

DOCUMENT RESUME

ED 234 656

HE 016 551

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 TITLE Race and Sex Differences in Degree Attainment and Major Field Distributions from 1975-76 to 1980-81.
 INSTITUTION Johns Hopkins Univ.; Baltimore, Md. Center for Social Organization of Schools.
 SPONS AGENCY National Inst. of Education (ED), Washington, DC.
 REPORT NO JHU-CSOS-339
 PUB DATE Jun 83
 GRANT NIE-G-83-0002
 NOTE 37p.
 PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
 DESCRIPTORS Access to Education; *Bachelors Degrees; *Black Colleges; Black Students; *Equal Education; Females; Higher Education; Hispanic Americans; *Majors (Students); Males; Minority Groups; National Surveys; *Racial Differences; *Sex Differences; White Students

ABSTRACT Bacalaureate degree attainment for Blacks, Hispanics, and Whites for 1975-1976 and 1980-1981 are compared by major field and sex, based on data from the Higher Education General Information Survey (HEGIS). Attention is directed to degree distributions overall, by major field, and for blacks graduating from predominantly black and from predominantly white institutions. Findings include the following: the nonwhite or minority share of all bachelor degrees increased only slightly--by about one percent from 1975-1976 to 1980-1981; females have made considerable gains in their share of bachelor degrees during this period; the male share of bachelor degrees declined by 4.4 percent, and predominantly black institutions continue to play a very substantial role in the production of black bacalaureate degree holders. Comparisons are made using two bases of parity--the college-age cohort or population base and the availability pool of minorities entering college. It is concluded that equity in degree attainment was not much closer in 1980-1981 than 1975-1976 for minorities, despite the progress of females during this period. It is suggested that strategies to encourage women's and minorities' interest in science and math should be initiated early in their school careers. (SW)

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REPORT NUMBER 339

JUNE 1983

RACE AND SEX DIFFERENCES IN DEGREE ATTAINMENT AND
MAJOR FIELD DISTRIBUTIONS FROM 1975-76 TO 1980-81

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Report No. 339

June 1983

Published by the Center for Social Organization of Schools, supported in part as a research and development center by funds from the National Institute of Education, U.S. Department of Education. The opinions expressed in this publication do not necessarily reflect the position or policy of the National Institute of Education, and no official endorsement by the Institute should be inferred.

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The Center

The Center for Social Organization of Schools has two primary objectives: to develop a scientific knowledge of how schools affect their students, and to use this knowledge to develop better school practices and organization.

The Center works through three research programs to achieve its objectives. The School Organization Program investigates how school and classroom organization affects student learning and other outcomes. Current studies focus on parental involvement, microcomputers, use of time in schools, cooperative learning, and other organizational factors. The Education and Work Program examines the relationship between schooling and students' later-life occupational and educational success. Current projects include studies of the competencies required in the workplace, the sources of training and experience that lead to employment, college students' major field choices, and employment of urban minority youth. The Delinquency and School Environments Program researches the problem of crime, violence, vandalism, and disorder in schools and the role that schools play in delinquency. Ongoing studies address the need to develop a strong theory of delinquent behavior while examining school effects on delinquency and evaluating delinquency prevention programs in and outside of schools.

The Center also supports a Fellowships in Education Research program that provides opportunities for talented young researchers to conduct and publish significant research and encourages the participation of women and minorities in research on education.

This report, prepared by the Education and Work Program, compares the number and percent of bachelor degrees awarded in 1975-76 to those awarded in 1980-81 to assess progress in achieving race and sex equity.

Abstract

Higher education continues to grow in importance as a credential for mobility. Post-industrial society is marked by advancing technology and ever increasing skills requirements for employment, the training and preparation for which have historically been inequitably distributed. This paper examines 1975-76 and 1980-81 baccalaureate degree attainment for blacks, Hispanics and whites, both male and female, by major field using data collected in the Higher Education General Information Surveys of Degrees Conferred for those years. Degree distributions overall, by major field and for blacks graduating from predominantly black and predominantly white institutions, are compared in order to assess conditions of race and sex equity. The results show that black-white parity in degree attainment remains a distant goal, that male-female parity in degree attainment is notably closer in 1980-81 than five years earlier, that male degree distributions are more similar to one another than they are to their same-race female counterparts, and that predominantly black institutions continue to play a very substantial role in the production of black baccalaureate degree holders. In addition to these general findings, the results show other specific race and sex group patterns.

Introduction

Higher education continues to be a major avenue to greater economic rewards and social mobility in the United States. For some time scholars have recognized the linkage between technological advance in societies and greater levels of educational attainment (Lenski, 1966; Wanner and Lewis, 1982). It has long been felt, and recently demonstrated, that increased educational attainment would lead to the narrowing of the gap in black-white occupational and economic attainment (Freeman, 1976), as well as gains in political resources (Commission on the Higher Education of Minorities, 1982).

Although research identifies important gains by blacks and other minorities in educational and in economic areas (Freeman, 1978), many problems remain. More blacks are completing college but the continuation rates for blacks still fall far short of comparable rates for whites (Trent, McPartland, and Thomas, 1982; Astin, 1982). Moreover, blacks and other minorities enter two-year and junior colleges at considerably higher rates than do whites, and obtaining a bachelor's degree having begun college in a two-year school is more difficult for minorities than whites. The Commission on the Higher Education of Minorities Report (1982) summarizes these transition point losses along the educational pipeline, and it concludes that minorities fall progressively behind whites at each stage of education through graduate studies.

