally perceived that increased access to higher education over the last two decades has resulted in a severe decline in academic quality.

In a study of 32 institutions of higher education Birnbaum (1987) found that institutions whose presidents had clearly articulated goals for increasing minority access tended to have much higher proportions of minority enrollments. Having college presidents with a strong commitment to educational equity is a crucial element for increasing minority participation in higher education. In the absence of such commitment, it will be difficult for institutions to mount and sustain the effort required to increase minority participation now, and in the future.

Financial Aid

Since 1970, more than $200 billion has been spent on student financial aid, and the total annual cost of all programs combined reached nearly $20 billion by the early 1980s. The key assumptions underlying this high level of investment are: (1) ability to pay influences student decisions to attend and persist in college; and (2) that

distributing aid on the basis of demonstrated financial need will increase the enrollment and persistence rates of low income students, especially members of ethnic minority groups (Stampen and Fenske, 1987). Unfortunately, few studies have directly examined the effects of student financial aid and fewer still have focused on the effects of aid on minorities.

An analysis of data compiled for the Commission on the Higher Education of Minorities (Astin, 1982) found that minority enrollment in higher education increased sharply after the initiation of the student aid programs. In terms of relative percentages of high school graduates, minority enrollment rates rose sharply following the War on Poverty initiatives: from a deficit of 20 percent below the white enrollment rate in 1966, to a surplus of 4 percent in 1974. Enrollment rates remained roughly at parity until 1978. In the late 1970s, minority enrollment rates fell to near the mid-1960s levels. This decrease roughly parallels a shift in focus of the purpose of student aid to help primarily low-income students in the latter half of the 1970s. Around 1975, eligibility requirements were restructured to allow more middle-income students to receive aid. Also, major shifts in proportions of grants versus loans occurred during the 1970s. In the early to mid-1970s, student aid in the form of grants accounted for approximately three-fourths of total aid awarded. After 1975, the pattern changed so that by 1983-84, grants and loans each accounted for 48 percent of total aid, while work-study programs accounted for the remaining 4 percent (Stampen and Fenske, 1987).

Despite changes in eligibility requirements and forms of student aid, minority enrollment continued to rise faster than white enrollment between 1976 and 1984. Also, even as late as 1981 and 1983, minorities accounted for approximately one-third of all need-based student aid recipients (Stampen, 1983, 1985).

Some authors (A. Astin, 1975; H. Astin and Cross, 1979) have argued that the shift in financial aid from grants to loans is a major factor accounting for lowered enrollment and persistence rates for minorities. While this argument has certain intuitive appeal, other research has found that minority groups differ in terms of commitment to enroll and obtain an academic degree (Henry, 1980; Murphy, 1981); that the persistence rates of aided and nonaided students are not significantly different, and that academic performance in high school is the single most powerful predictor of persistence (Stampen and Cabrera, 1986).

Also, the fact that Asian-American enrollments continued to increase despite declines in student financial aid could suggest that ethnicity is a more powerful determinant of enrollment and persistence than is the availability of financial aid. Asians typically enroll in four-year institutions, easily gain admission to the more restrictive mathematics and science majors, and pursue graduate education at higher rates.

Blacks, Hispanics, and American Indians mainly enroll in less competitive two-year institutions, and when enrolled in four-year institutions they typically select majors with less demanding entrance requirements—assumed to be related to lower levels of preparation in mathematics (Whiteley, 1986). These minority groups, in contrast to Asians, would appear to be more vulnerable to increases in academic entrance requirements and grading standards. Since college entrance requirements and grading practices did in fact tighten in the late 1970s and early 1980s, an alternative explanation for the net decline in minority enrollment is rising academic standards rather than declining financial aid (Stampen and Fenske, 1987).

It is very likely that both declines and shifts in financial aid as well as rising admission standards have combined to create even greater barriers to minority enrollment, especially for blacks. Black students, unlike Asian-Americans and most Hispanics, are more likely to be educationally, economically, and socially disadvantaged.

While income (or lack of it) is important to enrollment and persistence in higher education, equally important is prior academic achievement and the accompanying confidence in one's ability to perform satisfactorily in an academic setting. The primary factors relating to academic achievement are academic preparation in elementary and secondary schools.

Minority Faculty Role Models

The lack of sufficient numbers of minority faculty (especially black faculty) to serve as role models and "mentors" to minority students has been identified as another factor affecting minority college participation (Blackwell, 1987; Brown, 1987, 1988).

