

Community Colleges and the Equity Agenda: What the Record Shows

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Introduction

In today's "knowledge economy," postsecondary education has become the gateway to economic opportunity. Jobs that pay more than subsistence wages require at least some education or training beyond high school, even at the entry-level. The best-paying jobs with the brightest prospects for career advancement require college degrees.

Community colleges are a key access point to postsecondary education for minorities and others who have been traditionally excluded. About half of Hispanics who are in undergraduate programs in the U.S. are enrolled at community colleges. Nearly 45% of African-American undergraduates are community college students. Challenges to affirmative action in higher education are limiting the pool of minority students who enroll at a four-year institution right out of high school and will probably mean that an even larger number of minority students will enter higher education through community colleges in the future. This trend is likely to be accentuated by rising tuition costs at both private and public four-year institutions.

This paper presents national data on the economic returns to postsecondary education for African-Americans and Hispanics and the performance of community colleges and other postsecondary institutions in expanding access to opportunity by minority students. The conclusion raises questions unanswered by an analysis of national data. These questions are the focus of a major new research program recently launched by the Community College Research Center on "Community Colleges and Minority Degree Attainment."

Economic Returns to Postsecondary Education

The fastest growing jobs today are those that require higher levels of thinking skills, which roughly equate to higher levels of formal education. Table 1 shows an estimate of the distribution of jobs in 2006 by level of functional literacy required, projected growth rate and earnings.

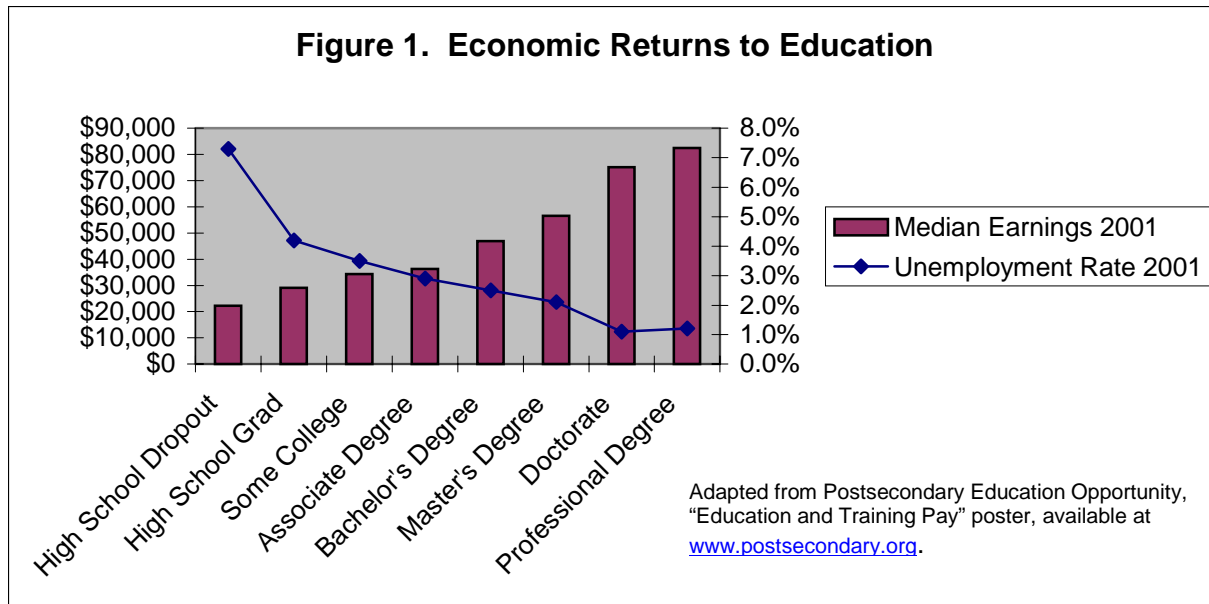
Table 1. Estimated literacy levels required of jobs in 2006

Skill Level	Est. % of jobs In 2006	Projected Growth Rate	1996 Earnings
Minimal – NALS 1 (HS dropout)	12%	Moderate	\$15,200
Basic - NALS 2 (Below avg. hs. grad.)	25%	Somewhat Faster	\$19,000
Competent - NALS 3 (Some postsecondary)	38%	Fast	\$23,000
Advanced/Superior – NALS 4/5 (Bachelor's degree)	26%	Fastest	\$32,100

Source: Carnevale and Derochers (1999, p. 7) NALS = National Adult Literacy Survey.

Jobs that pay enough to support a family and provide opportunities for further learning and advancement require some postsecondary education, even at the entry level. Career-long learning, both on the job and in school, has become essential for job security and advancement in every field.

At the same time, a college degree is usually required to advance beyond a certain level in most fields. Having a degree generally allows new entrants to a field to start farther up the job ladder and advance faster than those without degrees. As is evident from Figure 1, those with more postsecondary education enjoy clear economic advantages over those with little or none.



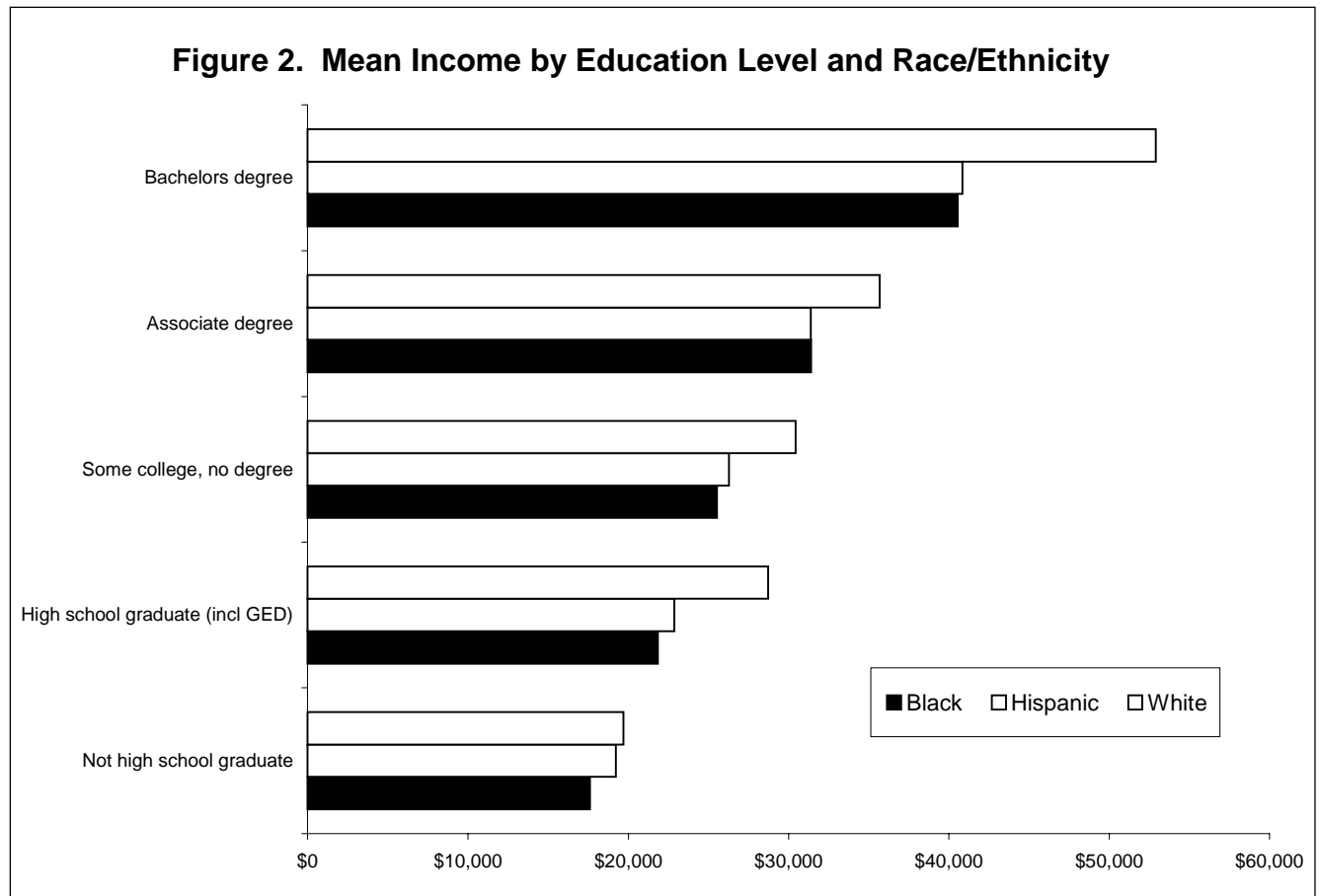
Wages for poorly educated workers (those with only a high school credential or none at all) have declined since the 1970s. Wages for workers with some college or sub-baccalaureate degrees, though higher than those with no college, have been flat over the past three decades. Workers with bachelor's or advanced degrees have seen significant increases in wage growth over the past 20 years (Vernez et al. 1999).

On average, minorities earn less than whites even when they hold the same type of degree (see Figure 2). However, this gap appears to diminish after controlling for demographic characteristics, college preparation, and work experience. Averett and D'Allesandro (in press) separated black and white students in their analysis of the NLS-Youth data. After they controlled for these same characteristics, their results indicated that few statistically significant differences exist between blacks and whites. However, a consistent pattern emerges: the *relative* economic returns to both associate and baccalaureate degrees are generally higher for blacks compared to whites. So, while work-life earnings are lower for blacks and Hispanics than for whites who have attained a similar level of education, earning an undergraduate degree is every bit as important for minorities as it is for whites (Day & Newburger, 2002; Altonji & Blank, 1998; Vernez, Krop, & Rydell, 1999; Rivera-Batiz, 1995; Belman & Heywood, 1991).

For both minorities and whites, the economic returns to a college education are highest for graduates with degrees in mathematics-intensive fields such as engineering, computers, health, business and the sciences (Grubb, 2002).¹ Blacks and Hispanics are underrepresented among

¹ Business, engineering, health and other vocational fields accounted for over half (54%) of the associate degrees awarded in 1999-2000 and over 40% of bachelor's degrees (U.S. Department of Education, 2002a). One in five

degree graduates and professionals in these high-demand fields. Public policy makers and business leaders have expressed concern about the economic and social implications of the lack of diversity in these fields.