Finally, occupational and economic rewards are not simply a matter of years of schooling, but also depend upon the major fields that students pursue, as the economic returns to education differ by major field (Thomas, 1980). This is especially clear for women, who more often obtain degrees in fields that males avoid. In order, then, to begin to close the occupational and earnings

gap, one strategy is for blacks, other minorities, and women to make gains in key non-traditional (e.g., engineering) fields for minorities and women. The Commission on the Higher Education of Minorities presented recommendations to this effect in 1982, and called for research on major field persistence for women and racial and ethnic minorities.

This paper examines the bachelor degree attainment of minorities and women in 1975-76 compared to 1980-81 and identifies the progress toward equity these data suggest. Specifically we focus on three issues: (1) what are the trends in degree attainment by race and sex group and how is the attainment gap changing? (2) what are the trends in major field degree attainments by race and sex group and how similar are minorities and whites and males and females in major field distributions? and, (3) what are the differences between predominantly black and predominantly white colleges in granting degrees to Blacks?

Answering these three questions will inform the critical policy debate about progress toward equity in attainment for minorities and women. It is particularly important to assess the changes between 1975-76 and 1980-81, as this five-year period includes dramatic shifts in economic trends, public sentiments, and political actions that greatly influence the condition of higher education for minorities and women.

Data and Methods

Every two years, the Higher Education General Information Survey (HEGIS) reports degrees conferred by all colleges in the U.S. in each major field for all race and sex groups. The HEGIS files also contain data on institutional

characteristics, including the predominant race of the student body, the region the college is located in, the type of control (public or private), and level (2-year, 4-year, graduate). This paper reports tabulations of data for 1975-76 (the first year for which data are available) and for 1980-81 (the most recent year for which data are available).

We first present general comparisons of degrees awarded by race and sex. Then we make comparisons using two bases of parity (the college age cohort and the availability pool). We then examine differences in major fields, followed by differences for predominantly white and predominantly black colleges.

Results

Table 1 presents the overall summary by race and sex for degrees awarded in 1975-76 and 1980-81. Two major trends are apparent. First, the non-white or minority share of all bachelor degrees increased only slightly--by about one percent--from 1975-76 to 1980-81. Second, females have made considerable gains in their share of bachelor degrees from 1975-76 to 1980-81. The overall patterns and specific patterns for blacks, whites and Hispanics are briefly described below.

Table 1 About Here

Compared to 1975-76, total bachelor degrees awarded in 1980-81 show an increase of one percent. The male bachelor degree count decreased by 6.5% of the 1975-76 count, consistent with a four-year decline in male enrollment up through 1978 (NCES, 1981). The male share of total bachelor degrees declined by 4.4%.

Compared to 1975-76, the black share of total degrees in 1980-81 increased by just two-tenths of one percent, as the black degree count increased by 2,420 degrees. Black male bachelor degrees dropped by a count of 790, a decrease of three percent. The black male share of all male bachelor degrees increased slightly, due mainly to the greater degree drop for white males. The black male share of all black bachelor degrees decreased from 43.4 % to 40.4%. Black females, in contrast, increased their degree count by 3210, a ten percent improvement over their 1975-76 total.

Table 1 shows that the Hispanic bachelor degree count for 1980-81 increased by about 4000 degrees over their 1975-76 totals, a 22% increase, but the Hispanic share of all 1980-81 degrees remained constant relative to 1975-76. For Hispanics, both male and female bachelor degree counts increased--696 for males (a 7% increase over 1975-76) and 3,302 for females, (a 43% increase over 1975-76.). The Hispanic male share of total Hispanic bachelor degrees decreased from 57% to 50%.

Compared to 1975-76, the white share of all bachelor degrees in 1980-81 decreased by 1.4% as the white degree count decreased by 1,366. In 1980-81, whites received .2 percent fewer bachelor degrees than did whites in 1975-76. The white male bachelor degree count decreased by 35,006 (eight percent of the 1975-76 total), a somewhat greater decrease than the comparable change for black males. The degree count for white females increased by 33,640 (9.3% of the 1975-76 white female bachelor degree total). The white female share of the white degree total increased from 44% to 48%.

These specific patterns are interesting but require a consistent base for comparison if we are to assess progress. Assessing equity in attainment

depends fundamentally on parity between minorities and whites or representation equal to some base at all levels of education. Census Bureau Current Population Reports, Series P-20, have been used to develop two separate measures of parity. The first measure uses a population age cohort--the number of persons in the population of college age (18 to 24) by race and sex who could be bachelor degree recipients. This cohort base was identified for 1974 and for 1979, the years immediately preceding the awarding of degrees. (See Appendix A; Table 1.) Using this base, parity is defined as a percentage of bachelor degrees awarded to blacks that equals the percentage of blacks in the college-age population.

The second measure is of the availability pool, those persons ages 14 to 24 who had completed four years of high school by March 1972 and March 1977 respectively and would therefore be eligible for college graduation in 1975-76 and 1980-81. (See Appendix A; Table 2.) Using this base, parity is defined as a percentage of bachelor degrees awarded to blacks that equals the percentage of college-age blacks that have the prerequisite credentials--that is, blacks who have graduated from high school.

The cohort base and the availability pool are not available for Hispanics because they are not identified as a separate racial group in the census.

The debate over the appropriateness of either measure hinges on the fact that minorities continue to graduate from high school at a somewhat lower rate than whites (ISEP, 1981). Thus the availability pool base has a built-in racial difference which, if ignored, would argue for parity on a smaller proportion of minorities and could lead to an overstatement of progress toward parity. We present the data for both measures in Table 2 and assess the differences in their implications.

