

# RECONSIDERING CLIMATE IN GRADUATE EDUCATION: STUDENT EXPERIENCES AND INSTITUTIONAL STRATEGIES TO IMPROVE STUDENT OUTCOMES

Kimberly A. Griffin, PhD  
University of Maryland  
[kgriff29@umd.edu](mailto:kgriff29@umd.edu)

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# Looking Beyond Enrollments: Moving from Recruitment to Retention and Success

## National Center for Education Statistics

**Table 24.2.** Total number, total percentage distribution, and percent female of graduate (postbaccalaureate) fall enrollment in degree-granting institutions, by race/ethnicity: Selected years, 1976–2008

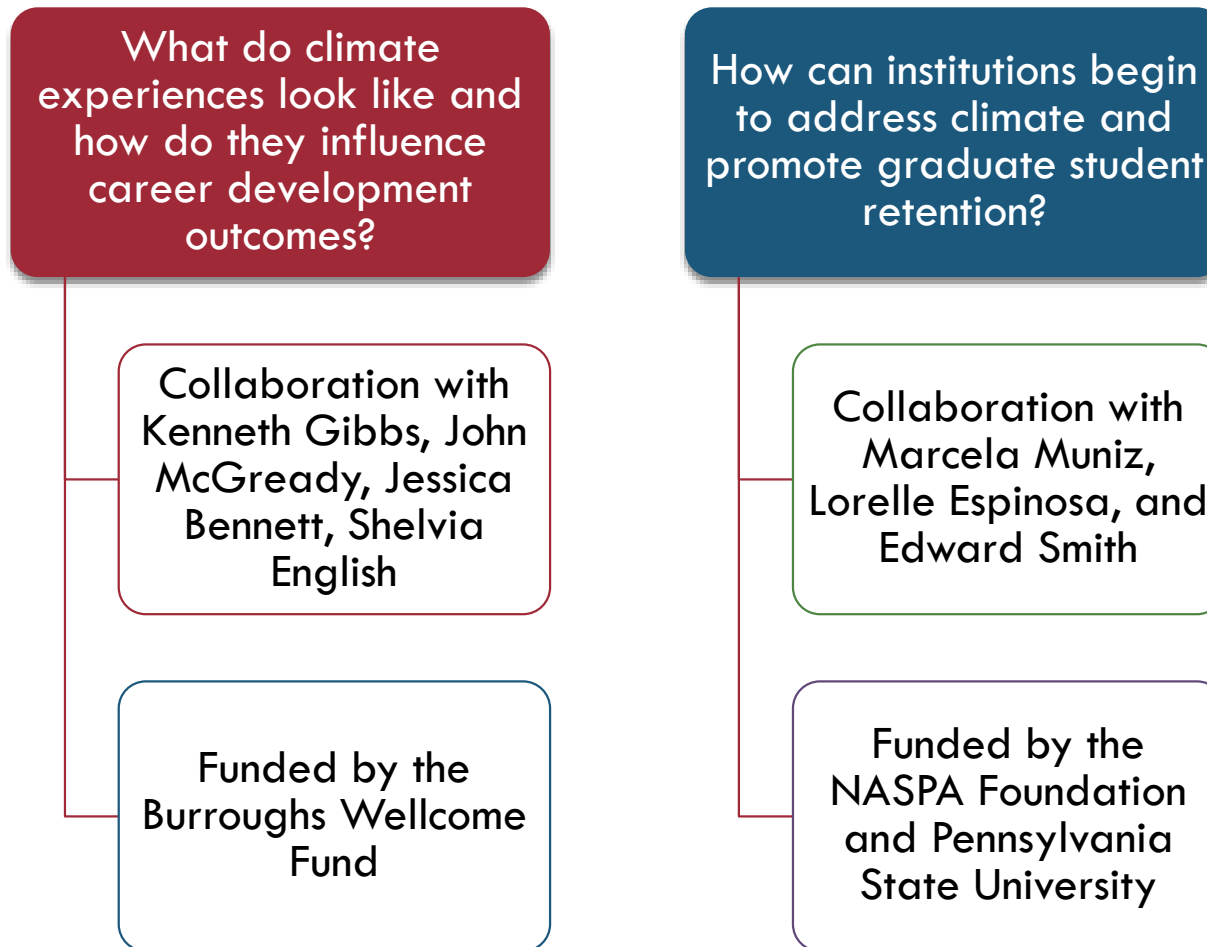
Race/ethnicity	1976	1980	1990	2000	2003	2005	2008
Percentage distribution							
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
White	85.3	83.6	78	68.6	66.5	66.1	63.9
Black	5.7	5.4	5.4	8.4	9.5	10.3	11.5
Hispanic	2	2.4	3.1	5.1	5.6	5.9	6.2
Asian/Pacific Islander	1.8	2.3	3.9	6.2	6.3	6.5	6.8
American Indian/ Alaska Native	0.4	0.4	0.4	0.6	0.6	0.6	0.6
Nonresident alien	4.8	5.9	9.3	11.2	11.5	10.7	11