Source: Current Population Survey, *Annual Demographic Supplement* (2002). Author's calculations.

The economic benefits of postsecondary education for those who do not complete degrees are far less clear. Grubb (2002) found that the returns to earning an advanced certificate (equivalent to about two terms of full-time study) vary by student gender and field of study. Men have higher returns for certificates in engineering, computers and health; the returns to men for certificates in business and other fields are much lower. For women, health certificates have significant returns, but business and other subjects do not. For both women and men, the returns to postsecondary education of less than a year are negligible (Grubb, 2002; Bailey et al., forthcoming a). These findings are consistent across racial and ethnic groups. So, while short-term postsecondary training may be helpful in securing decent-paying jobs in certain fields, degrees generally increase individuals' chances of entering well-paying careers.

associate and bachelor's degrees was in business. The number of occupational degrees conferred is increasing while degrees in academic fields are declining.

Minority Undergraduate Degree Attainment

These trends raise concern about the low level of degree attainment by African-Americans and Hispanics compared to other students. Table A1 in the appendix shows that undergraduate enrollment by African-Americans and Hispanics increased during the 1990s. In fall 1999 (the latest year for which data are available), African-Americans comprised 12% of undergraduate students while Hispanics made up 11%. A higher percentage of both groups were enrolled part-time rather than full-time. African-Americans represented 17% of public high school students in 1999-2000 while Hispanics comprised 16% (Young, 2002). Using data from the 19 states that report data on high school completions of all types (diplomas, GEDs and other), Mortenson (2002) estimated that 15% of high school completers in these states in 2000 were black non-Hispanics and 11% were Hispanic.

Table A2 in the appendix shows that the number of undergraduate credentials earned by African-Americans and Hispanics also increased during the 1990s. In 1999-2000, African-Americans and Hispanics were over-represented among certificate recipients (compared to their representation among undergraduate enrollees). They were slightly underrepresented among associate degree recipients and significantly underrepresented among bachelor's degree recipients. Table A3 in the appendix shows that African-Americans and Hispanics were even more under-represented among associate and bachelor's degree recipients in mathematics-intensive fields, which tend to lead to the best paying jobs for recent graduates. In 1999-2000, more African-Americans and Hispanics earned advanced certificates in mathematics-intensive fields than associate degrees in those fields. Hispanics earned more math-intensive certificates than bachelor's degrees.

Moreover, African-American and Hispanic students graduate from undergraduate programs at rates lower rates than do white and Asian students. Table 2 shows the five-year graduation rates for students who were first-time undergraduate students in 1995-96 at public two-year and public four-year institutions, which together enroll the majority of undergraduates. (More detail is provided in Tables A4a and A4b in the appendix.) Degree completion rates are especially low among African-Americans and Hispanics who enter higher education through community colleges.

Table 2. Five-Year Degree Completion Rates by Race/Ethnicity For New Postsecondary Students who Began in Public Two-Year or Public Four-Year Institutions in 1995

Race/Ethnicity	Five-Year Completion Rate*	
	Students who began at Public two-year	Students who began at Public four-year
White, non-Hispanic	28.4%	60.5%
Black, non-Hispanic	10.8%	42.5%
Hispanic	21.4%	45.3%
Asian or Pacific Islander	29.7%	67.0%
All Students	26.0%	57.4%

Source: U.S. Department of Education (2002a).

* Completion rate is the percentage of first-time postsecondary students in 1995-96 who earned an associate or bachelor's degree from any institution by June 2001.

The failure of many community college students to earn degrees is often cited as a key reason for low degree attainment among blacks and Hispanics, since so many minority students enter higher education through community colleges (see, for example, Fry 2002). In 2000, about half (51%) of Hispanics who were in undergraduate programs in the U.S. were enrolled at community colleges. Forty-four (44%) of African-American undergraduates were community college students.

To account for low rates of degree completion among their students, community college educators often argue that many students are not interested in degrees, but rather come to community colleges for a few courses to acquire skills needed to advance in their jobs. It is hard to pin down precisely how many students are “course takers” as opposed to degree seekers. In a study for the National Assessment of Vocational Progress (Bailey et al., forthcoming b), CCRC found that 62% of students in academic sub-baccalaureate programs and 46% of students in occupational sub-baccalaureate programs indicated that earning a degree or certificate or transferring to a bachelor’s degree program was their primary reason for enrolling in college. CCRC also found that nearly 90% of the academic students and over 75% of the occupational program students indicated that they expect to complete a bachelor’s degree or higher in their lifetime.

Even if many students in community college degree programs are course takers, a significant proportion is seeking some sort of credential. Moreover, while most community colleges offer extensive job-related training through non-credit, continuing education or contract training programs, certificate and degree programs account for the largest share of activity (in terms of budgets and staffing) in nearly all community colleges. Certainly the lion’s share of the public funding that community colleges receive is intended to support college-credit education leading to certificates and degrees. Publicly funded financial aid is explicitly designed to help students complete degrees, not merely support them in taking a few job-related courses.

If most students only wanted short-term vocational training then community colleges are generally not well organized to provide such training cost-effectively. Their academic departments, tenured faculty, and degree major requirements are too rigid and slow-moving to allow for training that is responsive to rapidly changing workplace needs. Community colleges have developed continuing education and contract training divisions precisely to meet the demand for this sort of learning. While non-credit training may help students acquire skills that help them become better workers or advance in their jobs, in an economy that rewards both competence *and* credentials, community colleges would not serve the long-term interests of their students by emphasizing short-term, job-specific training over degree education. And, indeed, community colleges show no signs of seeking to abandon their degree mission.

Community college educators also point out that many of their students transfer to other institutions before completing their programs. Examining data on the High School Class of 1982, Cabrera, La Nasa, and Burkum (2001) found that 40% entered a community college as their first postsecondary institution. Of these individuals, 29% transferred to a four-year institution within 11 years. The rate of transfer of community college students with occupational degrees is lower. Research by CCRC finds that less than a quarter of associate degree recipients and less than 10% of advanced certificate graduates transfer to four-year institutions within four

years (Morest, 2001). About one in 10 students who begin in community colleges completes a bachelor's degree within five years (U.S. Department of Education 2002a). Only about eight percent of community college students in occupational fields goes on to earn a bachelor's degree.²

One indisputable reason that community colleges have such low rates of degree completion and transfer is that so many of their students face barriers to success in college.³ Over half (51.4%) are the first in their families to attend college. Over 80% work at least part time; about half work full-time. As a result, nearly two-thirds (64.0%) of community college students attend college part-time, compared to less than one-fourth (22.0%) of students at four-year institutions. Many are adults who have been out of school for some time and are returning both to advance in their jobs and earn a college degree. About a third of community college students are 30 years of age or older; nearly half (46%) are 25 or older. Many have to care for small children in addition to working and attending school. As a result, few community college students proceed through higher education in the lock-step fashion of the "traditional college student." Community colleges in inner cities and rural areas serve a significant number of truly disadvantaged students who can only afford to attend part-time. Their lives are often chaotic and fraught with crises that sometimes force them to "stop out" of education while they get back on their feet.

Approximately 40% of community college students take at least one remedial course (U.S. Department of Education, 1996). This compares with 29% of undergraduate students generally. At colleges with high minority student enrollment, the proportion is significantly higher. It is important to note that students who take remedial courses are likely to be seeking degrees, since most community colleges do not require remedial instruction of students who are only taking occupational courses and not seeking to enroll in English, mathematics, and other general education courses required for a degree. Research shows that the rate of remedial education is higher among younger students, since younger students are more likely to be seeking degrees while older students who are more likely to be "course takers" seeking skills for job advancement (Bailey et al, forthcoming b). The more remedial courses students are required to take, the less likely they are to earn a degree (Adelman, 1998). Among students who attended two-year or four-year institutions and earned more than ten credits, 45% of those who took two remedial courses earned either an associate or bachelor's degree by the time they were 30, compared to 60% of those who took no remedial courses. Students who take more remedial courses are less likely ultimately to earn a degree.

There is considerable anecdotal evidence that community college developmental programs are generally not effective in preparing students to succeed in occupational degree programs. The lack of adequate basic skills among entering students has long been a critical challenge facing community college's applied technology and science programs (Burton & Celebuski, 1995). This is a problem for community colleges more generally, since these programs tend to lead to jobs that not only offer high wages and promising prospects for graduates, but also are often in strong demand from employers. In many cases, colleges have trouble finding enough qualified students to enter these programs and therefore cannot meet the hiring needs of local industry.

² Author's calculations using data from Beginning Postsecondary Students 1989/94.

³ The statistics in this paragraph are from U.S. Department of Education (2000).

Most of the research on student retention in community colleges and undergraduate education more generally has focused how individual characteristics – income, race, gender, age, family background, education, work history – affect the propensity of students to graduate. Less attention has been given to how the organization of teaching and learning within colleges bears on student success in earning degrees. Yet, there is great variation among institutions in the rate at which they graduate students, even among institutions that offer similar sorts of programs and serve similar sorts of students.

For example, private for-profit institutions graduate more minority students with associate degrees in Engineering-related Technologies and Computer and Information Sciences than do community colleges, even though most community colleges have degree programs and substantial enrollments in these fields. For-profit, two- and four-year colleges together award 56% of the associate degrees in Engineering Technologies to blacks and an equal share to Hispanics, even though they enroll 26% of the students and award only 36% of all associate degrees in the field.⁴ In a recent study of participation of African-Americans and Hispanics in computer-related undergraduate degree programs in Illinois, Jenkins (2002) found that, in the year 2000, three private, *four-year* institutions – DeVry University, ITT Tech, and Robert Morris College awarded 67% of associate degrees in computer fields to African-Americans and 69% of the computer-related associate degrees to Hispanics and yet enrolled only 13% of students in computer-related associate degree programs in the state.