Table 2 About Here

Table 2 shows that blacks fail to approach parity on either measure, and this is especially clear for black males. However, black females have made gains toward parity between the earlier and later time points.

Overall, the black college-age cohort was 12.1 percent in 1974 and 12.6 percent in 1979, but blacks received only 6.5 percent of bachelor degrees awarded in 1975-76 and 6.7 percent in 1980-81. Actually, the difference between the college-age cohort percentage and the degree attainment percentage widened during the five year period. The increase in the black cohort representation (.126 - .121 or .005) was greater than the increase in degree attainment (.067 - .065 or .002), a net decrease in progress toward parity of representation in degree attainment.

By contrast, the black proportion of the availability pool was 10.9 percent in 1974 and 11.0 percent in 1979, thus the increase in the availability pool (.001) was less than the increase in degree attainment (.002), indicating that a slightly larger percentage of those blacks who completed high school in 1977 also completed college in 1980-81, compared to their 1972 and 1975-76 counterparts.

Blacks are a demographically younger population than whites, with high concentrations in this age range. Although the black-white gap in high school completion rates has closed considerably, it continues to be large, and ten percent fewer blacks who graduate enroll in college compared to whites who graduate (Mare, 1979). But completion of high school is a prerequisite creden-

tial for college entry, and until that gap closes or in fact until blacks graduate from high school and college at a greater rate than whites, there can be little progress in closing the total population parity gap.

In addition to between-race differences there are also within-sex differences. Among males, the parity issue is most severe for blacks. Although black males increased as a percentage of both bases (by .002 and .005, respectively), they decreased as a proportion of degree recipients (by .001) over the five-year period. White males also increased somewhat as a proportion of either base and also declined as a percentage of degree recipients. However, unlike black males, white males continue to receive a larger share of all degrees than either their population or availability pool proportions would predict.

Table 2 shows that females, however, are progressing toward parity. Females constitute more than half of both the population age cohort and the availability pool and, over the five-year period covered by these data, have narrowed the gap between these base proportions and their degree shares. In 1974 females were fifty-two percent of the 14 to 24 age cohort and received forty-five percent of the degrees awarded from July 1975 to June 1976. By 1979 females were one-half percent fewer of the 14 to 24 age group but received a 4.3% greater share of degrees awarded in 1980-81 (49.6% of all degrees). The availability pool comparison shows even greater increases in bachelor degree attainment for females.

In summary, the comparisons shown in Table 2 reveal that the trends shown in Table 1 are somewhat misleading for blacks in general but are consistent for females. Blacks lag considerably in achieving parity, regardless of the

comparison base used, although the black degree count has increased. Women, however, across race, have come closer to attaining parity, although a gap remains.

Our second question focuses on race and sex similarities in major field distributions. Table 3 presents the 1975-76 and 1980-81 distributions by race, sex and major field.

 Table 3 About Here

In general, males continue to dominate the sciences and technical fields-- business and engineering, for example--while females continue to show an advantage in education and the health professions. Second, minorities and women show shifts out of social sciences and education into more math and science related fields. The general patterns of shifts show some small increase in comparability across the race and sex groups but the concentrations in specific major fields are more informative. Table 4 compares the participation of white and minority males and females in 1975-76 and 1980-81 in the major fields that ranked highest for white male degree recipients in 1975-1976.

 Table 4 About Here

The five fields listed in Table 4 accounted for over sixty percent of the bachelor degrees received by all males in 1975-76 and 1980-81. For females, however, only black females received more than fifty percent of their degrees in these same fields in either year, which clearly shows the sex differences in major field concentrations. The specific race and sex group comparisons show other important differences.

Focusing first on white males and minority males, black male rankings are similar to white male rankings except that biological sciences was their sixth- and ninth-ranked degree field in 1975-76 and 1980-81 respectively. For Hispanic and white males, the same degree fields constitute the top five but the relative ranks are different. For 1975-76, education and engineering ranked third and fourth for Hispanic males while the ranks were reversed for white males. In 1980-81 social science and engineering were second and third for Hispanic males and the reverse was true for white males. Moreover, the Hispanic male distribution in percentages is more similar to that of white males than is the distribution of black males, especially in engineering, education and biology. Thus, both the ordering and the levels within major fields are more comparable for white and Hispanic males in contrast to black males. This underscores the importance of not treating minorities as a homogeneous group but rather recognizing potentially important race-ethnic patterns.

Table 4 also shows that males, irrespective of race/ethnicity, have more similar distributions to one another than they do to their same-race female counterparts. In neither year were more than three of the top five degree fields for males also within the top five degree fields for any female group. Most importantly, neither engineering nor the biological sciences were within the top five for females, and engineering did not rank among the top ten for any females in either year.

Engineering and education show both the male and female advantages and minority and women shifts. From 1975 to 1980, all males increased the percentage of their degrees in engineering. So too did females, and at much greater

rates. Yet there are still gaps (as great as ten to one) favoring males. For education, all groups reduced their share of degrees, but females still have at least a two to one advantage overall, although there are within-race ratios that are lower.

Major field distributions then, show two kinds of change. Minorities are becoming more similar to whites in their degree distributions and women are showing some movement from traditionally female degree areas toward more technical fields. In each instance, however, progress has been slow. Certainly some of the shifts are market induced, but we cannot ascertain with these data to what extent shifts out of the fields of education and the social sciences reflect changes in discriminatory practices, in sex stereotyping, or in the availability of work in those fields.

