MINORITY MALES AND STEM: *WHAT'S THE PROBLEM?*

EFFECTIVELY REACHING DIVERSE STUDENTS

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THE STATUS OF MINORITY MALES ACROSS THE EDUCATIONAL LANDSCAPE

Headlines and Articles!!

The Trouble with Boys

Latino Males in Crises

The Trouble with Black and Latino Boys

Responding to the Crises Confronting Black Youth

NYU Forum of Black and Latino Dropout Crises

Black and Latino Males More Likely in Special Ed

Low STEM Minority Retention Blamed on Affirmative Action

THE STATUS OF MINORITY MALES ACROSS THE EDUCATIONAL LANDSCAPE

Reminder:

Minority male outcomes across the entire educational sector are CUMMULATIVE.

They did not occur overnight.

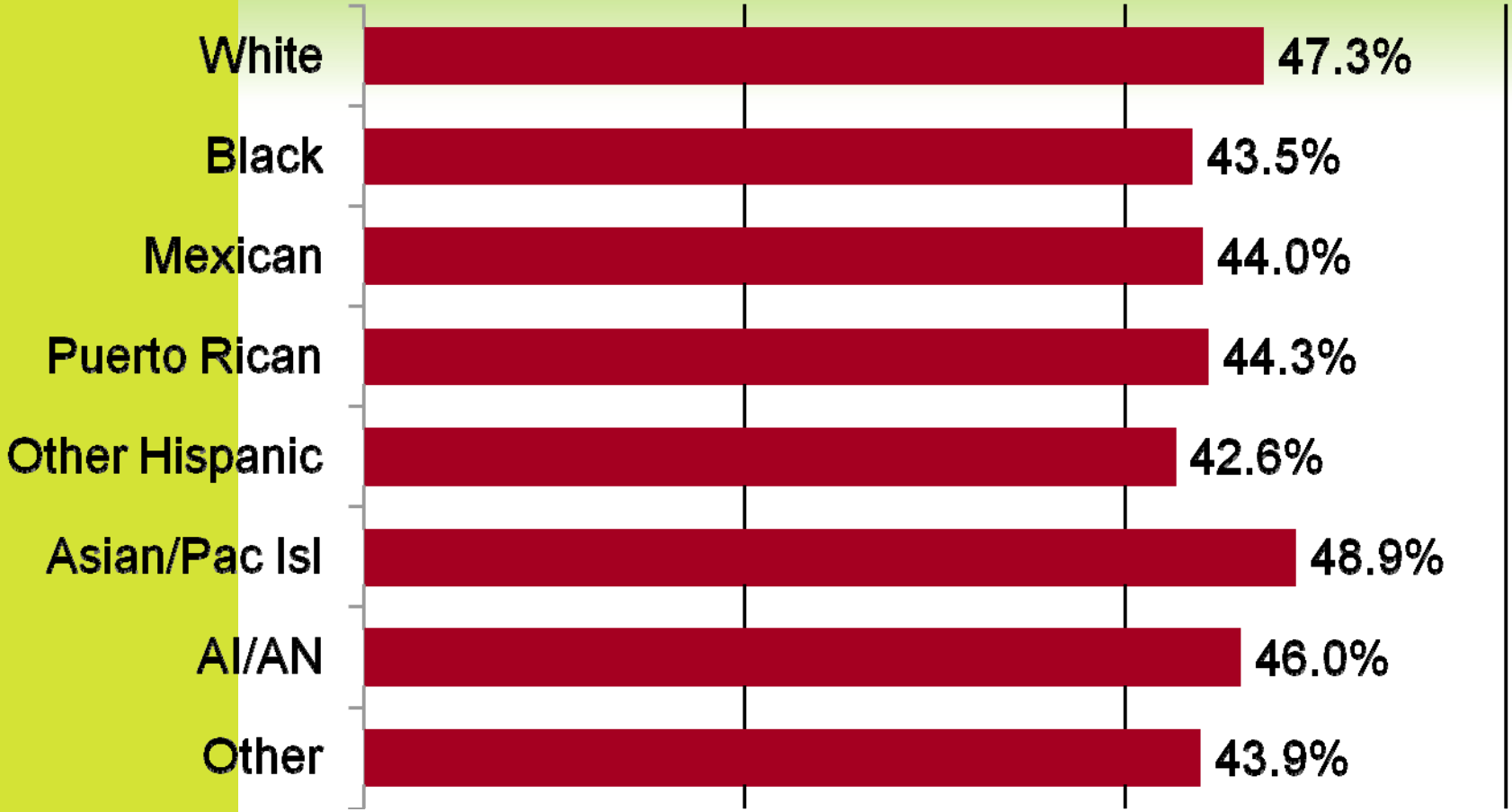
STEM IS PARTICULARLY NARROW FOR AFRICAN AMERICAN, HISPANIC AMERICAN, AND AMERICAN INDIAN MALES

- Under-enrollment in college preparatory courses in high school, i.e., mathematics and science;
- Unique psychosocial barries to academic achievement; and
- Disproportionate institutional barriers to improved academic outcomes in their schools.