Nationally, private two- and four-year institutions graduate proportionally more associate and bachelor's degrees in mathematic-intensive fields to African-Americans and Hispanics, although public institutions still grant the largest number of undergraduate awards to minorities in these fields (see Tables 5a-d in the appendix). For example, in 1999-2000, community colleges awarded 63% of all associate degrees in mathematics-intensive fields, but only 56% of such associate degrees to African-Americans and 48% to Hispanics. For-profit two-year institutions awarded 13% of all associate degrees in these fields but over one in five math-intensive associate degrees to African-Americans (20%) and Hispanics (22%). Even among community colleges and other public higher education institutions that enroll relatively large numbers of minority students, there is wide variation in the number of degrees awarded to minority students.

Tables 6a-c list the 25 institutions that in 1999-2000 produced the largest number of African-American graduates in all major fields with advanced certificates, associate degrees and bachelor's degrees respectively. Tables 7a-c list the top 25 producers of Hispanic graduates by degree level. At many of the institutions listed, most students are minorities. Some notable exceptions have diverse student bodies yet still produce relatively large numbers of African-American and Hispanic graduates. Similar top-25 listings for awards in mathematics-intensive fields are provided in Tables 8a-c (for African-Americans) and 9a-c (for Hispanics).

Community colleges in many parts of the country claim that their students are better able to transfer to private institutions than to public institutions with which they may even have formal articulation agreements. Some of these private institutions offer applied technology baccalaureate programs, which are better aligned with community college programs generally and their occupational programs in particular. This again raises the issue about what impact

⁴ Author's calculations using data from the IPEDS and BPS-95.

differing approaches to organizing education programs have on degree completion by students generally and minority students in particular.

Questions for Further Research: A New CCRC Research Program

Why do some institutions graduate relatively more minority and otherwise disadvantaged students seeking degrees than do other institutions? With respect to community colleges, this question has great bearing on access by African-American and Hispanic students to educational and economic opportunity, since so many minority students enter higher education through community colleges. The question is also pertinent to community colleges themselves. Like other public higher education institutions, community colleges are increasingly called to be more accountable for their outcomes by students and their families, accreditation agencies, and policy makers. For instance, the U.S. Department of Education has indicated that it will advocate greater accountability for student retention and other outcomes in recommendations to Congress as part of this year's reauthorization of the Higher Education Act (Borrego, 2002).

Unlike four-year institutions, community colleges will find it difficult to improve student outcomes by becoming more selective in their admissions. In several states and localities, community colleges are being asked to take on even more of the burden for serving disadvantaged students as policy makers prevent or at least discourage public four-year institutions from offering remedial education (Jenkins and Boswell, 2002). At the same time, community colleges and other public institutions face increasing competition from for-profit, degree-granting institutions and others that seem to be better able to prepare minority students to complete degrees in high-demand fields (Bailey, Badway, & Gumport, 2002; Immerwahr, 2002).

To address these issues, the Community College Research Center at Teachers College Columbia University, with funding from the Ford Foundation, has recently launched a major new research program titled "Community Colleges and Minority Degree Attainment." CCRC will analyze longitudinal data on student achievement from the most current national surveys as well as from selected states. CCRC will also conduct field research at colleges that produce relatively high numbers of minority graduates and transfers as well as at others that enroll many minority students but graduate few. The research is intended to inform community college leaders and policy makers on practices and policies that not only expand access to higher education by African-Americans and Hispanics, but increase degree completion and further education among minority students. The overriding aim is to guide community colleges as they seek to strengthen their unique role in advancing the equity agenda in this country.

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Table A1. U.S. Undergraduate Enrollment by Attendance and Race/Ethnicity: 1989, 1994, and 1999

		1989-90		1994-95		1999-2000		1989-99
		n	%	N	%	n	%	% chg
Full-time	All	7,693,906	100%	8,063,006	100%	8,036,631	100%	4%
	Af-Am	748,860	10%	878,888	11%	917,974	11%	23%
	Hisp	543,777	7%	702,729	9%	783,704	10%	44%
	Asian	323,576	4%	441,102	5%	502,210	6%	55%
	White	5,682,072	74%	5,557,565	69%	5,549,720	69%	-2%
	Other	395,621	5%	482,722	6%	283,023	4%	-28%
	Part-time	All	5,433,699	100%	5,646,704	100%	5,415,940	100%	0%
Af-Am		504,308	9%	582,490	10%	661,385	12%	31%
Hisp		411,890	8%	535,155	9%	676,476	12%	64%
Asian		205,697	4%	276,552	5%	367,433	7%	79%
White		4,029,731	74%	3,898,929	69%	3,550,068	66%	-12%
Other		282,073	5%	353,578	6%	160,578	3%	-43%
All		All	13,127,605	100%	13,709,710	100%	13,452,571	100%	2%
	Af-Am	1,253,168	10%	1,461,378	11%	1,579,359	12%	26%
	Hisp	955,667	7%	1,237,884	9%	1,460,180	11%	53%
	Asian	529,273	4%	717,654	5%	869,643	6%	64%
	White	9,711,803	74%	9,456,494	69%	9,099,788	68%	-6%
	Other	677,694	5%	836,300	6%	443,601	3%	-35%

Source: Integrated Postsecondary Educational Data System (IPEDS), Completion Surveys: 1989, 1995 and 1999. Authors' calculations.

**Table A2. Undergraduate Awards by Credential Type and Race/Ethnicity: 1989, 1994, and 1999
All Majors**

		1989-90		1994-95		1999-2000		1989-99
		N	%	n	%	n	%	% chg
Awards of less than one academic year	All	289,650	100%	354,500	100%	293,658	100%	1%
	Af-Am	19,745	12%	46,243	15%	48,116	16%	144%
	Hisp	10,843	7%	38,017	12%	47,886	16%	342%
	Asian	3,294	2%	15,097	5%	14,564	5%	342%
	White	107,092	66%	189,702	60%	154,561	53%	44%
	Other	22,380	14%	29,668	9%	28,531	10%	27%
Awards at least 1 but less than 2 academic years	All	228,853	100%	346,272	100%	278,536	100%	22%
	Af-Am	19,646	14%	44,471	13%	42,807	15%	118%
	Hisp	10,538	7%	44,199	13%	51,233	18%	386%
	Asian	4,121	3%	11,941	4%	13,433	5%	226%
	White	99,918	69%	199,080	60%	151,806	55%	52%
	Other	10,539	7%	30,181	9%	19,257	7%	83%
Associates degrees	All	473,692	100%	564,338	100%	587,587	100%	24%
	Af-Am	33,793	8%	47,851	9%	60,596	10%	79%
	Hisp	25,794	6%	41,165	7%	58,265	10%	126%
	Asian	12,840	3%	21,425	4%	27,482	5%	114%
	White	349,776	79%	421,804	75%	406,718	69%	16%
	Other	21,043	5%	29,314	5%	34,526	6%	64%
Bachelors degrees	All	1,066,591	100%	1,182,780	100%	1,259,231	100%	18%
	Af-Am	59,421	6%	85,856	7%	104,666	8%	76%
	Hisp	43,901	4%	67,049	6%	88,672	7%	102%
	Asian	38,170	4%	59,656	5%	75,552	6%	98%
	White	857,388	82%	897,786	76%	899,342	71%	5%
	Other	51,647	5%	72,042	6%	90,999	7%	76%

Source: Integrated Postsecondary Educational Data System (IPEDS), Completion Surveys: 1989, 1995 and 1999. Authors' calculations.

**Table A3. Undergraduate Awards by Credential Type and Race/Ethnicity: 1989, 1994, and 1999
Mathematics-Intensive Majors**

		1989		1994		1999		1994-99	1989-99
		n	%	n	%	n	%	% chg	% chg
Awards of less than one academic year	All	98,368	100%	121,360	100%	115,837	100%	-5%	18%
	Af-Am	.	.	15,377	14%	19,103	16%	24%	.
	Hisp	.	.	13,468	12%	18,321	16%	36%	.
	Asian	.	.	4,680	4%	5,979	5%	28%	.
	White	.	.	70,305	62%	61,418	53%	-13%	.
	Other	.	.	8,864	8%	11,016	10%	24%	.
Awards at least 1 but less than 2 academic years	All	83,608	100%	156,313	100%	153,967	100%	-2%	84%
	Af-Am	.	.	16,249	11%	21,949	14%	35%	.
	Hisp	.	.	20,653	14%	26,263	17%	27%	.
	Asian	.	.	4,643	3%	7,603	5%	64%	.
	White	.	.	94,171	63%	87,141	57%	-7%	.
	Other	.	.	14,644	10%	11,011	7%	-25%	.
Associates degrees	All	165,415	100%	203,215	100%	206,537	100%	2%	25%
	Af-Am	.	.	15,463	8%	20,806	10%	35%	.
	Hisp	.	.	13,310	7%	18,959	9%	42%	.
	Asian	.	.	7,725	4%	10,562	5%	37%	.
	White	.	.	157,061	78%	146,366	71%	-7%	.
	Other	.	.	8,472	4%	9,844	5%	16%	.
Bachelors degrees	All	347,217	100%	368,502	100%	385,721	100%	5%	11%
	Af-Am	.	.	23,766	6%	28,187	7%	19%	.
	Hisp	.	.	19,478	5%	24,985	6%	28%	.
	Asian	.	.	29,224	8%	36,461	9%	25%	.
	White	.	.	269,570	73%	265,090	69%	-2%	.
	Other	.	.	26,412	7%	30,998	8%	17%	.

Source: Integrated Postsecondary Educational Data System (IPEDS), Completion Surveys: 1989, 1995 and 1999. Authors' calculations. Note that IPEDS 1989 does not report race or ethnicity of recipients by major field.