- Retention
  - 57% doctoral completion rate,
  - Research suggests the rates are lower for Black, Latino, and Native American student
- Faculty representation
  - Little change in faculty diversity
  - Grew from 7% to 11% of the professoriate in the past 30 years

# Campus Racial Climate as a Factor in Retention and Career Development?

- Organizational learning, brought to diversity by Hurtado, Milem, Clayton-Pederson, & Allen (1998, 1999)
  - ▣ Attitudes, behaviors, and beliefs in a campus community around issues of diversity
- Climate can have a powerful impact and influence students'
  - ▣ Retention and achievement
  - ▣ Habits of mind and lifelong learning
  - ▣ Competencies and ability to navigate in a multicultural world
- Influenced by
  - ▣ External forces
  - ▣ Internal forces
    - Compositional diversity
    - Historical legacy of inclusion and exclusion
    - Psychological Climate
    - Behavioral Climate
    - Organizational Climate

# Understanding and Addressing Climate



# Climate Experiences and Outcomes

Black scientists' experiences and career development

# STEM PhD Careers Project

**STUDY #1:** Focus groups exploring the process for career interest formation

N=38

Women 23

URM backgrounds 18

**STUDY #2:** Survey focusing on career knowledge and aspirations, as well as training experiences

N 1890 recent Biomedical science Ph.D.s

URM backgrounds 335

**STUDY #3:** In depth interviews examining development of interests, training experiences, faculty relationships, and values


N 69

Asian 10; Black 21; Latino 9; Multiracial 8 Native American 9; White 12

Women 33; Men 36

Former or current postdocs 55

Griffin, K.A., Gibbs, K.D., & English, S. (in press). Being One of Few: Examining Black Biomedical PhDs' Training Experiences and Career Development through a Campus Racial Climate Lens



- 1) How do Black science PhDs describe and navigate the racial climate in their laboratories, graduate programs, and the broader scientific community?
- 2) How do climate related experiences shape Black scientists' career development and commitments to pursuing faculty careers?

# Methods

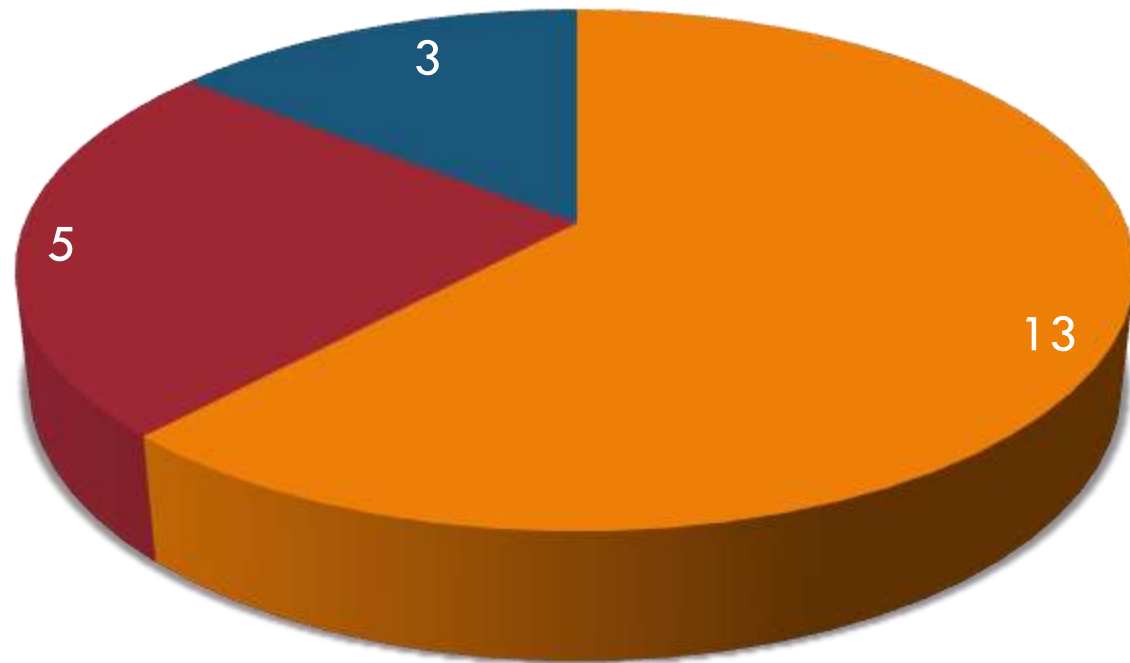
- N = 21 Black PhDs in Biomedicine
  - ▣ 9 female, 12 male
- Survey responses and semi-structured interviews (60-120 minutes)
- Team based analysis (MacQueen et al., 1998 )
  - ▣ Deductive process: structural codes and those consistent with theory and research
  - ▣ Inductive codes: emerging ideas and concepts from the data
  - ▣ Codes listed in comprehensive codebook
  - ▣ Team training
  - ▣ Codes were applied
  - ▣ Data was sorted by codes, re-read and then clustered into themes