PSYCHOSOCIAL AND INSTITUTIONAL CHALLENGES

- Lack of male role models in schools and business;
- Disproportionate disciplinary action including suspension and expulsion;
- Disproportionate pull of the labor force and military;
- Lower teacher expectations of underrepresented minority male achievement evidenced by the consistent awarding of lower grades, more criticism, less praise, and less attention;
- Stronger peer pressure to disassociate with school and studying; and
- Disproportionate assignment to special education classes.

PERCENTAGE OF 2009 SAT TEST-TAKERS WHO WERE MALE



Source: The College Board, *2009 College-Bound Seniors Total Group Profile Report.* NEA, 2009.

THE STATUS OF MINORITY MALES ACROSS THE EDUCATIONAL LANDSCAPE

Note: In the very competitive and most competitive institutions, most minority students at the top ten institutions are keeping pace with their white peers.

- Hispanic and Black students attending the top ten schools in the highly competitive and competitive categories actually graduate at *higher* rates, on average, than their white classmates.

THE STATUS OF MINORITY MALES ACROSS THE EDUCATIONAL LANDSCAPE

- White, Black and Hispanic graduation rates are highly correlated. Most schools with high Black and Hispanic graduation rates seem to do an excellent job of graduating all their students.

Why?

THE STATUS OF MINORITY MALES ACROSS THE EDUCATIONAL LANDSCAPE

"Most of the officials at top-performing schools said it was overall **institutional commitment** to student retention and completion, not specific attention to the success of particular groups, that drove high minority completion rates. Likewise, administrators at schools with low minority rates often pointed out that their graduation rates were lackluster across the board."

THE STATUS OF MINORITY MALES ACROSS THE EDUCATIONAL LANDSCAPE

- Overall, these results suggest some institutions do a better job of ensuring that their students earn a degree in six years and that the **institutional policies and practices** that facilitate student completion may pay dividends for all types of students, leading to high rates across the board.

- At other schools, where overall graduation rates are low, Black and Hispanic students appear to be especially prone to non-completion.

STEM SOLUTIONS FOR MINORITY MALES

STEM undergraduate persistence for minority students is sustained by strong family ties and support structures.

IHEs must revisit and rethink the notions of integration and mainstreaming into "college life" for a minority student i.e., implies that the parents of minority students are vital players in the college persistence arena.

Hispanic, African American and Native American males, generally, are the first to attend college and see themselves as vital links for the betterment of their families and siblings. Thus, their motivation would necessarily be sustained by strong family ties. This further suggests that STEM interventions should explore ways to engage the families of these students in activities that generate support for their sons.

Bean's Dependency Theory (1992)

STEM SOLUTIONS FOR MINORITY MALES

- Research Projects, Advising/Mentoring and Social Interactions with Faculty distinguish STEM minority male persisters from non-persisters.

- Hands on research, advising and mentoring and social interactions with faculty are interventions that make a difference in the persistence of minority males in STEM and relatively easy to implement.

STEM SOLUTIONS FOR MINORITY MALES

- The importance of faculty interactions among males is particularly interesting. Males may be more likely to interact socially with faculty because most faculty are male and consequently they may feel less inhibited to become engaged with faculty informally, and males who capitalize on such opportunities may be more likely to persist.

- This suggests that any reluctance to increase these types of interactions may negate a "natural fit" that would enhance male persistence in S/E.

STEM SOLUTIONS FOR MINORITY MALES

Related Issues

STEM Persisters report the following attendant themes:

A high level of stress is associated with being a minority STEM student. Family responsibilities, perceptions of unfriendly environments, and lack of encouragement by teachers in grade school or high school about going to college are often reported by students in highly emotive ways.

STEM SOLUTIONS FOR MINORITY MALES

Related Issues

- Often, male and female students report that they perceived "none" or "low expectations" directed towards them as minority students in STEM.

- Many non-persisters, females and males, often cite this theme by reporting that the motivation behind switching to a "people oriented" major or profession was to prepare them to work and contribute to their own communities. This suggests that there may be culture specific variables that may influence minority student persistence STEM. It also suggests that STEM may not be perceived as "people oriented."

STEM SOLUTIONS FOR MINORITY MALES

Evidence Based Contributors to STEM Persistence for Minority Males:

- Financial Support - Dominating impact of financial support of minority student's decisions to stay or leave college.
- Social Interactions with Faculty
- Encouragement from Family
- Encouragement from Significant Others
- Role Models of the Same Ethnicity/Gender/Race
- Hands-on, collaborative pedagogical practices
- Informed and relevant advising and mentoring

ASSOCIATE'S DEGREES AWARDED TO MEN AND WOMEN, BY RACE/ETHNICITY, 1976-77 AND 2006-07

	1976-77		2006-07	
	Men	Women	Men	Women
White	178,236	164,054	191,565	300,007
Black	15,330	17,829	28,273	63,256
Hispanic	9,105	7,531	31,646	53,764
Asian/Pac Isl	3,630	3,414	15,510	21,756
AI/AN	1,216	1,282	2,873	5,710

Sources: National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Table 281

BACHELOR'S DEGREES AWARDED TO MEN AND WOMEN, BY RACE/ETHNICITY, 1976-77 AND 2006-07

	1976-77		2006-07	
	Men	Women	Men	Women
White	438,161	369,527	480,558	619,292
Black	25,147	33,489	49,685	96,968
Hispanic	10,318	8,425	44,750	70,186
Asian/Pac. Isl.	7,638	6,155	47,582	57,715
Nat. American	1,804	1,522	4,505	6,950

Source: National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Table 284.