Between 1975 and 1985, there were gradual increases in minority PhD appointments to full-time faculty positions. Most of the increases were for Hispanic and Asian-Americans. Black appointments rose from 1.2 to 1.9 percent of the total. Hispanics rose from .7 to 1.7 percent, Asian-Americans increased from 2.6 to 3.8 percent, and white appointments decreased from 95.5 to 92.6 percent. These figures can be deceiving since, in actual numbers, there were 9 percent fewer black PhDs in 1985 than in 1975 (and 9.8 percent fewer in 1986 than in 1985). Actual increases in numbers of minority PhDs are due to increases by Hispanics and Asian-Americans. The number of black PhDs has declined steadily since 1977 and shows no sign of recovering. Consequently, fewer black PhDs will be available in the future to fill faculty positions.

Campus Climate

Campus or academic "climate" are terms used to refer to an array of factors associated with an institution's overall environment and student satisfaction with college. The few studies that have

examined campus climate have typically looked at differences in the perceptions of black students attending historically black colleges and universities and their peers at predominately white campuses.

Results of these studies (summarized by Allen, 1987) show that:

1. Black students on black campuses report higher grade point averages than their peers on white campuses;
2. Academic performance is related to student satisfaction with, and involvement in, campus life;
3. Black students on black campuses are much more satisfied with campus life than their peers on white campuses and perceive campus activities as being more representative of their interests; and
4. Black students are more favorable about their relations with white faculty and staff when these occurred in a predominately black, as opposed to white, environment.

Other studies (summarized by Crossen, 1987) that have examined environmental factors in relation to minority retention and degree achievement have found evidence of negative environmental influences: black students (especially on white campuses) have lower academic integration; they are more apt to perceive the university as discriminatory; they report less satisfaction with their university; and have more interfering problems and poorer study habits than white students.

Academic integration and study habit problems probably result from the poorer academic preparation of blacks at the secondary level. Perceptions of racial discrimination and a hostile campus environment could be related to the paucity of minority (especially black) faculty on most campuses. Also, anecdotal and news reports from some campuses indicate that little progress has been made in race relations. Racial and ethnic groups often go their separate ways, creating a climate that may reinforce racial stereotypes (Mingle, 1987).

It has also been suggested that the increased focus on academic "quality" has fostered less sensitivity on behalf of faculty to the needs and concerns of students with academic problems, including minority students, and has created a "wash-out" teaching philosophy (Allen, 1987).

While the faculty reward system at many institutions is often based on publishing in professional journals, securing external research funds, and active involvement in professional organizations, faculty should also be rewarded for their efforts toward developing a campus climate conducive to the social interaction and academic integration of minority students.

Institutional Support Services

An examination (Crossen, 1987) of ten public, predominately white colleges and universities that are successful in recruiting and matriculating large numbers of minority students found that these institutions typically offered an array of precollege and college programs designed to improve academic skills and increase motivation and educational aspirations.

Precollege or early outreach programs are targeted at junior and senior high school students. Junior high programs focus on minority role model presentations, information dissemination, providing visits to colleges and universities for students and their parents, and preliminary academic advising for adequate high school preparation. Senior high programs typically provide academic support in the form of tutoring and advising for students in college preparatory courses/programs.

Immediate outreach programs are designed to identify and recruit potential applicants from underrepresented groups and are targeted at high school seniors and community college students.

On-campus programs addressing college preparation and academic environment problems feature systems for diagnostic assessment and remediation, provide for immediate response to academic problems, use individualized approaches to address student needs/problems, and create academic environments that do not stigmatize students using special academic programs and services.

Other on-campus programs are designed to promote student involvement in campus life and typically involve methods of celebrating the diversity of the student body and attempt to involve the local community in campus activities. Social integration of minorities is enhanced by providing more opportunities to live on campus.

Faculty Recruitment and Retention Trends

A crucial element for the successful recruitment and retention of minority students (especially blacks and Hispanics) into graduate programs is the availability of minority faculty to serve as mentors and role models. Blackwell (1983) for example, found that the presence of black faculty is the most important factor in determining whether black students earn degrees from predominately white graduate and professional schools. Since predominately white graduate schools produce virtually all minority PhDs, the presence of minority (especially black) faculty at these institutions is necessary to the future success of attracting minority students.

An earned doctorate is required of candidates for almost all faculty positions in four-year colleges and universities. Between 1975 and 1985 the total number of doctorates awarded in the U.S. declined from 25,976 to 22,717, a decrease of 12.5 percent (Table 9A). Both whites and blacks received fewer doctorates in 1986 than in 1975

(-16 percent and -18 percent, respectively) but the decrease in black doctoral recipients poses greater problems for attempts to increase black faculty representation. Hispanics and Asian Americans are receiving significantly more doctorates than in the past (up 87 and 84 percent, respectively from 1975) but their rate of increase appears to be slowing.