**Table A4a. Five-Year Undergraduate Credential Completion Rates by Race/Ethnicity
For New Postsecondary Students Who Began in Public Two-Year Colleges in 1995**

Race/Ethnicity	% of 1995-96 First-Time Enrollees Earning Credentials in Five Years*					
	Any Degree or Certificate	Bachelor's Degree	Associate Degree	Advanced Certificate	Still Enrolled (No degree)	Not Enrolled (No degree)
All Students	36%	10%	16%	10%	18%	47%
Black, Non-Hispanic	26%	3%	8%	15%	13%	61%
Hispanic	30%	6%	16%	8%	19%	52%
Asian	38%	8%	22%	9%	22%	40%
White, non-Hispanic	38%	12%	17%	9%	18%	44%

Source: U.S. Department of Education (2002a).

*Percentage of first-time postsecondary students in 1995-96 who earned the given credential from any institution by June 2001.

**Table A4b. Five-Year Undergraduate Credential Completion Rates by Race/Ethnicity
For New Postsecondary Students Who Began in Public Four-Year Colleges in 1995**

Race/Ethnicity	% of 1995-96 First-Time Enrollees Earning Credentials in Five Years*					
	Any Degree or Certificate	Bachelor's Degree	Associate Degree	Advanced Certificate	Still Enrolled (No degree)	Not Enrolled (No degree)
All Students	60%	53%	4%	3%	17%	23%
Black, Non-Hispanic	46%	39%	4%	3%	22%	32%
Hispanic	48%	40%	5%	3%	24%	28%
Asian	67%	64%	3%	0%	16%	17%
White, non-Hispanic	63%	56%	4%	3%	16%	21%

Source: U.S. Department of Education (2002a).

*Percentage of first-time postsecondary students in 1995-96 who earned the given credential from any institution by June 2001.

**Table A5a. Undergraduate Awards by Race/Ethnicity and Type of Institution: 1999-2000
Awards of Less than 1 Academic Year – Mathematics-Intensive Majors**

	All		Af-Am		Hisp		Asian		White		Other	
	n	%	n	%	n	%	n	%	n	%	n	%
4yr pub	2,075	2%	13	0%	5	0%	17	0%	1,991	3%	49	0%
4yr p-nfp	283	0%	19	0%	48	0%	16	0%	163	0%	37	0%
4yr p-fp	1,223	1%	114	1%	205	1%	208	3%	562	1%	134	1%
2yr pub	35,844	31%	4,819	25%	3,100	17%	2,079	35%	23,759	39%	2,087	19%
2yr p-nfp	1,516	1%	101	1%	239	1%	161	3%	910	1%	105	1%
2yr p-fp	14,261	12%	2,512	13%	2,108	12%	700	12%	6,803	11%	2,138	19%
<2yr pub	17,219	15%	1,790	9%	1,833	10%	447	7%	12,156	20%	993	9%
<2yr p-nfp	2,596	2%	348	2%	456	2%	95	2%	731	1%	966	9%
<2yr p-fp	40,820	35%	9,387	49%	10,327	56%	2,256	38%	14,343	23%	4,507	41%
All	115,837	100%	19,103	100%	18,321	100%	5,979	100%	61,418	100%	11,016	100%

Source: Integrated Postsecondary Educational Data System (IPEDS), 1999. Authors' calculations.

**Table A5b. Undergraduate Awards by Race/Ethnicity and Type of Institution: 1999-2000
Awards of at Least 1 but Less than 2 Academic Years – Mathematics-Intensive Majors**

	All		Af-Am		Hisp		Asian		White		Other	
	n	%	n	%	n	%	n	%	n	%	n	%
4yr pub	2,455	2%	227	1%	80	0%	42	1%	1,971	2%	135	1%
4yr p-nfp	3,303	2%	476	2%	431	2%	193	3%	1,889	2%	314	3%
4yr p-fp	1,483	1%	292	1%	116	0%	171	2%	765	1%	139	1%
2yr pub	64,270	42%	8,564	39%	5,083	19%	3,222	42%	44,636	51%	2,765	25%
2yr p-nfp	1,616	1%	145	1%	398	2%	102	1%	843	1%	128	1%
2yr p-fp	25,002	16%	4,102	19%	3,427	13%	1,182	16%	12,802	15%	3,489	32%
<2yr pub	21,250	14%	2,569	12%	4,104	16%	1,126	15%	12,318	14%	1,133	10%
<2yr p-nfp	3,952	3%	320	1%	2,036	8%	201	3%	871	1%	524	5%
<2yr p-fp	30,636	20%	5,254	24%	10,588	40%	1,364	18%	11,046	13%	2,384	22%
All	153,967	100%	21,949	100%	26,263	100%	7,603	100%	87,141	100%	11,011	100%

Source: Integrated Postsecondary Educational Data System (IPEDS), 1999. Authors' calculations.

**Table A5c. Undergraduate Awards by Race/Ethnicity and Type of Institution: 1999-2000
Associate Degrees – Mathematics-Intensive Majors**

	All		Af-Am		Hisp		Asian		White		Other	
	n	%	n	%	n	%	n	%	n	%	n	%
4yr pub	15,574	8%	1,247	6%	1,003	5%	370	4%	12,351	8%	603	6%
4yr p-nfp	12,311	6%	1,193	6%	1,805	10%	488	5%	8,068	6%	757	8%
4yr p-fp	12,615	6%	1,944	9%	1,925	10%	876	8%	6,993	5%	877	9%
2yr pub	130,822	63%	11,615	56%	9,113	48%	6,846	65%	97,199	66%	6,049	61%
2yr p-nfp	7,460	4%	666	3%	866	5%	1,058	10%	4,407	3%	463	5%
2yr p-fp	27,711	13%	4,129	20%	4,244	22%	910	9%	17,333	12%	1,095	11%
<2yr pub	.	.	.	.	.	.	.	.	.	.	.	.
<2yr p-nfp	9	0%	0	0%	0	0%	0	0%	9	0%	0	0%
<2yr p-fp	35	0%	12	0%	3	0%	14	0%	6	0%	0	0%
All	206,537	100%	20,806	100%	18,959	100%	10,562	100%	146,366	100%	9,844	100%

Source: Integrated Postsecondary Educational Data System (IPEDS),1999. Authors' calculations.

**Table A5d. Undergraduate Awards by Race/Ethnicity and Type of Institution: 1999-2000
Bachelor's Degrees – Mathematics-Intensive Majors**

	All		Af-Am		Hisp		Asian		White		Other	
	n	%	n	%	n	%	n	%	n	%	n	%
4yr pub	254,944	66%	18,454	65%	15,820	63%	25,125	69%	177,448	67%	18,097	58%
4yr p-nfp	120,638	31%	8,165	29%	7,961	32%	10,329	28%	82,168	31%	12,015	39%
4yr p-fp	10,139	3%	1,568	6%	1,204	5%	1,007	3%	5,474	2%	886	3%
2yr p-nfp	.	.	.	.	.	.	.	.	.	.	.	.
All	385,721	100%	28,187	100%	24,985	100%	36,461	100%	265,090	100%	30,998	100%

Source: Integrated Postsecondary Educational Data System (IPEDS),1999. Authors' calculations.

**Table 6a. Top 25 Institutions by Number of Awards to African Americans, 1999-00
Awards of at Least 1 but Less than 2 Academic Years – All Majors**

			Af- Am Male	Af- Am Fem	Af- Am Total	Total Male	Total Fem	Total Total	Af- Am Pct	
1	TENNESSEE TECHNOLOGY CENTER AT MEMPHIS	TN	<2yr pub	280	247	527	390	319	709	74%
2	ROBERT MORRIS COLLEGE	IL	4yr p-nfp	99	391	490	383	953	1,336	37%
3	LINCOLN TECHNICAL INSTITUTE DBA THE CITTONE INST	NJ	<2yr p-fp	221	235	456	1,023	976	1,999	23%
4	PINELLAS TECHNICAL EDUCATION CENTER	FL	2yr pub	96	296	392	485	715	1,200	33%
5	GREAT RIVERS VOCATIONAL TECHNICAL SCHOOL	AR	<2yr pub	166	218	384	441	503	944	41%
6	NASSAU COUNTY BOCES SCHOOL OF PRACTICAL NURSING	NY	<2yr pub	10	303	313	21	392	413	76%
7	ATLANTA TECHNICAL COLLEGE	GA	2yr pub	94	188	282	101	192	293	96%
8	CITY COLLEGES OF CHICAGO-KENNEDY-KING COLLEGE	IL	2yr pub	73	207	280	105	229	334	84%
9	KATHARINE GIBBS SCHOOL-NEW YORK CITY	NY	2yr p-fp	33	193	226	109	369	478	47%
10	D G ERWIN TECHNICAL CENTER	FL	2yr pub	65	159	224	298	490	788	28%
11	POMONA UNIFIED SCHOOL DISTRICT ADULT AND CAREER ED	CA	<2yr pub	113	109	222	561	807	1,368	16%
12	WESTSIDE TECH	FL	2yr pub	123	90	213	456	180	636	33%
13	ALBANY TECHNICAL COLLEGE	GA	2yr pub	41	157	198	75	229	304	65%
14	CAPPS COLLEGE	AL	<2yr p-fp	15	183	198	28	442	470	42%
15	CENTRAL GEORGIA TECHNICAL COLLEGE	GA	2yr pub	49	127	176	118	192	310	57%
16	GORDON PHILLIPS BEAUTY SCHOOL	PA	<2yr p-fp	33	141	174	48	157	205	85%
17	LOS ANGELES TRADE TECHNICAL COLLEGE	CA	2yr pub	66	107	173	412	330	742	23%
18	LINCOLN TECHNICAL INSTITUTE	NJ	<2yr p-fp	165	7	172	407	14	421	41%
19	HOUSTON COMMUNITY COLLEGE SYSTEM	TX	2yr pub	36	135	171	175	315	490	35%
20	CLEVELAND MUNICIPAL SCHOOL DISTRICT ADULT AND CONT	OH	<2yr pub	55	112	167	69	137	206	81%
21	ATLANTIC TECHNICAL CENTER	FL	2yr pub	52	109	161	123	212	335	48%
22	ECPI COLLEGE OF TECHNOLOGY	VA	2yr p-fp	77	79	156	329	182	511	31%
23	BISHOP STATE COMMUNITY COLLEGE	AL	2yr pub	43	113	156	84	140	224	70%
24	VIRGINIA COLLEGE-BIRMINGHAM	AL	4yr p-fp	36	120	156	75	164	239	65%
25	NATIONAL SCHOOL OF TECHNOLOGY INC	FL	2yr p-fp	20	135	155	24	186	210	74%

Source: Integrated Postsecondary Educational Data System (IPEDS),1999. Authors' calculations.