The third issue this paper addresses is the predominant race of the student body at colleges from which blacks receive their degrees. There are three points to be examined here: 1) the relative black degree productivity of predominantly black (PBC) and predominantly white colleges (PWC); 2) the distribution of bachelor degrees from predominantly black and white institutions, and 3) field degree distribution for predominantly black and predominantly white colleges. For the following analyses, the predominant race of the student body is only reported for those that are black (PBC's) and those that are white (PWC's). The analysis uses the 1980-81 institutional report of the predominant race of the student body for both the 1980-81 and the 1975-76 degrees conferred in order to maintain consistency across the two timepoints. Tables 5 and 6 give these results.

Tables 5 & 6 About Here

Table 5 shows the major field degree distributions within predominantly black and white colleges for the South and the nation for 1975-76 and 1980-81. Consistent with other reports, blacks are obtaining an increasing share of their degrees from predominantly white institutions both in the South and for the nation as a whole. The change for the South shows a 9% increase in black bachelor degrees awarded by PWC's from 1975-76 to 1980-81 (32.1 to 41.2). For the nation as a whole, the change was an increase of about 6.5% (59.8 to 66.3). This shift however, is not all progress. In the South, the degree count for PBC's decreased by 2,349 while the degree count for PWC's increased by 3,081, giving a net gain in degrees awarded to blacks of just 742. A similar pattern holds for the nation--black bachelor degree awarded by PBC's declined by 3,010 while the increase at PWC's over this period was 5,272, yielding a net increase over the five-year period of just 2,262 degrees. Thus, most of the increase in black degree attainment from PWC's represents a shift of black graduates from PBC's to PWC's rather than new black graduates. This may be especially discouraging news for the South, where Adams states are charged with increasing black degree attainment and enhancing traditionally black institutions, most of which are located in the South.

The major field distributions within PBC's and PWC's are similar for the nation and for the South, as are the changes from 1975-76 to 1980-81. The shifts in major fields reflect our earlier discussion. Of special note, however, are the degree shifts in education and engineering. The decline in education is greater in PBC's than in PWC's, but education degrees continue to be a greater share of earned degrees from PBC's than PWC's. Conversely, the increase in engineering degrees is greater for PWC's, but engineering degrees are also a greater share of degrees awarded by PBC's than they are at PWC's.

These patterns hold also for the South and the nation. No firm conclusions can be drawn here because these are institutional counts, but the pattern suggests that shifting out of education and the social sciences into more technical fields is less difficult at PBC's than at PWC's.

Table 6 addresses a different degree productivity question. Here the issue is the extent to which PBC's and PWC's are under- or over- represented in certain fields given the overall percentage of degrees awarded by each. For these HEGIS data, PBC's comprise about 9% of the nation's bachelor-degree granting schools, but these institutions account for more than 30% of all bachelor degrees awarded to blacks. Table 6 shows the extent of representation of PBC's and PWC's for each major and shows the changes over the recent five years for the South and the nation.

The first six columns of Table 6 show the within-field distributions for the South in 1975-76 and 1980-81. In 1975-76, PBC's awarded about 68% of all degrees to blacks graduating from southern institutions. At that time southern PBC's awarded more than 70% of the bachelor's degrees received in agriculture, biology, business, education, computer science, engineering and math. By 1980-81 southern PBC's accounted for 59% of bachelor degrees awarded to blacks graduating from southern institutions but accounted for 66% of the southern bachelor's degrees in biology, 62% in business, 65% in computer science, 63% in education, 71% in math and 67% in the social sciences. Thus, the PBC's in the South were granting a smaller share of the bachelor degrees to black graduates in 1980-81, but were somewhat more likely to grant bachelor degrees to blacks in selected fields.

The next six columns give the comparable figures for the nation in 1975-76 and 1980-81. PBC's accounted for about 40% all bachelor degrees awarded to blacks nationally in 1975-76 but granted more than 40% of the degrees in the above named fields. Biology (48%), business (50%), education (55%), and math (50%) stand out the most. By 1980-81, when PBC's accounted for 34% of the degrees awarded to blacks, biology (41%), math (52%), and physical sciences (41%) continued to be fields where PBC's produced more black bachelors' degrees than their share of all degrees might predict.

These distributions reflect student choices and institutional offerings, as well as student and institutional characteristics that influence attainment. But they also represent access and retention. These data cannot address the relative contribution of each of these factors to the within-field distributions but clearly, in certain technical and science-related fields, PBC's produce a greater share of black bachelors degrees than their share of all degrees would predict. Of equal importance, the change over five years, in biology and math for example, indicates an increasing share of these degrees from PBC's.

Conclusion and Discussion

Three conclusions can be drawn from these results. First, these analyses show that simple summary reports of progress in higher education can generate misleading interpretations when race/ethnicity and sex differences are not considered. Blacks, for example, show small increments in degree attainment overall, but black males have decreased in their share of all degrees, decreased their progress toward parity using the population age cohort and, like all other males, receive a smaller share of within-race degrees now com-

pared to five years earlier. Blacks as a group are, thanks to black female increments, showing small advances in parity irrespective of the base chosen, but the gap is still very large.

Females do show notable progress toward parity and hence more equitable degree attainment. For females the actual counts and relative shares of degrees improved while their population age cohort and availability pool proportions decreased, producing noticeable gains. Here again, however, black and white females differ. Although white females have nearly attained degree parity with respect to either their population or availability pool proportions for total degrees, black females have not. Moreover, when black and white females are compared for these same rates only among females, white females exceed parity in degree attainment for either base but black females continue to show a large, only slightly decreasing gap.

It should be noted also that the debate over which base is appropriate may not be an either-or question. The goal is to achieve parity with respect to the population base, but progress toward that achievement may best be gauged by the rate of improvement in available blacks and other minorities entering and completing college.

