

Women of Color in the STEM Disciplines

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Where are the Women of Color ?

TABLE 1

Numbers of tenured/tenure track faculty at the top 100 research institutions by race/ethnicity and by gender (FY 2007).

Discipline/department	African American	Hispanic	Native American	Total number of faculty
Chemistry	44 (8)	58 (13)	8 (1)	2,787 (383)
Mathematics and statistics	64 (7)	74 (16)	3 (0)	4,303 (554)
Computer science	23 (6)	46 (5)	1 (0)	2,531 (334)
Astronomy (top 40)	6 (2)	7 (1)	0 (0)	594 (94)
Physics	21 (2)	61 (9)	2 (0)	3,335 (304)
Biological sciences	101 (26)	190 (45)	16 (3)	7,455 (1822)
Earth sciences	19 (4)	48 (8)	8 (1)	2,047 (338)

Note: The data are displayed as number of men followed by the number of women in parentheses.

Towns, M. H. (2010). Where are the women of color? Data on African American, Hispanic, and Native American faculty in STEM. *Journal of College Science Teaching*, 39(4), 6-7.

My process...

- Understanding the experience of being underrepresented as a woman of color
- Literature Reviewed
 - Physical Environments & Identity Cues
 - Glass Ceiling
 - Harassment
 - Pet to Threat Career Transition
 - Workplace Climate and Diversity Ideologies
 - Micro-aggressions and Incivilities

- **Is the STEM academic workplace safe for Women of Color?**

Physical Environment & Identity Cues

- **Our physical environments can signal who belongs and who does not**

Harassment Experiences

- Women's likelihood of sexual harassment increases as their level of representation decreases
- Women of color report significantly more racial and sexual harassment than any men or White women

The Glass Ceiling

The invisible barrier that keeps women and minorities from ascending to positions of leadership and authority in their institutions despite their experiences and credentials

Explanations for the Glass Ceiling

What leaders say...

- Not enough women in the pipeline
- Women not in the pipeline long enough
- Women not committed
- Women have conflicting interests
- Women lack the right kind of experiences

What "breakthrough" women say...

- Male cultures
- White cultures
- Poor climates for diversity
- Restrictive stereotypes
- Lack of mentors and networks
- Lack of the right kind of experiences

Strategies for Breaking Through

What leaders say...

- Fill the pipeline
- Develop committed women
- Retain senior women who are willing to sponsor/mentor female proteges

What "breakthrough" women say...

- Exceed expectations
- Adopt a style that puts others at ease

Pet to Threat Transition

● Pet

- Newcomers or Pioneers
- Isolated tokens
- Less experienced
- Attributions for selection
 - Diversity/AA
 - “Feel good factor”
 - Optics
- Reactions
 - Self :Patronized and over-protected
 - Others: Over rewarded and over recognized
- Overexposed & underutilized
 - Experience limited career opportunities
- Benevolent prejudice or discrimination

● Threat

- Senior level
- Isolated
- More experienced
- Attributions for promotion
 - Questioned
- Feelings of being a perceived threat
- Reactions
 - Self: Lack of reward and recognition
 - Others: Questioned by peers on their achievements and success
- Experience limited career opportunities
- Hostile/Overt discrimination

Voices of Pets and Threats

● Pet Identity

- “I felt like a pet when my department paraded me as a “diverse body” and used my diversity-related university and community work to demonstrate its commitment to diversity in annual reports and external reviews but then criticized me, and I would even say punished me, for doing this work.”

-Latina Assistant Professor

- “I felt like a "pet" as a student at XXXXXXXXXXXX. I was one of VERY few black students in the XXXXX department and felt the irony of bringing diversity to the school, but not being allowed the freedom of creative and cultural expression to blossom.”

-African American Graduate Student & Staff member

● Threat Identity

- “I realized I was a threat when I got promoted to full and no one acknowledged it as had always been done for other faculty in the past. No announcement on the department listserv as had been our tradition. I appreciate the one faculty member who came to my office to shake my hand and congratulate me. “

-Black female professor and administrator

- “I realized I was a threat when another Black female faculty member asked me how did I get promoted already. Rather than being happy for me or congratulating me, she seemed questioning and suspicious like my White colleagues.”

