The Influence of Campus Racial Climate on Diversity in Graduate Education

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Amid an increasingly diverse society, the near-absence of underrepresented minority students (i.e., Blacks, Latina/os, and Native Americans) in post-baccalaureate study is one of the most pressing concerns for higher education scholars and practitioners. Progress with regard to underrepresented minority student graduate enrollment and degree completion nationwide has been slow and difficult. While underrepresented minorities constitute 28% of the American population and approximately one third of individuals 25–40 years of age—the range within which most graduate students fall—only 11.9% of all doctoral degree recipients in 2006 were awarded to underrepresented minority students (National Science Foundation, 2009; Woodrow Wilson National Fellowship Foundation, 2005).

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While these disparities are significant when examining the representation of underrepresented minorities among American doctoral students, they are even more severe when international students are included in the analysis. Based on a recent report by the Woodrow Wilson National Fellowship Foundation (2005), roughly one third of doctoral degree recipients in 2003 were international students, yet only 7% were Black or Latina/o. These statistics stand in stark contrast to the progress made at earlier points in the education pipeline, where underrepresented minorities make up approximately one quarter of all students enrolled in undergraduate education (Ryu, 2008).

The persistent disparities in U.S. graduate education have led scholars, policymakers, and research institutes to demand that colleges and universities increase their efforts to promote greater diversity in the pool of prospective graduate students and to enroll more heterogeneous graduate student populations at their individual campuses (e.g., Aspray & Bernat, 2000; Tapia, Lanius, & Alexander, 2003; Tierney, Campbell, & Sanchez, 2004; Woodrow Wilson National Fellowship Foundation, 2005). Literature addressing organizational change in higher education states that the presence of a clear institutional commitment to diversity is an essential first step to facilitate change toward greater campus diversity (Chang, 2000, 2002; Hurtado, Milem, Clayton-Pedersen, & Allen, 1999). Further, institutional leadership plays a critical role in the advancement of a campus diversity agenda (Hurtado, Milem, et al., 1999; Musil, Garcia, Hudgins, Nettles, Sedlacek, & Smith, 1999; Smith & Wolf-Wendel, 2005) with university presidents being in a particularly influential position to affect institutional change, given their authority (Birnbaum, 1988; Kezar, 2007; Kezar, Eckel, Contreras-McGavin, & Quaye, 2008; Musil et al., 1999).

Scholars assert that university leaders must indicate their commitment not only through their rhetoric, but also through visible support and financial resources that identify graduate student diversity as a priority (Aspray & Bernat, 2000; Astone & Nunez-Wormack, 1990; Tierney, Campbell, & Sanchez, 2004). Scholarly attention has focused on the emergence of Chief Diversity Officers (CDOs) on many campuses as evidence of an institutional commitment to diversity. On most campuses, CDOs serve in senior leadership roles and are focused on the strategic implementation of diversity policy and practice, often taking responsibility for facilitating collaborations to promote diversity and inclusion institution-wide (Gose, 2006; Williams & Wade-Golden, 2007). However, we were unable to identify research focusing on individuals specifically charged with increasing diversity in the doctoral student community—those referred to as Graduate Diversity Officers. GDOs are institutional agents—typically full-time administrators with advanced degrees—who are specifically charged with the recruitment and retention of underrepresented minority graduate students at their respective institutions.

The emergence of GDOs at universities nationwide appears to be an effort to demonstrate institutional commitment to promoting graduate student diversity and improving the troubling trends in persistent underrepresentation. While campuses have instituted these positions, little is known about GDOs or their roles in striving to promote diversity in graduate education. Indeed, there is little knowledge of how GDOs operate within large and complex institutions or where such individuals fit in a given university's administrative hierarchy. We know just as little about the pressures that impact their effectiveness in reaching diversity goals. This study therefore focuses on gaining a better understanding of GDOs and the internal and external forces that shape their ability to foster diversity in graduate education.