FOUR-YEAR ENGINEERING DEGREES AWARDED TO MEN AND WOMEN, BY RACE/ETHNICITY, 2006-07

	Men	Women
White	38,574	7,420
Black	2,299	1,008
Hispanic	3,181	911
Asian/Pac. Isl.	6,934	2,046
Nat. American	248	68

Source: National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall 2007; NEA, 2009.

GRADUATE SCHOOL ENROLLMENTS BY GENDER AND RACE/ETHNICITY, 1977 AND 2007

(ROUNDED TO NEAREST 1,000)

	1977		2007	
	Men	Women	Men	Women
White	589,000	527,000	560,000	905,000
Black	32,000	47,000	73,000	190,000
Hispanic	15,000	12,000	50,000	91,000
Asian/Pac Isl	14,000	10,000	57,000	71,000
AI/AN	3,000	2,000	5,000	11,000

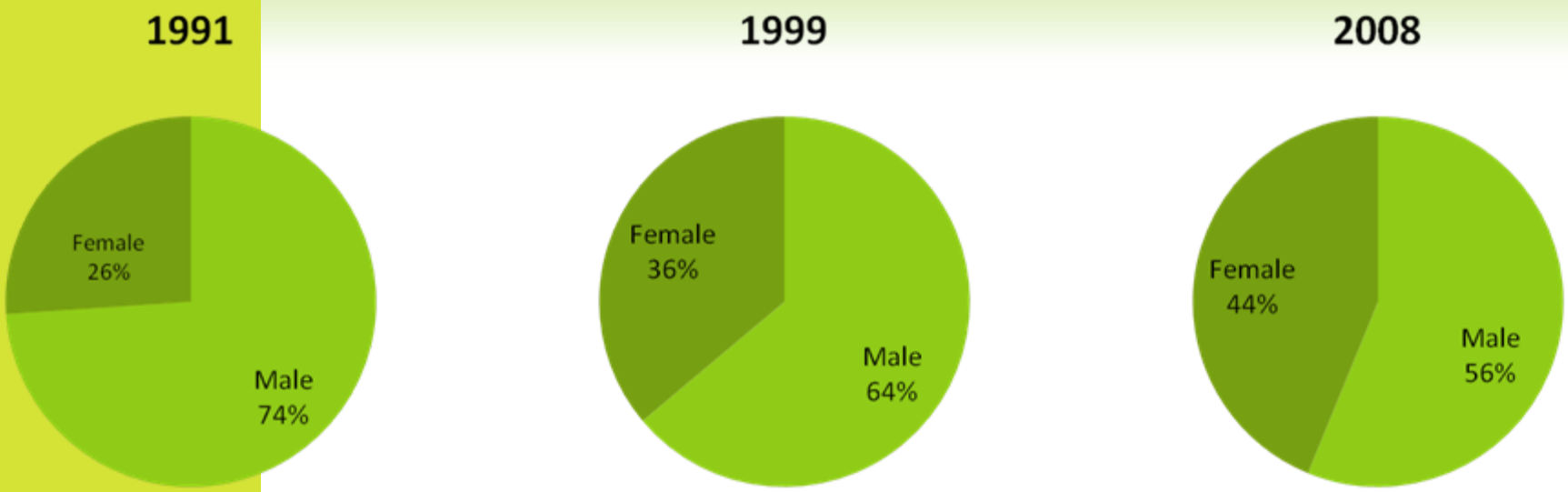
Source: National Center for Education Statistics, Integrated Condition of Education 2009, Table A-11-2; NEA, 2009.

MASTER'S DEGREES AWARDED TO U.S. MEN AND WOMEN, BY RACE/ETHNICITY, 1976-77 AND 2006-07

	1976-77		2006-07	
	Men	Women	Men	Women
White	139,210	126,851	151,358	247,909
Black	7,781	13,256	17,907	44,667
Hispanic	3,268	2,803	12,362	22,460
Asian/Pac. Isl.	3,123	1,999	16,451	19,683
Nat. American	521	446	1,264	2,311

Source: National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS),. Table 287; NEA, 2009.

STEM PHD COMPLETIONS BY HISPANICS



Source: NSF/NIH/USED/NEH/USDA/NASA, Survey of Earned Doctorates

THE 30-YEAR BLACK PROPORTIONAL FLIP-FLOP

In 1977, 1,194 Blacks received Doctorates.

- Up to that time, represented the highest number of Blacks receiving Doctorate degrees in any single year.
- 754 were men and 440 were women.
- Thus, 63.1% were males and 36.9% were women.
- In 2007, 36% of Blacks receiving Doctorate degrees were males--thus, the proportional flip-flop.