Table 6b. Top 25 Institutions by Number of Awards to African Americans, 1999-00 Associate Degrees – All Majors

				Af- Am Male	Af- Am Fem	Af- Am Total	Total Male	Total Fem	Total Total	Af- Am Pct
1	COMMUNITY COLLEGE OF THE AIR FORCE	AL	2yr pub	1,267	529	1,796	8,760	2,249	11009	16%
2	CUNY BOROUGH OF MANHATTAN COMMUNITY COLLEGE	NY	2yr pub	218	615	833	540	1,336	1,876	44%
3	MIAMI-DADE COMMUNITY COLLEGE	FL	2yr pub	297	521	818	1,543	2,442	3,985	21%
4	CENTRAL TEXAS COLLEGE	TX	2yr pub	448	266	714	1,215	886	2,101	34%
5	COMMUNITY COLLEGE OF PHILADELPHIA	PA	2yr pub	141	418	559	299	749	1,048	53%
6	VIRGINIA COLLEGE-BIRMINGHAM	AL	4yr p-fp	172	327	499	404	501	905	55%
7	CUNY NEW YORK CITY TECHNICAL COLLEGE	NY	4yr pub	193	305	498	434	573	1,007	49%
8	PRINCE GEORGES COMMUNITY COLLEGE	MD	2yr pub	131	330	461	241	461	702	66%
9	ROBERT MORRIS COLLEGE	IL	4yr p-nfp	83	358	441	338	881	1,219	36%
10	CUNY KINGSBOROUGH COMMUNITY COLLEGE	NY	2yr pub	116	320	436	431	882	1,313	33%
11	FLORIDA COMMUNITY COLLEGE AT JACKSONVILLE	FL	2yr pub	117	295	412	888	1,533	2,421	17%
12	WAYNE COUNTY COMMUNITY COLLEGE DISTRICT	MI	2yr pub	100	307	407	160	513	673	60%
13	HINDS COMMUNITY COLLEGE	MS	2yr pub	116	290	406	332	626	958	42%
14	BROWARD COMMUNITY COLLEGE	FL	2yr pub	98	280	378	651	1,208	1,859	20%
15	CUNY BRONX COMMUNITY COLLEGE	NY	2yr pub	89	265	354	213	601	814	43%
16	CUYAHOGA COMMUNITY COLLEGE DISTRICT	OH	2yr pub	65	277	342	424	1,082	1,506	23%
17	MONROE COLLEGE-MAIN CAMPUS	NY	4yr p-fp	92	247	339	175	523	698	49%
18	EXCELSIOR COLLEGE	NY	4yr p-nfp	150	176	326	895	1,457	2,352	14%
19	ESSEX COUNTY COLLEGE	NJ	2yr pub	101	219	320	227	439	666	48%
20	TECHNICAL CAREER INSTITUTES	NY	2yr p-fp	227	85	312	655	278	933	33%
21	KEISER COLLEGE	FL	2yr p-fp	119	193	312	471	666	1,137	27%
22	CUNY LA GUARDIA COMMUNITY COLLEGE	NY	2yr pub	79	229	308	387	948	1,335	23%
23	NASSAU COMMUNITY COLLEGE	NY	2yr pub	98	197	295	1,222	1,677	2,899	10%
24	HOUSTON COMMUNITY COLLEGE SYSTEM	TX	2yr pub	69	225	294	313	690	1,003	29%
25	CUNY QUEENSBOROUGH COMMUNITY COLLEGE	NY	2yr pub	94	186	280	406	657	1,063	26%

Source: Integrated Postsecondary Educational Data System (IPEDS), 1999. Authors' calculations.

Table 6c. Top 25 Institutions by Number of Awards to African Americans, 1999-00 Bachelor's Degrees – All Majors

				Af- Am Male	Af- Am Fem	Af- Am Total	Total Male	Total Fem	Total Total	Af- Am Pct
1	FLORIDA AGRICULTURAL AND MECHANICAL UNIVERSITY	FL	4yr pub	489	820	1,309	573	893	1,466	89%
2	SOUTHERN UNIVERSITY AND A & M COLLEGE	LA	4yr pub	347	681	1,028	366	696	1,062	97%
3	HOWARD UNIVERSITY	DC	4yr p-nfp	329	657	986	382	754	1,136	87%
4	NORTH CAROLINA AGRICULTURAL AND TECHNICAL ST UNIV	NC	4yr pub	350	464	814	392	488	880	93%
5	HAMPTON UNIVERSITY	VA	4yr p-nfp	260	543	803	274	568	842	95%
6	TENNESSEE STATE UNIVERSITY	TN	4yr pub	252	518	770	307	643	950	81%
7	CHICAGO STATE UNIVERSITY	IL	4yr pub	179	578	757	207	637	844	90%
8	GRAMBLING STATE UNIVERSITY	LA	4yr pub	275	439	714	288	464	752	95%
9	GEORGIA STATE UNIVERSITY	GA	4yr pub	177	521	698	986	1,642	2,628	27%
10	NORFOLK STATE UNIVERSITY	VA	4yr pub	250	440	690	318	507	825	84%
11	TEMPLE UNIVERSITY	PA	4yr pub	165	519	684	1,231	1,888	3,119	22%
12	MORGAN STATE UNIVERSITY	MD	4yr pub	211	447	658	232	480	712	92%
13	SOUTH CAROLINA STATE UNIVERSITY	SC	4yr pub	240	414	654	250	429	679	96%
14	JACKSON STATE UNIVERSITY	MS	4yr pub	216	415	631	230	428	658	96%
15	SOUTHERN ILLINOIS UNIVERSITY-CARBONDALE	IL	4yr pub	273	335	608	2,555	1,874	4,429	14%
16	UNIVERSITY OF MARYLAND-COLLEGE PARK	MD	4yr pub	224	382	606	2,357	2,614	4,971	12%
17	FLORIDA INTERNATIONAL UNIVERSITY	FL	4yr pub	188	385	573	1,661	2,466	4,127	14%
18	CUNY YORK COLLEGE	NY	4yr pub	141	431	572	245	599	844	68%
19	FLORIDA STATE UNIVERSITY	FL	4yr pub	176	391	567	2,316	3,026	5,342	11%
20	NORTH CAROLINA CENTRAL UNIVERSITY	NC	4yr pub	190	373	563	218	417	635	89%
21	CLARK ATLANTA UNIVERSITY	GA	4yr p-nfp	135	423	558	135	424	559	100%
22	PRAIRIE VIEW A & M UNIVERSITY	TX	4yr pub	224	325	549	261	378	639	86%
23	THE COLLEGE OF NEW ROCHELLE	NY	4yr p-nfp	66	476	542	109	914	1,023	53%
24	UNIVERSITY OF MARYLAND-UNIVERSITY COLLEGE	MD	4yr pub	184	354	538	905	1,170	2,075	26%
25	UNIVERSITY OF SOUTH CAROLINA AT COLUMBIA	SC	4yr pub	170	354	524	1,326	1,647	2,973	18%

Source: Integrated Postsecondary Educational Data System (IPEDS),1999. Authors' calculations.

**Table 7a. Top 25 Institutions by Number of Awards to Hispanics, 1999-00
Awards of at Least 1 but Less than 2 Academic Years – All Majors**

				Hisp Male	Hisp Fem	Hisp Total	Total Male	Total Fem	Total Total	Hisp Pct
1	INSTITUTO DE BANCA Y COMERCIO INC	PR	<2yr p-fp	1,438	1,558	2,996	1,438	1,558	2,996	100%
2	BALDWIN PARK ADULT SCHOOL	CA	<2yr pub	1,551	1,175	2,726	2,223	1,669	3,892	70%
3	WEST VALLEY OCCUPATIONAL CENTER	CA	<2yr pub	834	498	1,332	2,061	1,645	3,706	36%
4	EAST LOS ANGELES OCCUPATIONAL CENTER	CA	<2yr pub	754	492	1,246	849	559	1,408	88%
5	MBTI BUSINESS TRAINING INSTITUTE	PR	<2yr p-fp	189	625	814	189	625	814	100%
6	POMONA UNIFIED SCHOOL DISTRICT ADULT AND CAREER ED	CA	<2yr pub	278	519	797	561	807	1,368	58%
7	SOUTHWESTERN COLLEGE	CA	2yr pub	233	456	689	464	790	1,254	55%
8	PONCE PARAMEDICAL COLLEGE INC	PR	<2yr p-fp	141	466	607	141	466	607	100%
9	CAREER CENTERS OF TEXAS EL PASO	TX	<2yr p-fp	77	392	469	94	423	517	91%
10	LICEO DE ARTE Y TECNOLOGIA	PR	<2yr p-nfp	412	52	464	412	52	464	100%
11	SAN ANTONIO COLLEGE OF MED AND DENTAL ASSTS-SOUTH	TX	<2yr p-fp	75	346	421	77	347	424	99%
12	CENTRO DE ESTUDIOS MULTIDISCIPLINARIOS	PR	<2yr p-nfp	95	298	393	95	298	393	100%
13	UNIVERSAL TECHNOLOGY COLLEGE OF PUERTO RICO	PR	2yr p-nfp	133	234	367	133	234	367	100%
14	EMMAS BEAUTY ACADEMY	PR	<2yr p-fp	64	280	344	64	280	344	100%
15	ROBERT MORRIS COLLEGE	IL	4yr p-nfp	93	249	342	383	953	1,336	26%
16	LOS ANGELES TRADE TECHNICAL COLLEGE	CA	2yr pub	221	116	337	412	330	742	45%
17	INSTITUTO IRMA VALENTIN-ISABELA	PR	<2yr p-fp	53	273	326	53	273	326	100%
18	AUTOMECA TECHNICAL COLLEGE	PR	<2yr p-fp	324	0	324	324	0	324	100%
19	MIAMI TECHNICAL INSTITUTE	FL	<2yr p-fp	109	206	315	119	225	344	92%
20	SOUTHERN CAREERS INSTITUTE-SOUTH TEXAS	TX	<2yr p-fp	66	243	309	68	251	319	97%
21	HACIENDA LA PUENTE UNIFIED SCHOOL DIST-ADULT EDUC	CA	<2yr pub	114	192	306	218	553	771	40%
22	LINCOLN TECHNICAL INSTITUTE DBA THE CITTONE INST	NJ	<2yr p-fp	169	128	297	1,023	976	1,999	15%
23	SAN ANTONIO COLLEGE OF MED AND DENT ASSTS-CENTRAL	TX	<2yr p-fp	18	259	277	26	391	417	66%
24	SOUTH TEXAS VO-TECH INSTITUTE	TX	<2yr p-fp	44	223	267	44	225	269	99%
25	CAGUAS INSTITUTE OF MECHANICAL TECHNOLOGY	PR	2yr p-fp	262	2	264	262	2	264	100%

Source: Integrated Postsecondary Educational Data System (IPEDS),1999. Authors' calculations.