# Overall Climate: Some overt acts, but mostly subtle marginalization

- Sarai recalled the difficult interactions with her PI (who is white), who she described as “verbally abusive.”  
There was a moment when he “lashed out” and tried to kick her out of the lab, saying to her “most PI’s don’t accept minorities like myself.”
- I could see the contrast and I think that’s what started to bother me after a while; that he was treating us differently and I couldn’t figure out why. - Denise

# Patterns of Interest



■ Declining Interest ■ Maintained High Interest ■ Maintained Low Interest

# Career Development Themes

- Acknowledgement of
  - ▣ Low pay
  - ▣ Competitive job market
- More often influenced by perceptions of climate, including relationships with peers and faculty, as well as perceptions of science
- Relationship between compositional diversity, behavioral climate, and psychological climate
  - ▣ Self-efficacy
  - ▣ Outcome expectations
- Norms and values of science were not neutral and could be considered the structural dimension of climate
  - ▣ Outcome expectations

# Underrepresentation, Relationships, Confidence, and Fit – Luke's Story

- I didn't feel like I could be ignorant in front of my advisor or in front of other students in my laboratory. Of course it's like one of those things, you make the situation what it is based on your own, inner perceptions of your own reality, but it was one of those things where I didn't have a cohort of individuals that I could completely identify with and that could identify with me.
- . . . these were all just other African American men in science and some were in medicine . . . And we would meet once a month and sometimes we would meet individually . . . it was just kind of a social thing where we would meet at [the senior scientist's] house . . . we would talk about what's going on in your lab, how are your classes going? Your research going? And it was kind of different; it was like being at the barber shop, but we're talking about science and careers.

# Values, Norms, and Outcome Expectations

- After observing professors' lack of work life balance and several Black women faculty getting what she perceived as stress-related illnesses and how that factored into her own decision to leave academia, she shared, "I don't care about the number of publications and the number of grants . . . I wanted to have a life."
- And I feel like that's why I'm like so torn about what I want to do because I really want to like mentor and work with students. I want to teach. I like teaching, I like being in front of a group of students and talking to them about research, but I don't love research. But I really like doing the research...not even like, I really love it you know and just having an impact on people -Joan
- My focus now is trying to take my understanding of science and use it for something that's more, I guess, immediately gratifying and immediately applicable. So instead of having some esoteric paper be cited by someone twenty years from now and maybe used for something that will lead to more science, I want to use it for things like you know science education or you know let's say an increase in the number of underrepresented students in the sciences. - Jayden

# Insights and Lingerings Questions



- Rethinking inclusion and sense of belonging
  - ▣ Is there a difference between not excluding and actively engaging and including?
- Climate frameworks can include and address the values of science
  - ▣ They appear neutral, but are related to identity in meaningful ways
  - ▣ How can the system change to accommodate multiple types of impact?