These patterns of race and sex differences may have very different policy implications requiring different strategies for intervention. It is unfortunate that Hispanics are not uniquely identified by race in the census data, as this further comparison may show even more complexities. Nonetheless, these results show that equity in degree attainment is not much closer now than five years ago for minorities and that despite the progress of females during this period, closing such gaps is very slow.

The second conclusion to be drawn from these data is that degree attainment in certain fields continues to show race and sex differences but somewhat greater progress is being made. There is more similarity in degree distributions among males, although black males differ slightly from both white and Hispanic males, whose distributions are more similar.

Females have made notable transitions out of education and the social sciences into more technical fields. However, females are still disproportionately active in education and still only minimally involved in engineering. Although economic/market conditions may continue to support the movement of females out of education and their movement into engineering, these conditions may not be sufficient to make the progress that is needed. Early intervention strategies that encourage and support womens' and minorities' interest in science and math subjects very early in their school careers could be initiated or enhanced to help these trends continue and to achieve equity at a faster rate.

Finally, predominantly black colleges continue to be a primary source of degrees for blacks and in some major fields they produce more graduates than would be expected. While the number of bachelor degrees earned by blacks from predominantly white colleges is continuing to increase, a substantial amount of that increase is due to a shifting of black students from predominantly black to predominantly white colleges. This produces a smaller net gain in black degree attainment than would occur if the number of black degrees from predominantly black colleges remained constant or increased. For this reason, the increase in black bachelor degrees from predominantly white colleges must be cautiously interpreted. Particular attention should be paid to changes in

degrees earned from such colleges in the science and technical fields, where black access and retention has traditionally been more difficult to achieve.

The complexities of race and sex differences in degree attainment and major field distributions, the differentially important comparison bases, and the dynamics of access and retention on racially different campuses virtually eliminate simple solutions to the issue of race and sex equity in higher education attainment. These descriptive data mainly underscore what remains to be done in closing race and sex gaps and identify where important differences exist. Additional research has to examine what conditions, individual and institutional, perpetuate or close these gaps and then offer corrective insights,

References

- Astin, Alexander W. Minorities in American Higher Education. San Francisco: Jossey-Bass, Inc., 1982.
- Freeman, Richard B. "Black Economic Progress Since 1964" The Public Interest, 1978. Vol. No. , pp. 52-68.
- Freeman, Richard G. Black Elite: The New Labor Market for Highly Qualified Black Americans New York: McGraw Hill, 1977.
- Higher Education Research Institute, Inc. "Final Report of the Commission on the Higher Education of Minorities". San Francisco: Jossey-Bass, Inc., 1982.
- Institute for the Study of Educational Policy. "Equal Educational Opportunity Scoreboard: The Status of Black Americans in Higher Education 1970-1979". Washington: Howard University, 1981.
- Lenski, Gerhard. Power and Privilege. New York: McGraw-Hill, 1966.
- Mare, Robert D., "Trends in School". The Annals: America Enters the Eighties: Some Social Indicators, January 1981.
- National Center for Education Statistics "Fall Enrollment in Colleges and Universities 1980" U.S. Department of Education, Washington, D.C., 1982.
- Thomas, Gail E., Samuel A. Gordon, and Charles H. Baldwin, "Evaluating the Payoffs of College Investments for Black, White, and Hispanic Students" Center for Social Organization of Schools, The Johns Hopkins University, Baltimore, Md., December 1982.
- Trent, William T., Gail E. Thomas and James M. McPartland, "National and Regional Trends in Black and White College Enrollment and Desegregation." Paper presented at the 1982 meetings of the American Educational Research Association held in New York, March 1982.
- U.S. Bureau of the Census Current Population Reports: Series P-20, No. 360 "School Enrollment-Social and Economic Characteristics of Students: October 1979, U.S. Government Printing Office, Washington, D.C., 1981.

U.S. Bureau of the Census, Current Population Reports, Series P-20, No. 314, "Educational Attainment - March 1977 and 1976," U.S. Government Printing Office, Washington, D.C., 1977.

U.S. Bureau of the Census Current Population Reports: Series P-20, No. 286 "School Enrollment-Social and Economic Characteristics of Students: October 1974, U.S. Government Printing Office, Washington, D.C. 1981.

U.S. Bureau of the Census, Current Population Reports, Series P-20, No. 243, "Educational Attainment - March 1972, U.S. Government Printing Office, Washington, D.C. 1973.

U.S. Bureau of the Census, Current Population Reports, Series P-20, No. 250, "Persons of Spanish Origin in the United States: March 1972 and 1971," U.S. Government Printing Office, Washington, D.C., 1973.

U.S. Commission on Civil Rights "Social Indicators of Equality for Minorities and Women" Washington: U.S. Commission on Civil Rights, 1978.

Wanner, Richard A. and Lionel S. Lewis, "Trends in Education and Earnings, 1950-1970: A Structural Analysis." Social Forces, Vol. 61:2, Dec. 1982, Pp. 436-455.