**Table 7b. Top 25 Institutions by Number of Awards to Hispanics, 1999-00
Associate Degrees – All Majors**

				Hispanic Male	Hispanic Female	Hispanic Total	Total Male	Total Female	Total Total	Hispanic Pct
1	MIAMI-DADE COMMUNITY COLLEGE	FL	2yr pub	890	1,386	2,276	1,543	2,442	3,985	57%
2	UNIVERSITY COLLEGE OF CRIMINAL JUSTICE OF PR	PR	2yr pub	1,157	231	1,388	1,157	231	1,388	100%
3	INSTITUTO TECNOLOGICO DE PR-RECINTO DE PONCE	PR	2yr pub	888	177	1,065	888	177	1,065	100%
4	EAST LOS ANGELES COLLEGE	CA	2yr pub	263	539	802	350	709	1,059	76%
5	EL PASO COMMUNITY COLLEGE	TX	2yr pub	172	387	559	254	480	734	76%
6	CUNY LA GUARDIA COMMUNITY COLLEGE	NY	2yr pub	127	400	527	387	948	1,335	39%
7	CUNY BOROUGH OF MANHATTAN COMMUNITY COLLEGE	NY	2yr pub	153	359	512	540	1,336	1,876	27%
8	SOUTHWESTERN COLLEGE	CA	2yr pub	162	332	494	366	609	975	51%
9	CERRITOS COLLEGE	CA	2yr pub	178	291	469	392	693	1,085	43%
10	SANTA ANA COLLEGE	CA	2yr pub	191	276	467	573	755	1,328	35%
11	LAREDO COMMUNITY COLLEGE	TX	2yr pub	170	296	466	180	308	488	95%
12	VALENCIA COMMUNITY COLLEGE	FL	2yr pub	180	262	442	1,137	1,817	2,954	15%
13	SOUTH TEXAS COMMUNITY COLLEGE	TX	2yr pub	155	279	434	166	294	460	94%
14	HUERTAS JUNIOR COLLEGE	PR	2yr p-fp	194	225	419	194	225	419	100%
15	TEXAS SOUTHMOST COLLEGE	TX	2yr pub	128	277	405	133	293	426	95%
16	CUNY BRONX COMMUNITY COLLEGE	NY	2yr pub	86	286	372	213	601	814	46%
17	MT SAN ANTONIO COLLEGE	CA	2yr pub	125	244	369	430	684	1,114	33%
18	SAN ANTONIO COLLEGE	TX	2yr pub	156	208	364	284	453	737	49%
19	TECHNICAL CAREER INSTITUTES	NY	2yr p-fp	210	124	334	655	278	933	36%
20	RIO HONDO COLLEGE	CA	2yr pub	114	219	333	189	316	505	66%
21	CARIBBEAN UNIVERSITY-BAYAMON	PR	4yr p-nfp	187	145	332	187	145	332	100%
22	LOS ANGELES TRADE TECHNICAL COLLEGE	CA	2yr pub	141	180	321	275	358	633	51%
23	PIMA COMMUNITY COLLEGE	AZ	2yr pub	115	201	316	413	779	1,192	27%
24	PASADENA CITY COLLEGE	CA	2yr pub	185	127	312	787	480	1,267	25%
25	LOS ANGELES CITY COLLEGE	CA	2yr pub	118	185	303	281	405	686	44%

Source: Integrated Postsecondary Educational Data System (IPEDS), 1999. Authors' calculations.

**Table 7c. Top 25 Institutions by Number of Awards to Hispanics, 1999-00
Bachelor's Degrees – All Majors**

				Hispanic Male	Hispanic Female	Hispanic Total	Total Male	Total Female	Total Total	Hispanic Pct
1	UNIVERSITY OF PUERTO RICO-RIO PIEDRAS CAMPUS	PR	4yr pub	632	1,683	2,315	632	1,683	2,315	100%
2	FLORIDA INTERNATIONAL UNIVERSITY	FL	4yr pub	869	1,262	2,131	1,661	2,466	4,127	52%
3	UNIVERSITY OF PUERTO RICO-MAYAGUEZ	PR	4yr pub	806	882	1,688	806	882	1,688	100%
4	INTER AMERICAN UNIV OF PUERTO RICO-METRO	PR	4yr p-nfp	488	834	1,322	488	834	1,322	100%
5	THE UNIVERSITY OF TEXAS-PAN AMERICAN	TX	4yr pub	457	782	1,239	514	861	1,375	90%
6	THE UNIVERSITY OF TEXAS AT EL PASO	TX	4yr pub	443	774	1,217	687	1,057	1,744	70%
7	CALIFORNIA STATE UNIVERSITY-LOS ANGELES	CA	4yr pub	398	691	1,089	982	1,518	2,500	44%
8	SAN DIEGO STATE UNIVERSITY	CA	4yr pub	463	609	1,072	2,262	2,939	5,201	21%
9	THE UNIVERSITY OF TEXAS AT AUSTIN	TX	4yr pub	470	592	1,062	3,615	4,211	7,826	14%
10	THE UNIVERSITY OF TEXAS AT SAN ANTONIO	TX	4yr pub	464	593	1,057	1,057	1,397	2,454	43%
11	UNIVERSITY OF CALIFORNIA-LOS ANGELES	CA	4yr pub	430	573	1,003	2,706	3,514	6,220	16%
12	CALIFORNIA STATE UNIVERSITY-FULLERTON	CA	4yr pub	356	579	935	1,799	2,723	4,522	21%
13	PONTIFICAL CATHOLIC UNIV OF PUERTO RICO-PONCE	PR	4yr p-nfp	299	636	935	299	636	935	100%
14	CALIFORNIA STATE UNIVERSITY-LONG BEACH	CA	4yr pub	324	498	822	1,737	2,421	4,158	20%
15	CALIFORNIA STATE UNIVERSITY-NORTHRIDGE	CA	4yr pub	288	526	814	1,435	2,486	3,921	21%
16	UNIVERSITY OF FLORIDA	FL	4yr pub	396	403	799	3,662	3,992	7,654	10%
17	TEXAS A & M UNIVERSITY	TX	4yr pub	409	372	781	3,835	3,677	7,512	10%
18	CALIFORNIA STATE UNIVERSITY-FRESNO	CA	4yr pub	299	433	732	1,195	1,638	2,833	26%
19	UNIVERSITY OF NEW MEXICO-MAIN CAMPUS	NM	4yr pub	245	461	706	1,029	1,694	2,723	26%
20	UNIVERSITY OF ARIZONA	AZ	4yr pub	267	428	695	2,223	2,709	4,932	14%
21	UNIVERSITY OF CALIFORNIA-BERKELEY	CA	4yr pub	274	401	675	2,972	3,197	6,169	11%
22	NEW MEXICO STATE UNIVERSITY-MAIN CAMPUS	NM	4yr pub	297	351	648	874	956	1,830	35%
23	INTER AMERICAN UNIV OF PUERTO RICO-SAN GERMAN	PR	4yr p-nfp	265	376	641	265	376	641	100%
24	ARIZONA STATE UNIVERSITY-MAIN CAMPUS	AZ	4yr pub	243	397	640	3,026	3,596	6,622	10%
25	UNIVERSITY OF HOUSTON-UNIVERSITY PARK	TX	4yr pub	271	359	630	1,538	2,013	3,551	18%

Source: Integrated Postsecondary Educational Data System (IPEDS),1999. Authors' calculations

**Table 8a. Top 25 Institutions by Number of Awards to African Americans, 1999-00
Awards of at Least 1 but Less than 2 Academic Years – Mathematics-
Intensive Majors**