-Black female professor

Diversity Climate & Ideologies

- **Multiculturalism**

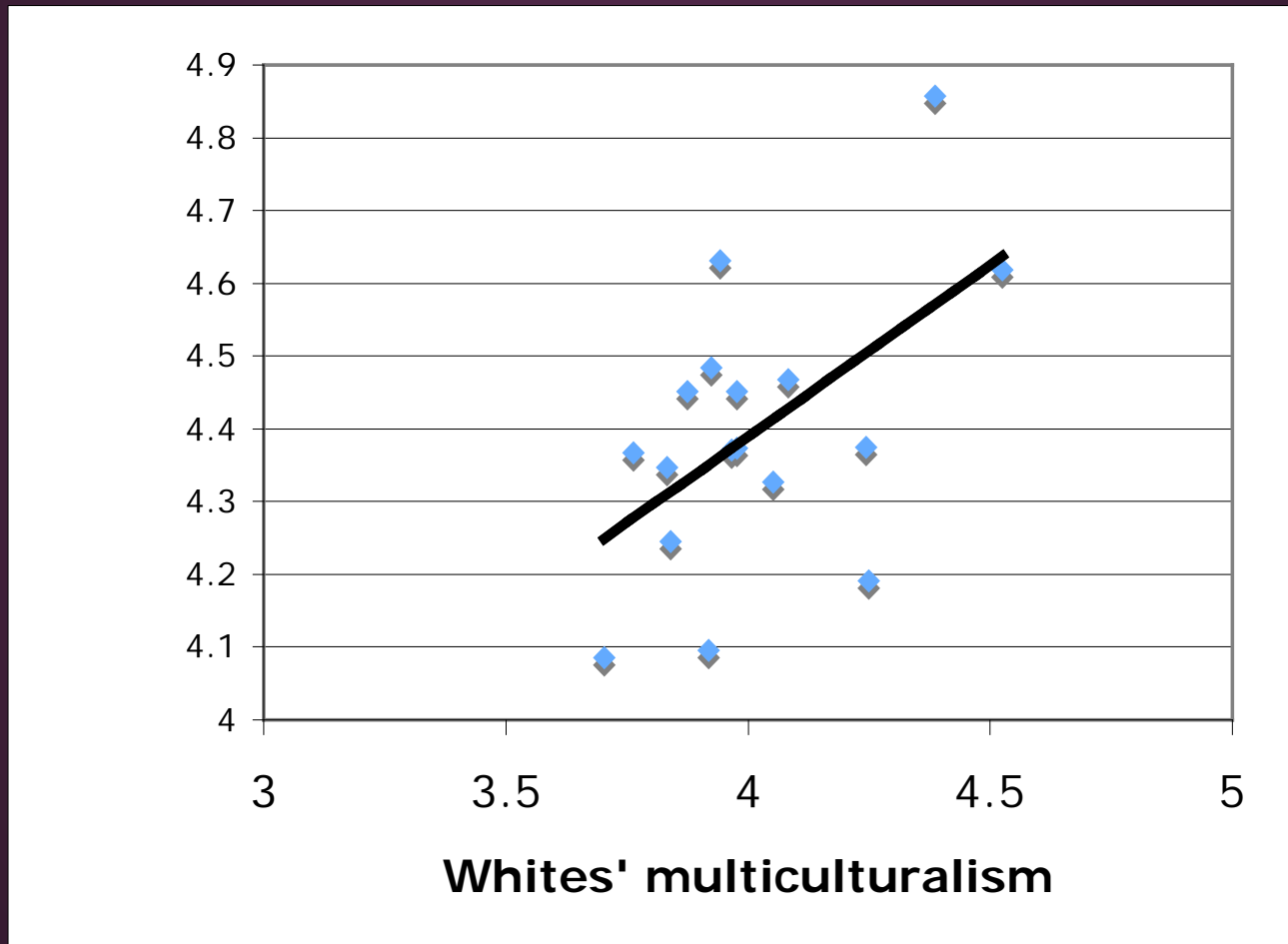
- Acknowledge differences
- Embrace diversity
- Diversity as capital