TABLE 1

RACE AND SEX DISTRIBUTION OF BACHELOR DEGREES AWARDED IN 1975-76, 1980-81¹

Race-Sex Group		Number of Bachelor Degrees Received	% of Total	% Dist. within Sex	% Distribution within Race				
					Black	Hispanic	White	Other	
Black Male	75	25,301	2.7	5.0	43.4				
	80	24,511	2.6	5.2	40.4				
Hispanic Male	75	10,114	1.1	2.0		56.7			
	80	10,810	1.2	2.3		49.5			
White Male	75	441,191	47.8	87.7			55.0		
	80	406,185	43.4	86.4			50.7		
Other Male	75	26,648	2.9	5.3				61.1	
	80	28,392	3.0	6.0				55.4	
TOTAL MALE	75	<u>503,254</u>	54.6	<u>100%</u>					
	80	<u>469,898</u>	50.3	<u>100%</u>					
Black Female	75	32,952	3.6	7.9	56.6				
	80	36,162	3.9	7.8					
Hispanic Female	75	7,721	.8	1.8	59.6	43.3			
	80	11,023	1.2	2.4		50.5			
White Female	75	361,608	39.2	86.3			45.0		
	80	395,256	42.3	85.0			49.3		
Other Female	75	16,972	1.8	4.0				38.9	
	80	22,822	2.4	4.9				44.6	
TOTAL FEMALE	75	<u>419,253</u>	45.4	<u>100</u>					
	80	<u>465,263</u>	49.7	<u>100</u>					
GRAND TOTAL	75	922,507	100%		% Distribution by Race				
	80	935,161	100%		1975 = 58,253	17,835	802,777	43,620	
					N = 1980 = 60,673	21,833	801,441	51,214	
					75	6.3	1.9	87.0	4.7
					80	6.5	2.3	85.7	3.4

¹Bachelor degree totals in this Table are for institutions located in the 50 states and the District of Columbia only.

TABLE 2: Comparisons of College Age Population and Available Pool Distributions with Degree Attainment Distributions for Blacks, Hispanics and Whites by Sex for Degrees Awarded in 1975-76 and 1980-81

	% College Age (18 to 24) Population (in 1,000's)		% of Available Pool (in 1,000's) (H.S. Grads 19 to 24 in 1972 & 1977)		% of Degrees Received 1975-6, 1980-1	
	1974	1979	1972	1977	1975-6	1980-1
GRAND TOTAL N =	25,670	27,974	11,354	12,702	922,507	935,161
male	.480	.485	.438	.471	.547	.504
female	.520	.515	.562	.529	.453	.496
Blacks N =	3,105	3,511	1,237	1,398	58,253	60,673
% of Total	.121	.126	.109	.110	.063	.065
males N = 1,396	.054	.056	.045	.050	.027	.026
% of Total	.113	.116	.104	.106	.050	.052
% of Sex	.450	.449	.416	.454	.434	.404
Females N = 1,709	.067	.069	.064	.060	.036	.039
% of Total	.128	.134	.113	.114	.079	.078
% of Sex	.550	.551	.584	.546	.566	.596
Females						
Hispanic	2,490	2,924	418	565	17,835	21,875
% of Total					.019	.023
males N = 1,206	.011	.012	.010	.011	.006	.007
% of Total					.020	.023
% of Sex	.484	.478	.431	.435	.567	.495
% of Race						
Females N = 1,284	.008	.012	.008	.009	.004	.005
% of Total					.018	.024
% of Sex					.433	.505
% of Race						
White	22,141	23,895	9,999	11,095	802,807	801,441
% of Total	.863	.854	.881	.873	.870	.857
males N = 10,722	.418	.419	.386	.412	.478	.434
% of Total	.871	.864	.883	.875	.877	.864
% of Sex	.484	.491	.439	.472	.550	.507
% of Race						
Females N = 11,419	.445	.435	.494	.462	.382	.423
% of Total	.855	.845	.879	.872	.863	.850
% of Sex	.516	.509	.561	.528	.450	.493
% of Race						



TABLE 3

MAJOR FIELD DISTRIBUTIONS OF BACHELOR DEGREES RECEIVED IN 1975-1976
AND 1980-81 BY BLACKS, HISPANICS, AND WHITES, BY SEX¹

Major Field	Black Males		Hispanic Males		White Males		Black Females		Hispanic Females		White Females	
	1975	1980	1975	1980	1975	1980	1975	1980	1975	1980	1975	1980
Agriculture	.010	.010	.013	.017	.034	.034	.001	.003	.004	.006	.009	.016
Architecture	.010	.008	.017	.019	.015	.014	.001	.002	.003	.006	.004	.006
Area Studies	.001	.001	.006	.004	.003	.002	.002	.002	.009	.006	.004	.003
Biological Sciences	.040	.038	.054	.059	.072	.052	.034	.035	.040	.045	.045	.041
Business	.230	.265	.197	.237	.230	.276	.109	.190	.060	.141	.062	.157
Communications	.020	.039	.029	.024	.025	.031	.020	.039	.019	.027	.022	.038
Computer Sciences	.010	.016	.007	.018	.009	.021	.004	.010	.002	.010	.002	.009
Education	.145	.105	.093	.070	.082	.056	.317	.190	.243	.109	.271	.179
Engineering	.050	.082	.080	.120	.086	.134	.002	.010	.004	.012	.003	.016
Fine Arts	.030	.033	.034	.032	.032	.031	.029	.030	.040	.039	.064	.059
Foreign Languages	.004	.003	.034	.024	.007	.005	.012	.012	.105	.059	.027	.017
Health Professions	.010	.018	.024	.024	.023	.023	.069	.090	.085	.081	.104	.120
Home Economics	.002	.003	.000	.000	.001	.002	.030	.035	.019	.020	.040	.040
Law	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Letters	.030	.027	.033	.026	.046	.036	.050	.040	.049	.038	.071	.050
Library Science	.000	.000	.000	.000	.000	.000	.002	.002	.000	.000	.001	.008
Mathematics	.010	.011	.015	.010	.109	.013	.013	.013	.012	.006	.015	.010
Military Sciences	.001	.000	.001	.000	.002	.000	.000	.000	.000	.000	.000	.000
Physical Sciences	.020	.025	.022	.027	.036	.040	.006	.006	.008	.010	.010	.013
Psychology	.040	.042	.063	.045	.045	.030	.061	.063	.079	.074	.064	.057
Public Affairs	.080	.070	.050	.055	.037	.031	.055	.056	.038	.053	.032	.043
Social Sciences	.220	.150	.191	.143	.152	.119	.156	.123	.138	.121	.108	.090
Theology	.010	.006	.004	.007	.008	.010	.001	.001	.000	.001	.004	.003
Interdisciplinary	.030	.041	.030	.036	.035	.036	.028	.028	.041	.054	.034	.038
TOTAL N (100%)	25301	24511	10114	10810	441191	406185	32952	36162	7721	11023	361608	395256