				Af- Am Male	Af- Am Fem	Af- Am Total	Total Male	Total Fem	Total Total	Af- Am Pct
1	LINCOLN TECHNICAL INSTITUTE DBA THE CITTONE INST	NJ	<2yr p-fp	210	118	328	960	468	1,428	23%
2	NASSAU COUNTY BOCES SCHOOL OF PRACTICAL NURSING	NY	<2yr pub	10	303	313	21	392	413	76%
3	ROBERT MORRIS COLLEGE	IL	4yr p-nfp	53	204	257	225	431	656	39%
4	TENNESSEE TECHNOLOGY CENTER AT MEMPHIS	TN	<2yr pub	97	125	222	158	143	301	74%
5	CITY COLLEGES OF CHICAGO-KENNEDY-KING COLLEGE	IL	2yr pub	51	157	208	66	172	238	87%
6	PINELLAS TECHNICAL EDUCATION CENTER	FL	2yr pub	59	128	187	295	313	608	31%
7	CAPPS COLLEGE	AL	<2yr p-fp	15	169	184	28	400	428	43%
8	LINCOLN TECHNICAL INSTITUTE	NJ	<2yr p-fp	165	7	172	407	14	421	41%
9	GREAT RIVERS VOCATIONAL TECHNICAL SCHOOL	AR	<2yr pub	121	39	160	270	109	379	42%
10	AMERICAN CENTER FOR TECHNICAL ARTS AND SCIENCES	PA	<2yr p-fp	19	134	153	28	216	244	63%
11	NATIONAL INSTITUTE OF TECHNOLOGY	MI	<2yr p-fp	48	93	141	207	341	548	26%
12	APEX TECHNICAL SCHOOL	NY	<2yr p-fp	135	3	138	526	9	535	26%
13	VEEB NASSAU COUNTY SCHOOL OF PRACTICAL NURSING	NY	<2yr pub	8	130	138	11	151	162	85%
14	VIRGINIA COLLEGE-BIRMINGHAM	AL	4yr p-fp	36	101	137	75	144	219	63%
15	D G ERWIN TECHNICAL CENTER	FL	2yr pub	40	96	136	209	271	480	28%
16	ECPI TECHNICAL COLLEGE	VA	2yr p-fp	69	55	124	204	115	319	39%
17	ECPI COLLEGE OF TECHNOLOGY	VA	2yr p-fp	73	48	121	324	110	434	28%
18	SEQUOIA INSTITUTE	CA	2yr p-fp	116	2	118	884	20	904	13%
19	COMPUTER LEARNING CENTERS INC	MD	<2yr p-fp	71	45	116	148	65	213	54%
20	ALLIED MEDICAL COLLEGE	MO	<2yr p-fp	6	110	116	12	220	232	50%
21	COYNE AMERICAN INSTITUTE INCORPORATED	IL	<2yr p-fp	102	13	115	277	25	302	38%
22	ATLANTIC TECHNICAL CENTER	FL	2yr pub	42	69	111	103	125	228	49%
23	ATI CAREER TRAINING CENTER	TX	2yr p-fp	32	79	111	106	216	322	34%
24	CLEVELAND INSTITUTE OF DENTAL-MEDICAL ASSISTANTS	OH	<2yr p-fp	6	105	111	7	132	139	80%
25	MID-FLORIDA TECH	FL	2yr pub	80	26	106	408	75	483	22%

Source: Integrated Postsecondary Educational Data System (IPEDS), 1999. Authors' calculations.

Table 8b. Top 25 Institutions by Number of Awards to African Americans, 1999-00 Associate Degrees – Mathematics-Intensive Majors

				Af-Am Male	Af-Am Fem	Af-Am Total	Total Male	Total Fem	Total Total	Af-Am Pct
1	COMMUNITY COLLEGE OF THE AIR FORCE	AL	2yr pub	693	237	930	5,659	1,122	6,781	14%
2	CUNY NEW YORK CITY TECHNICAL COLLEGE	NY	4yr pub	145	124	269	318	275	593	45%
3	CUNY BOROUGH OF MANHATTAN COMMUNITY COLLEGE	NY	2yr pub	90	173	263	202	360	562	47%
4	TECHNICAL CAREER INSTITUTES	NY	2yr p-fp	218	38	256	628	142	770	33%
5	VIRGINIA COLLEGE-BIRMINGHAM	AL	4yr p-fp	149	76	225	369	137	506	44%
6	EXCELSIOR COLLEGE	NY	4yr p-nfp	65	152	217	528	1,346	1,874	12%
7	ROBERT MORRIS COLLEGE	IL	4yr p-nfp	46	166	212	203	376	579	37%
8	PRINCE GEORGES COMMUNITY COLLEGE	MD	2yr pub	71	137	208	132	201	333	62%
9	MIAMI-DADE COMMUNITY COLLEGE	FL	2yr pub	67	138	205	231	430	661	31%
10	KEISER COLLEGE	FL	2yr p-fp	87	114	201	330	392	722	28%
11	DEVRY INSTITUTE	NJ	4yr p-fp	103	52	155	604	195	799	19%
12	ECPI COLLEGE OF TECHNOLOGY	VA	2yr p-fp	102	51	153	319	152	471	32%
13	EDUCATION AMERICA-SOUTHEAST COLLEGE OF TECHNOLOGY	LA	2yr p-fp	89	60	149	303	123	426	35%
14	EDUCATION AMERICA-DENVER NORTH CAMPUS	TX	2yr p-fp	17	124	141	54	270	324	44%
15	SOUTHEAST COLLEGE OF TECHNOLOGY	TN	4yr p-fp	80	47	127	117	53	170	75%
16	CUNY QUEENSBOROUGH COMMUNITY COLLEGE	NY	2yr pub	49	77	126	203	235	438	29%
17	CUNY KINGSBOROUGH COMMUNITY COLLEGE	NY	2yr pub	41	83	124	142	226	368	34%
18	BROWARD COMMUNITY COLLEGE	FL	2yr pub	23	101	124	131	265	396	31%
19	COMPUTER TECH	PA	2yr p-fp	75	48	123	556	179	735	17%
20	SOUTHWEST TENNESSEE COMMUNITY COLLEGE-MACON CAMPUS	TN	2yr pub	49	71	120	222	170	392	31%
21	NORTHWESTERN BUSINESS COLLEGE	IL	2yr p-fp	33	85	118	92	224	316	37%
22	COMPUTER LEARNING CENTERS INC-PHILADELPHIA	PA	2yr p-fp	58	58	116	77	86	163	71%
23	HINDS COMMUNITY COLLEGE	MS	2yr pub	64	51	115	160	121	281	41%
24	ESSEX COUNTY COLLEGE	NJ	2yr pub	44	66	110	104	137	241	46%
25	COMMUNITY COLLEGE OF PHILADELPHIA	PA	2yr pub	30	80	110	76	181	257	43%

Source: Integrated Postsecondary Educational Data System (IPEDS), 1999. Authors' calculations.

Table 8c. Top 25 Institutions by Number of Awards to African Americans, 1999-00 Bachelor's Degrees – Mathematics-Intensive Majors

				Af- Am Male	Af- Am Fem	Af- Am Total	Total Male	Total Fem	Total Total	Af- Am Pct
1	FLORIDA AGRICULTURAL AND MECHANICAL UNIVERSITY	FL	4yr pub	188	233	421	212	237	449	94%
2	NORTH CAROLINA AGRICULTURAL AND TECHNICAL ST UNIV	NC	4yr pub	204	215	419	237	229	466	90%
3	HOWARD UNIVERSITY	DC	4yr p-nfp	123	227	350	157	287	444	79%
4	SOUTHERN UNIVERSITY AND A & M COLLEGE	LA	4yr pub	115	168	283	129	178	307	92%
5	HAMPTON UNIVERSITY	VA	4yr p-nfp	86	196	282	90	208	298	95%
6	PRAIRIE VIEW A & M UNIVERSITY	TX	4yr pub	127	136	263	156	168	324	81%
7	XAVIER UNIVERSITY OF LOUISIANA	LA	4yr p-nfp	66	197	263	69	205	274	96%
8	MORGAN STATE UNIVERSITY	MD	4yr pub	97	164	261	111	179	290	90%
9	DEVRY INSTITUTE OF TECHNOLOGY	GA	4yr p-fp	125	126	251	216	166	382	66%
10	GRAMBLING STATE UNIVERSITY	LA	4yr pub	102	148	250	113	171	284	88%
11	CUNY BERNARD M BARUCH COLLEGE	NY	4yr pub	99	150	249	628	773	1,401	18%
12	TENNESSEE STATE UNIVERSITY	TN	4yr pub	100	139	239	129	179	308	78%
13	UNIVERSITY OF SOUTH CAROLINA AT COLUMBIA	SC	4yr pub	69	158	227	541	635	1,176	19%
14	FLORIDA INTERNATIONAL UNIVERSITY	FL	4yr pub	85	134	219	722	670	1,392	16%
15	UNIVERSITY OF MARYLAND-COLLEGE PARK	MD	4yr pub	105	113	218	1,193	755	1,948	11%
16	JACKSON STATE UNIVERSITY	MS	4yr pub	89	124	213	98	130	228	93%
17	TUSKEGEE UNIVERSITY	AL	4yr p-nfp	77	135	212	84	143	227	93%
18	SOUTH CAROLINA STATE UNIVERSITY	SC	4yr pub	95	105	200	103	105	208	96%
19	CUNY LEHMAN COLLEGE	NY	4yr pub	58	123	181	147	247	394	46%
20	NORTH CAROLINA STATE UNIVERSITY AT RALEIGH	NC	4yr pub	89	83	172	1,276	730	2,006	9%
21	ALABAMA A & M UNIVERSITY	AL	4yr pub	84	88	172	113	96	209	82%
22	GEORGIA INSTITUTE OF TECHNOLOGY-MAIN CAMPUS	GA	4yr pub	102	69	171	1,180	424	1,604	11%
23	CUNY YORK COLLEGE	NY	4yr pub	71	98	169	138	148	286	59%
24	TEMPLE UNIVERSITY	PA	4yr pub	57	111	168	423	449	872	19%
25	GEORGIA STATE UNIVERSITY	GA	4yr pub	57	108	165	352	426	778	21%

Source: Integrated Postsecondary Educational Data System (IPEDS),1999. Authors' calculations.