Table 9A
Race/Ethnicity of Doctorate Recipients
U.S. Citizens*, 1975-1986

Year of Doctorate	Black	Hispanic	Asian American	American Indian	White	Total**
			Number of PhDs			
1975	999	303	286	26	24,352	25,976
1976	1,095	340	344	52	24,373	26,182
1977	1,116	423	339	75	23,065	25,008
1978	1,033	473	390	71	21,811	23,767
1979	1,056	462	428	72	21,920	23,947
1980	1,032	412	458	95	21,993	23,970
1981	1,013	464	465	96	21,979	24,006
1982	1,047	535	452	71	21,674	23,785
1983	921	538	492	71	21,673	23,704
1984	953	535	512	70	21,321	23,394
1985	909	559	515	68	20,641	22,717
1986	820	567	527	N/R	20,538	N/R
			Percent of PhDs			
1975	3 8	1 2	1 1	0 1	93 7	
1976	4 2	1 3	1 3	0 2	93 1	
1977	4 5	1 7	1 4	0 3	92 2	
1978	4 3	2 0	1 6	0 3	91 8	
1979	4 4	1 9	1 8	0 3	91 5	
1980	4 3	1 7	1 9	0 4	91 8	
1981	4 2	1 9	1 9	0 4	91 6	
1982	4 4	2 2	1 9	0 3	91 1	
1983	3 9	2 3	2 1	0 3	91 4	
1984	4 1	2 3	2 2	0 3	91 1	
1985	4 0	2 5	2 3	0 4	90 9	
1986	3 6	2 5	2 3	N/R	89 4	

Source: National Research Council, Office of Scientific and Engineering Personnel Survey of Earned Doctorates, 1975-1986

*Excludes other races and those not reporting race/ethnic status

**Total for all U S citizens receiving doctorates from U S universities

Even though black faculty appointments rose from 1.2 to 1.9 percent of the total for all institutions between 1975 and 1985, their representation as faculty at four-year institutions is declining. Between 1977 and 1983, black full-time faculty positions decreased from 19,674 to 18,827, and the decline occurred in both public (-6.2 percent) and private (-11.3 percent) institutions. In 1983, full-time black faculty representation in white institutions was only 2.3 percent and their participation is declining in most states (Brown, 1988).

During the same time period (1977-1983), Hispanic full-time faculty increased at the rate of 26 percent (from 6,605 to 8,311), and Asian-American full-time faculty increased by 38 percent (from

11,917 to 16,398). Thus minority faculty representation is variable, with some groups increasing their share of faculty positions while black faculty are losing ground.

The significant underrepresentation of blacks in academe is attributed to several factors (Brown, 1988). First, to a real and relative decline in the black doctorate pool. Second, although there is a positive shift towards more PhDs taking postdoctoral study (a pipeline to faculty appointments), less than 11 percent of blacks take such appointments while the rates for Asian-Americans are over 47 percent, and for Hispanics, 19 percent.

A third reason is that, compared to earlier cohorts, new minority PhDs (especially blacks and Hispanics) are more likely to choose careers in business, industry, and government service due to more attractive career options, better salaries (averaging 21 percent higher than in academe), and the inability to find jobs in their particular field.

Perhaps the most important factor underlying the dearth of black faculty is that longitudinal studies of minority faculty revealed that blacks had the lowest promotion and tenure rates among minority groups, and, except for promotions to associate professor rank, their rates were consistently below the national average. Asian-Americans had the highest promotion and tenure rates, and both Asian-Americans and Hispanics had promotion and tenure rates above the national average.

The fact that black PhDs tend to be concentrated in the social sciences and in education also limits their marketability in academe. In 198[illegible]r 71 percent of the doctorates awarded to blacks were in education or the social sciences. In 1975, the comparable figure was 76 percent. Hispanics, and especially Asian-Americans, are better represented across all academic disciplines thus providing for a wider range of career opportunities in academic settings.

Several types of interventions have been suggested for increasing the number of black faculty (Blackwell, 1987; Brown, 1988):

1. The development of state and institutional policies toward the goal of increasing the number of minority faculty;

2. Developing early identification programs to facilitate increased production for faculty positions;

3. Increasing the number of postdoctoral fellowships to help in identifying those with faculty potential;

4. Providing the resources necessary to have black candidates expand their career choices to include the fields of science and technology where they are seriously underrepresented; and

5. Developing institutional initiatives by colleges and universities to retain black faculty through the processes of promotion and tenure.

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