# Addressing Climate and Promoting Retention

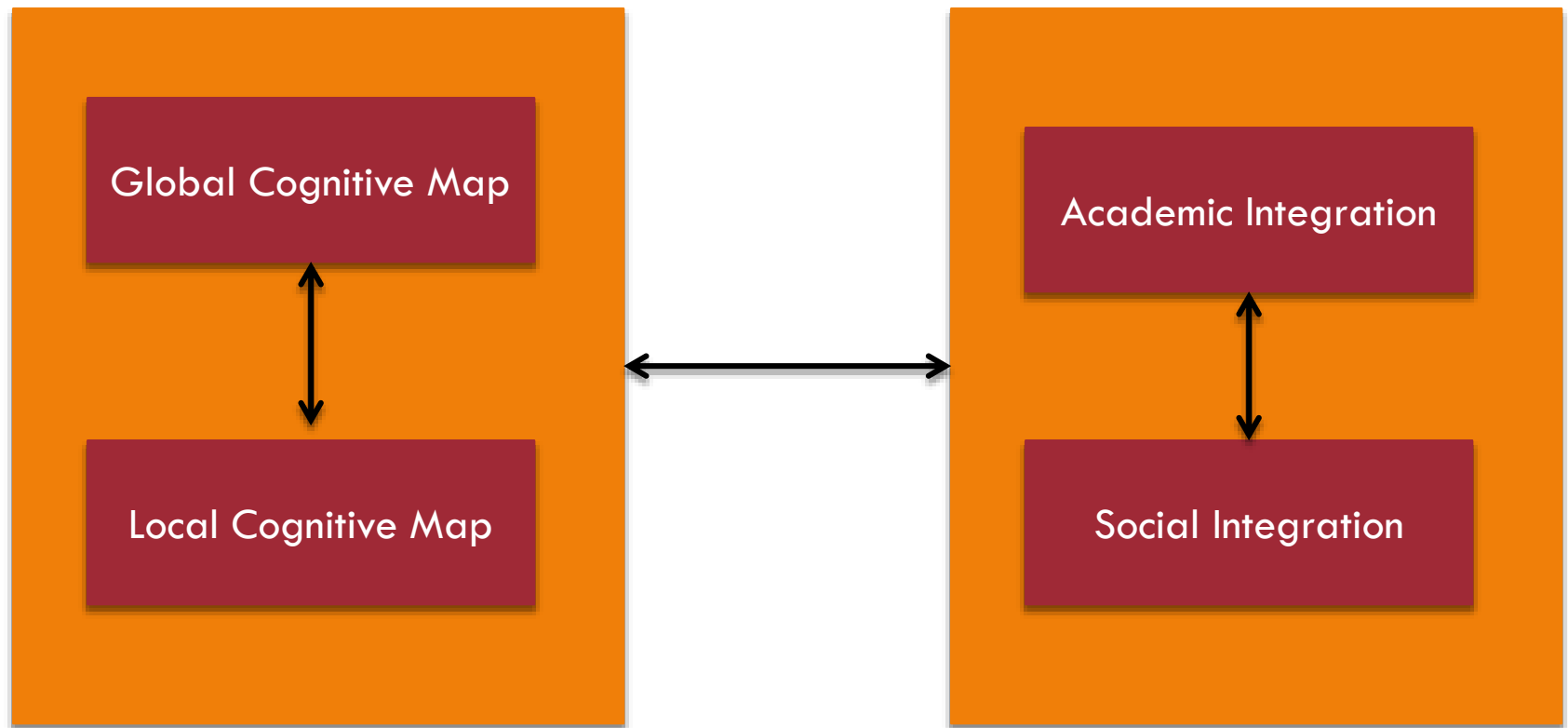
The work of Graduate Diversity Officers (GDOs)

# Graduate Diversity Officers - Who are they?

- Distinct from Chief Diversity Officer
- Hired with various titles and at various positions in the organizational chart
  - ▣ University
  - ▣ College
  - ▣ Department
- Student Affairs/Academic Affairs hybrid
- Responsible for fostering racial and ethnic diversity in graduate programs
  - ▣ Recruitment
  - ▣ Retention



# Retention in Graduate Education



Lovitts, B. (2001). *Leaving the ivory tower: The causes and consequences of departure from doctoral study*. Lanham, MD: Rowman & Littlefield.

