BEHIND THE MYTH OF MERITOCRACY: HOW STEM FIELDS PERPETUATE RACIAL AND GENDER DISPARITIES

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RACIAL AND GENDER REPRESENTATION OF STEM WORKERS

Scientists and engineers working in science and engineering occupations: 2015

- White men: 49%
- White women: 18%
- Asian men: 14%
- Asian women: 7%
- Black men: 3%
- Black women: 2%
- Hispanic men: 4%
- Hispanic women: 2%
- Other men: 1%
- Other women: 1%

NOTES: Hispanic may be any race. Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and multiple race.

Women, Minorities, and Persons with Disabilities in Science and Engineering: 2017
RACIAL AND GENDER DEMOGRAPHICS IN THE US

US Gender and Race/Ethnicity Populations

- Black Men: 28.20%
- Black Women: 1.92%
- Hispanic Men: 2.02%
- Hispanic Women: 1.21%
- Native Men: 8.88%
- Native Women: 2.60%
- Asian Men: 13.84%
- Asian Women: 2.86%
- White Men: 0.29%
- White Women: 0.29%
- Multiracial Men: 0.21%
- Multiracial Women: 0.20%
- Other Men: 2.02%
- Other Women: 0.21%
US RACIAL DEMOGRAPHICS 2019

- Non-Hispanic White women: 29%
- Non-Hispanic White men: 30%
- Hispanic women: 9%
- Hispanic men: 9%
- Black women: 7%
- Black men: 6%
- Asian American women: 3%
- Asian American men: 3%
RACIAL/GENDER DISPARITIES IN STEM

- Black, Latina/o workers are underrepresented in STEM fields
- Asian Americans and White men are overrepresented
- White women are underrepresented
- What explains these disparities?
UNDERLYING ASSUMPTIONS

- Women will prioritize family over work
- Black, Latino/a workers aren’t as qualified
- “We can’t find any, and when we do, they don’t stay”
- STEM workplaces are meritocracies
REALITIES

- Biases in the hiring process (Chavez 2019)
- “Chilly climate” (Williams 2015)
- Harassment (Cech and Waidzunas 2011)
- Partial tokenism (Wingfield 2013)
BIAS IN THE HIRING PROCESS

- Often involves working with team(s)
- Designed to assess how well candidate fits the group
- Non-US born Asian workers often penalized
- Seen as “too foreign,” “too different” to assimilate
- Results in hiring discrimination
- Not based on skills but on cultural factors
CHILLY CLIMATE

- Women of all races describe feeling excluded in STEM
- Overlooked for important projects
- Must repeatedly prove competence
- Black and Latina women often mistaken for cleaning staff
- Stereotypes of Asian American women help with students
- Do not translate into more opportunities for advancement
- Constant pressure to manage emotions and conceal anger
- Yet women in STEM often reluctant to attribute to gender bias
HARASSMENT

- Sexual and gender based
- LGBTQ students in STEM isolated, face pressure to hide their identities
- Women of all races encounter sexual harassment
- For women of color, this is also shaped by racial stereotypes
PARTIAL TOKENISM

- Tokens are numerical minorities who have a hard time assimilating
- For Black men, token experience is more complicated
- Hypervisible because of race
- Gender allows them more opportunities to forge connections with colleagues
- Still engage in very careful self-presentation to avoid stereotypes
- Often isolated due to low numbers of other black men in their fields
- Can create unwelcoming environment, compromise opportunities for advancement in STEM
SOLUTIONS FROM THE PRIVATE SECTOR

- Targeted recruitment
- In a 5 year period, increased women in management by 10%
- Increased black men managers by 8%, black women by 9%
- Formal mentoring programs
- Increased numbers of managers from underrepresented groups by 9-24% (varies depending on group)
SOLUTIONS FROM THE PRIVATE SECTOR (CTD)

- Training managers about sexual harassment
- Increased Latinas in management by 2%, Black and Asian women by 5%, White women by 6%
- Diversity task forces/managers
- Increased numbers of managers from underrepresented groups by 9-30%
CONCLUSIONS

- Particular dynamics of STEM fields can make it harder for women/workers of color to advance
- Belief in meritocracy can obscure non-meritocratic processes
- Biases in hiring
- Harassment
- Chilly climate
- Partial tokenization
- Solutions involve prioritizing mentorship, diversity in recruitment, and training managers to be allies
REFERENCES