- **Colorblindness**

- Ignore differences
- Silence diversity
- Diversity as a stigma

Relationship between departments' Whites' MC and minorities' engagement

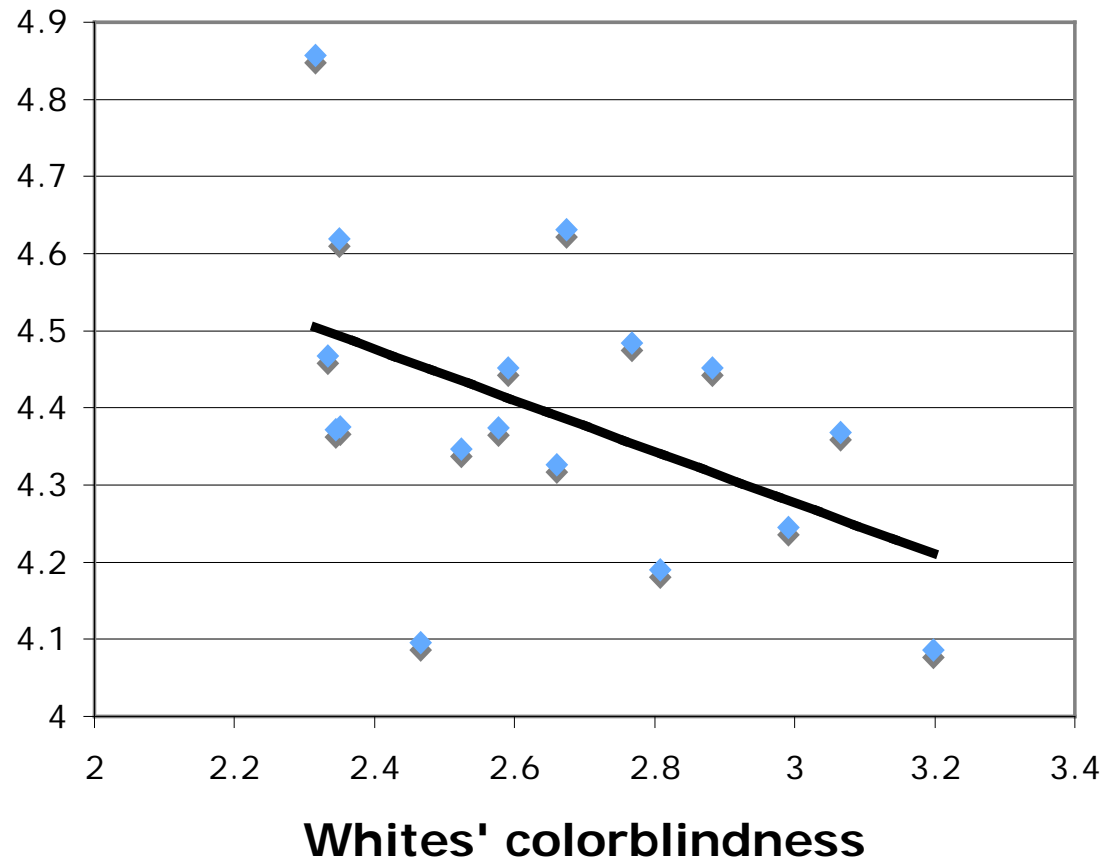
(Plaut, Thomas, & Goren, 2009)



$$R^2 = .32, \beta = .57, t = 2.68, p = .017$$

Relationship between departments' Whites' CB and minorities' engagement

(Plaut, Thomas, & Goren, 2009)