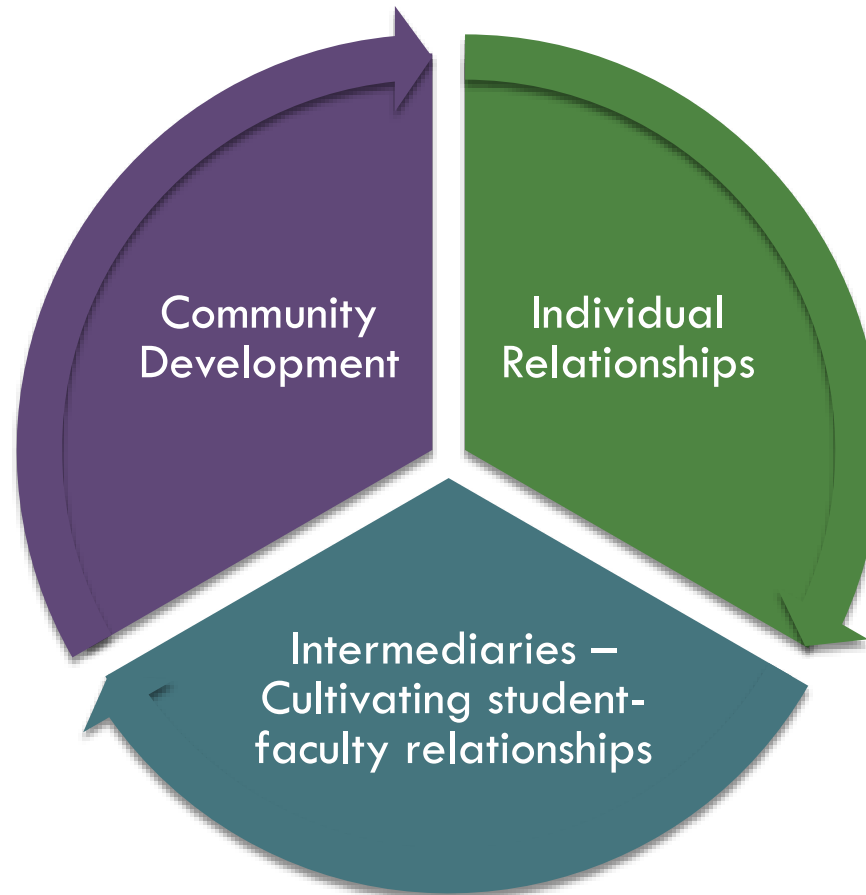
# Methods

- N = 14 GDOs
  - ▣ National sample
  - ▣ 11 Doctorate granting institutions
  - ▣ 11 women; 3 men
- Qualitative multi-case study
  - ▣ Campus websites
  - ▣ Organization charts
  - ▣ Recruitment and retention programming materials
- Demographic questionnaire
- 60-75 minute interviews
  - ▣ Verbatim transcription
  - ▣ Coding
  - ▣ Emerging themes

# Climate Related Challenges for Students

- Compositional diversity
  - ▣ Lack of student diversity and isolation
  - ▣ Lack of faculty diversity and perceived institutional commitment
- Behavioral and psychological climate
  - ▣ I would say probably the biggest barrier is the students that have a negative experience. . . More times than not, it's the department or certain faculty in the department that cause the negative experience. And that's one of the greatest challenges. . . I think our research product is great, but our relationship product sucks.
  - ▣ I think that has a huge impact on our ability to retain when we're in departments where people don't get that there's a separate set of acclimation issues for women or for people of Color or for anybody who is not the majority

# Fostering Retention



# Fostering Retention Through Community Development and Cognitive Maps

- Individual Relationships
  - ▣ Supporting students
- Intermediaries
  - ▣ Mentoring coaches
  - ▣ Opening conversations and “translating”
- Community Development
  - ▣ Moving from local to institutional community
  - ▣ Coupling social integration and cognitive map development

# Barriers in Promoting Socialization and Community Membership

- Overworked GDOs and inconsistent institutional commitment
  - ▣ It just can't be my job. It's too big a job ... . It's a lot for one person.
- Faculty relationships
  - ▣ Lack of support and understanding of unique issues and challenges
  - ▣ Difficult to form collaborations, unless it was near the time for grant submission or renewal
- Financial resources
  - ▣ “you can say all kinds of wonderful things but we all know . . . your money is how you show where your real priorities are.”

# Insights and Lingering Questions

- Overlap between the climate related barriers for students and administrators
- Centrality of relationship and cross-campus community development
- Importance of institutional commitment in words and actions
  - ▣ Investment of time and resources
  - ▣ Shift away from overreliance on their work

## Closing Thoughts and Questions



# Climate and Student Outcomes: Questions to Consider

- Re-centering social engagement and relationships
- How do we engage faculty in this work in meaningful ways?
  - ▣ Is there a difference we can articulate between not excluding and actively including and engaging students from diverse backgrounds?
  - ▣ How do we re-enforce that they are the conduit for academic integration and career development?
- How do we create campus-wide communities that create opportunities for social integration and the development of cognitive maps?



# Questions?

Thank you so much!