¹ Bachelor degree totals in this Table are for institutions located in the 50 states and the District of Columbia only.

Table 4: A Comparison and Contrast of the Top Five Major Fields for Degree Recipients in 1975-76 and 1980-81 by Race and Sex
 Group: 1975-76 White Male Degree Fields are used as the base.

1975-76 Top 5 White Male Major Fields		Percent Distribution and Rank ()					
		WM	BM	HM	WF	BF	HR
1). Business	1975-6	23.0(1)	23.0(1)	19.7(1)	6.2(6)	11.0(3)	6.0(6)
	1980-1	27.6(1)	26.5(1)	23.7(1)	15.7(2)	19.0(2)	14.1(1)
2). Social Science	1975-6	15.2(2)	22.0(2)	19.1(2)	10.8(2)	16.0(2)	13.8(2)
	1980-1	11.9(3)	15.0(2)	14.3(2)	9.0(4)	12.3(3)	12.2(2)
3). Engineering	1975-6	8.6(3)	5.0(5)	8.0(4)	.3(17)	.2(13)	.4(15)
	1980-1	13.4(2)	8.2(4)	12.0(3)	1.6(13)	1.0(14)	1.2(14)
4). Education	1975-6	8.2(4)	14.5(3)	9.3(3)	27.1(1)	31.7(1)	24.3(1)
	1980-1	5.6(4)	10.5(3)	7.0(4)	17.9(1)	19.1(1)	10.9(3)
5). Biological Science	1975-6	7.2(5)	4.0(6)	5.4(5)	4.5(7)	3.5(7)	4.0(9)
	1980-1	5.2(5)	3.8(9)	5.9(5)	4.1(9)	3.5(8)	4.5(9)

Table 5: Major Field Distribution of Bachelor Degrees Awarded to Blacks in 1975-6 and 1980-1 by, Predominant Race of the Student Body (Black vs. White)¹ for the South and the Nation.

MAJOR FIELD	SOUTH ²				NATION			
	PBC		PWC		PBC		PWC	
	1975-6	1980-1	1975-6	1980-1	1975-6	1980-1	1975-6	1980-1
N	(20,863)	(18,514)	(9,864)	(12,955)	(23,367)	(20,357)	(34,810)	(40,082)
Agriculture	.007	.012	.005	.004	.006	.011	.003	.004
Architecture	.002	.004	.003	.005	.002	.003	.006	.006
Area Studies	---	---	.002	.001	.00004	---	.003	.002
Biological Sciences	.042	.046	.033	.035	.042	.046	.037	.033
Business	.207	.257	.155	.228	.201	.255	.122	.203
Communications	.008	.031	.028	.048	.008	.029	.031	.045
Computer Sciences	.006	.016	.007	.013	.005	.016	.006	.012
Education	.331	.222	.244	.186	.331	.225	.186	.122
Engineering	.021	.045	.018	.043	.020	.042	.025	.040
Fine Arts	.016	.019	.029	.028	.016	.019	.038	.036
Foreign Languages	.005	.002	.008	.004	.005	.001	.011	.006
Health Professions	.028	.037	.075	.069	.026	.048	.060	.065
Home Economics	.022	.022	.020	.020	.019	.021	.017	.017
Law	.0001	---	.001	.0004	.0001	---	.001	.0005
Letters	.026	.024	.033	.031	.033	.024	.047	.037
Library Science	.001	.0003	.003	.001	.001	.0004	.001	.001
Mathematics	.017	.016	.015	.009	.017	.015	.012	.007
Military Sciences	---	.0002	.0003	---	---	.0002	.001	.0001
Physical Sciences	.012	.018	.011	.021	.011	.018	.011	.013
Psychology	.030	.037	.047	.057	.034	.030	.068	.068
Public Affairs	.041	.065	.068	.090	.041	.064	.068	.088
Social Sciences	.171	.119	.161	.083	.168	.122	.199	.141
Theology	.004	.004	.002	.003	.003	.003	.002	.002
Interdisciplinary	.004	.005	.032	.023	.010	.011	.045	.049
	.679	.588	.321	.412	.402	.337	.598	.663

(1) The predominant race of the student body is based on the 1980-81 report from all institutions and is used for both the 1975-76 distribution and the 1980-81 distribution.

(2) States designated as South are: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia.

Table 6: Distribution of Bachelor Degrees Awarded to Blacks in 1975-76 and 1980-81 by Predominantly Black (PBC) and Predominantly White (PWC) Colleges for each Major Field in the South and the Nation.