This study situates narratives from a national sample of GDOs within a framework that addresses diversity in higher education: the campus racial climate (CRC) framework (Hurtado, Milem, et al., 1999; Milem, Chang, & antonio, 2005). Campus racial climate has been a longtime focus of studies that examine undergraduate diversity, retention, and student success, particularly when considering the experience of underrepresented populations (review in Hurtado, Griffin, Arellano, & Cuellar, 2008). However, little if any attention has been paid to issues of diversity at the graduate level using a campus racial climate lens. Further, we were unable to locate any study utilizing campus racial climate to understand the efficacy of university professionals, particularly those who are charged with facilitating organizational change and improving the diversity of graduate populations. Our examination of the work and experiences of GDOs through a climate lens provides insights into institutional, sociohistorical, and policy forces which influence the ability of GDOs to increase diversity on their respective campuses. We argue that climate is a critical component of their work, influencing GDOs' ability to recruit and retain a diverse class of graduate students. Thus, having a better understanding of the challenges presented by campus racial climate is important in facilitating institutional efforts to increase graduate diversity.

Conceptual Framework

We specifically employ the campus racial climate framework to explore how the dimensions of climate affect institutional efforts to increase compositional diversity in graduate education, based on GDO narratives. CRC captures the attitudes, perceptions, and expectations in an institutional community around issues of race, ethnicity, and diversity (Hurtado, Milem, et al., 1999). A hostile climate taints interactions between people of color and their peers, negatively influencing the quality, frequency, and outcomes associated with interaction. Past studies have shown that these hostile interactions inhibit students' engagement with the campus community, leading to negative

implications for student development and retention (Feagin, Vera, & Imani, 1996; Harper & Hurtado, 2007; Hurtado, Griffin, Arellano, & Cuellar, 2008; Loo & Rollison, 1986; Smedley, Myers, & Harrell, 1993).

The centrality of CRC in the enhancement and maximization of positive outcomes associated with a heterogeneous campus community has been well established; however, CRC has rarely been used as a framework on populations other than undergraduates or to understand the processes by which institutions actually increase the number of individuals from diverse backgrounds. As GDOs are charged with increasing graduate diversity, they could potentially confront various issues related to CRC, be it through securing university support for their diversity programs or questions GDOs receive from prospective students regarding campus diversity matters. Accordingly, we use this framework to structure our analysis of GDO narratives on their work, examining the challenges and barriers they face as they seek to increase graduate diversity through each of the internal and external dimensions of CRC. Throughout this discussion of the framework, we suggest how the various aspects of CRC could potentially influence GDOs' abilities to increase diversity in graduate education.

While CRC goes far beyond numerical representation, the number of individuals from diverse backgrounds on a campus is central to perceived climate and is a catalyst for promoting a more positive campus environment. The number of individuals from diverse backgrounds on campus is referred to as "structural diversity" by Hurtado, Milem, Clayton-Pederson, and Allen (1999) and as "compositional diversity"[1] by Milem, Chang, and antonio (2005). Indeed, improving the number of minority students is a common goal of institutional leaders seeking to initiate campus diversity programs and policies (Hurtado, Milem, et al., 1999) and the presence of a GDO or other diversity-focused position is often seen—whether substantive or not—as a commitment by the institution to increase compositional diversity. We cannot, however, associate the work of GDOs solely with the goal of "increasing the numbers." When institutions focus on the number of individuals from underrepresented communities alone, they "have a tendency to focus on diversity as an end in itself, rather than as an educational *process* that—when properly implemented—has the potential to enhance many important educational outcomes" (Milem, Chang, & antonio, 2005, p. 16).