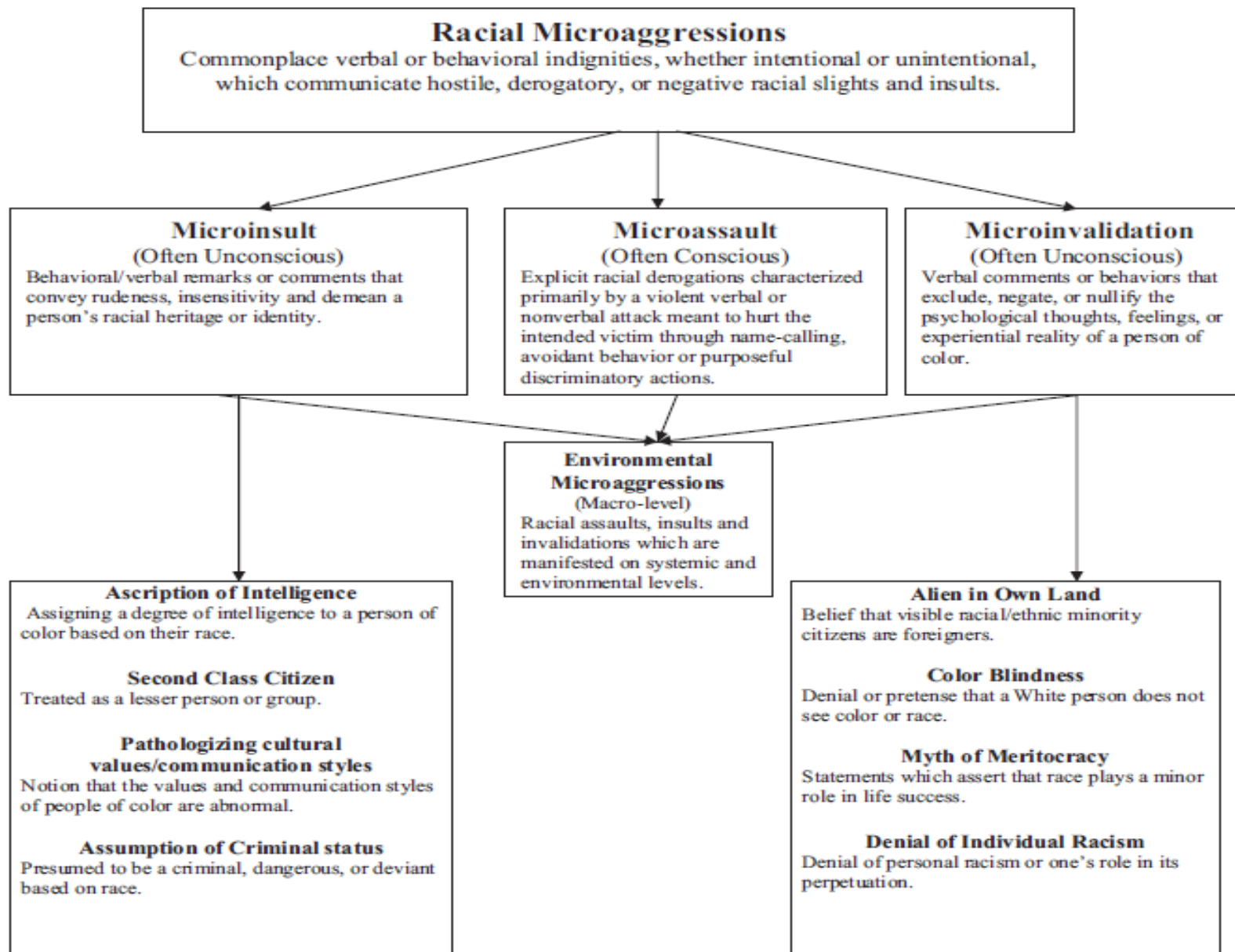
$$R^2 = .29, \beta = -.54, t(15) = 2.50, p = .025$$

Diversity Ideology

Conclusions

- Whites and minorities perceive and value colorblindness and multiculturalism differently
- Whites' diversity ideologies matter to minority peers' engagement
- How?

Figure 1
 Categories of and Relationships Among Racial Microaggressions



Micro-Aggressions (cont)

Micro-aggression	Message	Theme	Type of Microaggression
“Where are you from? You speak good English...”	You are not American You are a foreigner	Alien in own land	Microinvalidation
“You are so articulate...”	People of color generally are not smart; it is unusual for someone of your group to be smart	Ascription of Intelligence	Microinsult
“There is only one race; the human race.”	Denying the unique experience of your group or minority status; Assimilation	Color blindness	Microinvalidation
“As a woman, I know what you go through as a racial minority.”	Your racial oppression is no different than my gender oppression. I can't be a racist. I'm like you.	Denial of individual racism	Microinvalidation
The physical environment-- buildings named after Whites and/or portraits only of White men	You don't belong; you won't succeed You are an outsider	Macro level microaggression	Environmental micro-aggression

Adapted from, Sue, D.W. et al (2007). Racial microaggressions in everyday life: Implications for clinical practice. *American Psychologist*, 62, (271-286).

Incivilities

● Examples

- Interruptions
- Talked over
- Translated for
- Called the wrong name or have your name repeatedly mispronounced
- Excluded by others
- Ideas discounted

● Outcomes

- Psychological distress, dissatisfaction, disengagement, and performance declines (students)
- Coincide with harassment and threatens well-being

Concluding thoughts

- **WoC are**
 - Vulnerable to both access and treatment discrimination
 - Frequently isolated and vulnerable
- **STEM workplaces**
 - May resist diversity through their cultures/ideologies but also through poor climates for diversity and their physical workspace
 - Well intentioned STEM professionals may engage in micro-aggressions and incivilities that derail WoC professionally and personally
 - Greater attention to diversity signals in STEM is warranted to encourage greater access and promote diverse, inclusive, and engaged workplaces

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Thank you!

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