**Table 9a. Top 25 Institutions by Number of Awards to Hispanics, 1999-00
Awards of at Least 1 but Less than 2 Academic Years – Mathematics-
Intensive Majors**

				Hispanic Male	Hispanic Female	Hispanic Total	Total Male	Total Female	Total Total	Hispanic Pct
1	INSTITUTO DE BANCA Y COMERCIO INC	PR	<2yr p-fp	1,248	1,073	2,321	1,248	1,073	2,321	100%
2	BALDWIN PARK ADULT SCHOOL	CA	<2yr pub	1,306	321	1,627	1,865	457	2,322	70%
3	WEST VALLEY OCCUPATIONAL CENTER	CA	<2yr pub	620	163	783	1,478	586	2,064	38%
4	EAST LOS ANGELES OCCUPATIONAL CENTER	CA	<2yr pub	585	111	696	660	134	794	88%
5	LICEO DE ARTE Y TECNOLOGIA	PR	<2yr p-nfp	410	32	442	410	32	442	100%
6	MBTI BUSINESS TRAINING INSTITUTE	PR	<2yr p-fp	136	267	403	136	267	403	100%
7	CENTRO DE ESTUDIOS MULTIDISCIPLINARIOS	PR	<2yr p-nfp	94	288	382	94	288	382	100%
8	AUTOMECA TECHNICAL COLLEGE	PR	<2yr p-fp	324	0	324	324	0	324	100%
9	SAN ANTONIO COLLEGE OF MED AND DENTAL ASSTS-SOUTH	TX	<2yr p-fp	67	255	322	69	256	325	99%
10	CAREER CENTERS OF TEXAS EL PASO	TX	<2yr p-fp	69	241	310	83	261	344	90%
11	PONCE PARAMEDICAL COLLEGE INC	PR	<2yr p-fp	110	175	285	110	175	285	100%
12	SOUTHERN CAREERS INSTITUTE-SOUTH TEXAS	TX	<2yr p-fp	61	224	285	63	232	295	97%
13	POMONA UNIFIED SCHOOL DISTRICT ADULT AND CAREER ED	CA	<2yr pub	201	77	278	440	174	614	45%
14	MIAMI TECHNICAL INSTITUTE	FL	<2yr p-fp	105	156	261	114	171	285	92%
15	CENTRO DE ESTUDIOS MULTIDISCIPLINARIOS	PR	<2yr p-nfp	52	207	259	52	207	259	100%
16	CAGUAS INSTITUTE OF MECHANICAL TECHNOLOGY	PR	2yr p-fp	239	2	241	239	2	241	100%
17	AUTOMECA TECHNICAL COLLEGE	PR	<2yr p-fp	230	4	234	230	4	234	100%
18	COMPUTER LEARNING CENTERS INC-PARAMUS NJ	NJ	<2yr p-fp	173	59	232	467	148	615	38%
19	UNIVERSAL TECHNOLOGY COLLEGE OF PUERTO RICO	PR	2yr p-nfp	131	87	218	131	87	218	100%
20	SEQUOIA INSTITUTE	CA	2yr p-fp	203	4	207	884	20	904	23%
21	ESCUELA TECNICA DE ELECTRICIDAD	PR	<2yr p-fp	200	2	202	200	2	202	100%
22	LINCOLN TECHNICAL INSTITUTE DBA THE CITTONE INST	NJ	<2yr p-fp	153	47	200	960	468	1,428	14%
23	LOS ANGELES TRADE TECHNICAL COLLEGE	CA	2yr pub	181	15	196	319	43	362	54%
24	SOUTHERN CAREERS INSTITUTE	TX	<2yr p-fp	13	177	190	16	243	259	73%
25	SAN ANTONIO COLLEGE OF MED AND DENT ASSTS-CENTRAL	TX	<2yr p-fp	17	162	179	25	232	257	70%

Source: Integrated Postsecondary Educational Data System (IPEDS), 1999. Authors' calculations.

**Table 9b. Top 25 Institutions by Number of Awards to Hispanics, 1999-00
Associate Degrees – Mathematics-Intensive Majors**

				Hisp Male	Hisp Fem	Hisp Total	Total Male	Total Fem	Total Total	Hisp Pct
1	MIAMI-DADE COMMUNITY COLLEGE	FL	2yr pub	114	191	305	231	430	661	46%
2	HUERTAS JUNIOR COLLEGE	PR	2yr p-fp	183	106	289	183	106	289	100%
3	INSTITUTO TECNOLOGICO DE PR-RECINTO DE PONCE	PR	2yr pub	201	78	279	201	78	279	100%
4	RIVERSIDE COMMUNITY COLLEGE	CA	2yr pub	78	186	264	366	784	1,150	23%
5	TECHNICAL CAREER INSTITUTES	NY	2yr p-fp	197	57	254	628	142	770	33%
6	CARIBBEAN UNIVERSITY-BAYAMON	PR	4yr p-nfp	154	63	217	154	63	217	100%
7	EL PASO COMMUNITY COLLEGE	TX	2yr pub	89	109	198	120	152	272	73%
8	ITT TECHNICAL INSTITUTE	CA	2yr p-fp	161	25	186	235	36	271	69%
9	HIGH-TECH INSTITUTE	AZ	2yr p-fp	158	28	186	564	102	666	28%
10	CUNY LA GUARDIA COMMUNITY COLLEGE	NY	2yr pub	67	119	186	198	318	516	36%
11	NATIONAL COLLEGE OF BUSINESS AND TECHN-BAYAMON	PR	2yr p-fp	61	117	178	61	117	178	100%
12	TEXAS STATE TECHNICAL COLLEGE-HARLINGEN	TX	2yr pub	128	48	176	149	53	202	87%
13	LAREDO COMMUNITY COLLEGE	TX	2yr pub	63	104	167	69	109	178	94%
14	COLEGIO TECNOLOGICO DE SAN JUAN	PR	2yr pub	77	88	165	77	88	165	100%
15	SOUTH TEXAS COMMUNITY COLLEGE	TX	2yr pub	74	81	155	79	90	169	92%
16	WESTERN TECHNICAL INSTITUTE	TX	2yr p-fp	150	2	152	171	3	174	87%
17	COMPUTER LEARNING CENTERS INC	CA	2yr p-fp	104	48	152	231	89	320	48%
18	ST PHILIPS COLLEGE	TX	2yr pub	99	45	144	203	130	333	43%
19	COLUMBIA COLLEGE	PR	4yr p-fp	43	101	144	43	101	144	100%
20	ALBUQUERQUE TECHNICAL VOCATIONAL INSTITUTE	NM	2yr pub	58	81	139	179	218	397	35%
21	ITT TECHNICAL INSTITUTE	CA	4yr p-fp	121	14	135	197	26	223	61%
22	WESTERN TECHNICAL INSTITUTE	TX	2yr p-fp	122	8	130	150	10	160	81%
23	INSTITUTO TECNOLOGICO DE PR-MANATI	PR	2yr pub	78	49	127	78	49	127	100%
24	SAN ANTONIO COLLEGE	TX	2yr pub	48	75	123	100	174	274	45%
25	ROBERT MORRIS COLLEGE	IL	4yr p-nfp	42	81	123	203	376	579	21%

Source: Integrated Postsecondary Educational Data System (IPEDS),1999. Authors' calculations.

**Table 9c. Top 25 Institutions by Number of Awards to Hispanics, 1999-00
Bachelor's Degrees – Mathematics-Intensive Majors**

				Hisp Male	Hisp Fem	Hisp Total	Total Male	Total Fem	Total Total	Hisp Pct
1	UNIVERSITY OF PUERTO RICO-MAYAGUEZ	PR	4yr pub	693	619	1,312	693	619	1,312	100%
2	FLORIDA INTERNATIONAL UNIVERSITY	FL	4yr pub	388	312	700	722	670	1,392	50%
3	UNIVERSITY OF PUERTO RICO-RIO PIEDRAS CAMPUS	PR	4yr pub	258	422	680	258	422	680	100%
4	INTER AMERICAN UNIV OF PUERTO RICO- METRO	PR	4yr p-nfp	196	292	488	196	292	488	100%
5	PONTIFICAL CATHOLIC UNIV OF PUERTO RICO- PONCE	PR	4yr p-nfp	110	308	418	110	308	418	100%
6	THE UNIVERSITY OF TEXAS AT EL PASO	TX	4yr pub	208	201	409	323	291	614	67%
7	TEXAS A & M UNIVERSITY	TX	4yr pub	222	148	370	2,178	1,416	3,594	10%
8	THE UNIVERSITY OF TEXAS AT AUSTIN	TX	4yr pub	222	148	370	1,895	1,179	3,074	12%
9	THE UNIVERSITY OF TEXAS-PAN AMERICAN	TX	4yr pub	170	177	347	197	200	397	87%
10	UNIVERSITY OF FLORIDA	FL	4yr pub	200	104	304	1,916	1,200	3,116	10%
11	THE UNIVERSITY OF TEXAS AT SAN ANTONIO	TX	4yr pub	163	130	293	440	337	777	38%
12	INTER AMERICAN UNIV OF PUERTO RICO-SAN GERMAN	PR	4yr p-nfp	121	168	289	121	168	289	100%
13	UNIVERSITY OF PUERTO RICO-HUMACAO	PR	4yr pub	93	190	283	93	190	283	100%
14	UNIVERSIDAD POLITECNICA DE PUERTO RICO	PR	4yr p-nfp	217	60	277	217	60	277	100%
15	UNIVERSITY OF PUERTO RICO-BAYAMON	PR	4yr pub	132	114	246	132	114	246	100%
16	NEW MEXICO STATE UNIVERSITY-MAIN CAMPUS	NM	4yr pub	155	90	245	456	298	754	32%
17	UNIVERSITY OF HOUSTON-UNIVERSITY PARK	TX	4yr pub	137	97	234	841	626	1,467	16%
18	UNIVERSITY OF PUERTO RICO-CAYEY UNIVERSITY COLLEGE	PR	4yr pub	74	154	228	74	154	228	100%
19	UNIVERSITY OF PUERTO RICO-ARECIBO	PR	4yr pub	70	156	226	70	156	226	100%
20	UNIVERSITY OF PUERTO RICO-MEDICAL SCIENCES CAMPUS	PR	4yr pub	32	187	219	32	187	219	100%
21	UNIVERSITY OF MIAMI	FL	4yr p-nfp	103	113	216	334	386	720	30%
22	UNIVERSIDAD DEL TURABO	PR	4yr p-nfp	107	88	195	107	88	195	100%
23	UNIVERSITY OF ARIZONA	AZ	4yr pub	102	90	192	1,090	755	1,845	10%
24	CUNY BERNARD M BARUCH COLLEGE	NY	4yr pub	76	102	178	628	773	1,401	13%
25	INTER AMERICAN UNIV OF PUERTO RICO- BAYAMON	PR	4yr p-nfp	101	76	177	101	76	177	100%

Source: Integrated Postsecondary Educational Data System (IPEDS),1999. Authors' calculations