	SOUTH ¹						NATION					
	1975-76			1980-81			1975-76			1980-81		
	Total	PBC	PWC	Total	PBC	PWC	Total	PBC	PWC	Total	PBC	PWC
Culture	N= 196	.765	.234	N= 265	.818	.181	N= 266	.564	.436	378	.574	.425
Architecture	73	.602	.397	136	.485	.500	253	.181	.818	300	.22	.780
Business Studies	22	0	1.00	13	0	1.00	108	.009	.990	67	0	1.00
Biological Sciences	1202	.727	.272	1301	.565	.433	2233	.441	.558	2269	.408	.591
Business	5838	.738	.261	7699	.617	.383	9442	.496	.503	13325	.389	.610
Communications	446	.385	.614	1183	.478	.521	1232	.148	.851	2399	.242	.757
Computer Sciences	192	.630	.369	471	.645	.354	322	.382	.618	786	.405	.594
Education	9325	.741	.258	6518	.629	.371	14095	.548	.451	9471	.483	.516
Engineering	628	.710	.289	1389	.601	.398	1329	.355	.644	2445	.367	.632
Fine Arts	617	.539	.460	713	.495	.504	1683	.227	.773	1826	.213	.786
Foreign Languages	181	.580	.419	82	.353	.646	511	.232	.767	283	.088	.911
Health Professions	1320	.442	.557	1579	.437	.562	2646	.229	.771	3594	.269	.730
Mathematics	643	.698	.301	670	.614	.385	1053	.432	.567	1124	.378	.621
Natural Sciences	7	.285	.714	6	0	1.00	26	.076	.923	20	0	1.00
Physical Sciences	859	.620	.379	851	.532	.467	2379	.319	.680	1978	.250	.749
Political Science	59	.457	.542	21	.333	.666	75	.360	.640	30	.266	.733
Psychology	512	.709	.291	408	.713	.286	785	.494	.505	584	.527	.477
Social Sciences	3	0	1.00	3	1.00	0	44	0	1.00	6	.500	.500
Physical Sciences	348	.689	.310	600	.548	.451	637	.417	.582	906	.412	.587
Biology	1086	.569	.430	1427	.480	.519	3133	.254	.745	3332	.180	.819
Public Affairs	1513	.558	.441	2367	.509	.490	3283	.290	.710	4839	.271	.728
Social Sciences	5160	.692	.307	3280	.673	.326	10743	.366	.633	8091	.299	.700
Sociology	97	.762	.237	108	.601	.398	148	.520	.479	166	.403	.596
Interdisciplinary	397	.209	.790	384	.229	.770	1751	.127	.872	2191	.098	.901
All		.679	.321		.588	.412		.402	.598		.337	.663

¹ States designated as South are: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia.

Table A₁ Distribution of 18 to 24 Year Olds by Race Sex, and Spanish Origin in 1974 and 1979.

Total		Black		Spanish Origin		White		
1974	1979	1974	1979	1974	1979	1974	1979	
25,670	27,974	3,105	3,511	2,490	2,924	22,141	23,895	
		.121	.126	NA	NA	.863	.854	
12,315	13,571	Male (N=	1,396	1,577	1,206	1,397	10,722	11,721
.480	.485	% of total	.054	.056	NA	NA	.418	.419
		% of Males	.113	.116	NA	NA	.871	.864
		% of Race	.450	.449	.484	.478	.484	.491
13,355	14,403	Female (N=	1,709	1,934	1,284	1,527	11,419	12,174
.520	.515	% of total	.067	.069	NA	NA	.445	.435
		% of females	.128	.134	NA	NA	.855	.845
		% of Race	.550	.551	.516	.522	.516	.509

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Persons of Spanish Origin may be of either race and are not given as a percentage of male or female categories.

Source: Table 1, Current Population Reports: Population Characteristics. School Enrollment - Social and Economic Characteristics of Students: Oct. 1974 and Oct. 1979. Series P-20, Nos. 286 and 360.

Table A₂ Distribution of Available Black, Spanish Origin and White College Students by Sex for the graduating classes of 1975-76 and 1980-81: 14-24 year olds who had completed 4 years of high in March 1972 and March 1977.

Total		Black		Spanish Origin		White		
1972 ^A	1977 ^B	1972	1977	1972 ^C	1977	1972	1977	
11,354	12,702	1,237	1,398	418	565	9,999	11,095	
		.109	.110	NA	.044	.881	.873	
4,970	5,978	Males (N=	515	634	180	246	4,388	5,233
.438	.471	% of Total	.045	.050	NA	.019	.386	.412
		% of Males	.104	.106	NA	.041	.883	.875
		% of Race	.416	.454	.431	.435	.439	.472
6,384	6,724	Females (N=	722	764	238	319	5,611	5,862
.562	.529	% of total	.064	.060	NA	.025	.494	.462
		% of Females	.113	.114	NA	.047	.879	.872
		% of Race	.584	.546	.%c@	.565	.561	.528

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ons of Spanish Origin may be of either race and are not given as a percentage of the total, male or female categories.

Source: Table 1. Years of School Completed by Persons 14 Years Old and Over by Age, Race, Spanish Origin, and Sex: March 1977. Current Population Reports, Population Characteristics. Educational Attainment March 1977 - 1976. Series P-20, NO. 314.

Source: Table 1. Years of School Completed by Persons 14 Years Old and Over by Age, Race and Sex: March, 1972. Current Population Reports, Population Characteristics, Educational Attainment - March 1972

Source: Table 10. Years of School Completed by Persons of Spanish Origin 14 Years Old and Over by Age, Sex, Type of Spanish Origin and Spanish Language Usage, for the United States: March 1972. Current Population Reports: 37 Population Characteristics: Persons of Spanish Origin in the United States: March 1972 and 1971

Series P-20, NO 250