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[1]Milem, Chang, and antonio (2005), use the term "compositional diversity" in their revised model of the CRC framework. The term "compositional diversity" was originally proposed by Milem, Dey, and White (2004) to minimize confusion between Hurtado, Milem, Clayton-Pedersen, and Allen's (1999) "structural diversity" and their newly proposed dimension of the campus racial climate framework, which represents the ways in which organizations and institutional structures can influence CRC.
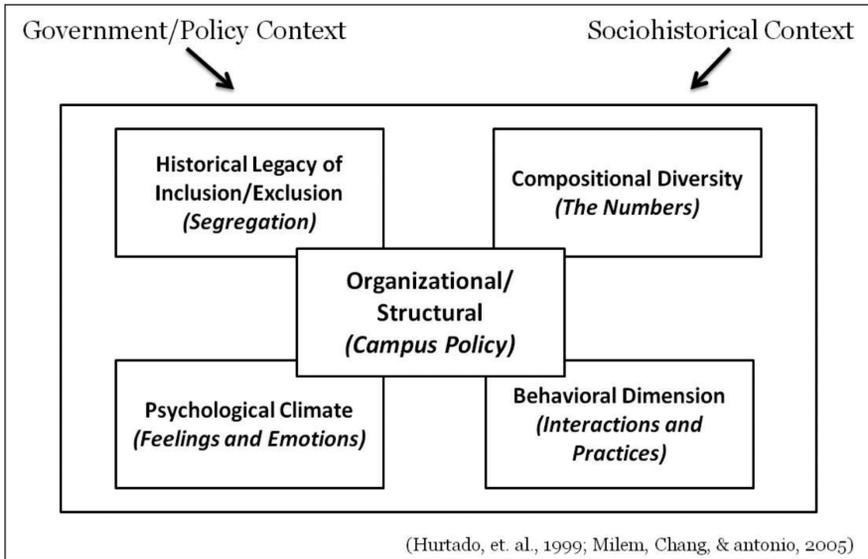
Figure 1. Campus racial climate framework.

Appropriately, the seminal CRC framework developed by Hurtado, Milem, Clayton-Pederson, and Allen (1999) presents a multidimensional view, suggesting that climate is constructed through the interactions of several interrelated forces. The original framework outlined four internal dimensions of CRC: structural diversity, an institution's historical legacy of inclusion or exclusion, psychological climate, and behavioral climate. Milem, Chang, and antonio (2005) present a revised version of the CRC framework (Figure 1), which in addition to retitling "structural diversity" as "compositional diversity," includes an organizational/structural dimension. Both versions of the framework include two final dimensions which are external, and thus largely outside the control of the institution: the government/political environment and the sociohistorical context.

A history of exclusion can have a lasting influence on present-day racial climate, thus influencing behaviors and attitudes toward underrepresented groups (Hurtado, Milem, Clayton-Pederson, & Allen, 1999; Milem, Chang, & antonio, 2005). An institution which ignores its past challenges with race and racism may continue to perpetuate inequities or imply that issues of diversity are not of great importance (Hurtado, Milem, Clayton-Pederson, & Allen, 1999). Based on these assertions, we could assume that the ways in which GDOs are supported in their efforts to recruit and support underrepresented minority graduate students may reflect a longer institutional

history of inclusion or exclusion. For example, an institution with an unacknowledged history of segregation may be perceived as not valuing diversity or equity and may not be willing to engage in or offer strong support for efforts to diversify graduate education.

The translation of the past into the present suggests that the history of inclusion or exclusion on a given campus can have an influence on the psychological dimension of CRC, which highlights the importance of beliefs and perceptions held by community members on issues of race. This dimension includes "individuals' views of group relations, institutional responses to diversity, perceptions of discrimination or racial conflict, and attitudes held toward others from different racial/ethnic backgrounds" (Hurtado, Milem, Clayton-Pederson, & Allen, 1999, p. 25). Institutional history and the psychological dimension can then influence the behavioral dimension, which captures the quality of interactions and relationships between individuals from diverse backgrounds. Behavioral climate is more specifically defined as "actual reports of general social interaction, interaction between and among individuals from different racial/ethnic backgrounds, and the nature of relations between and among groups on campus" (Hurtado, Milem, Clayton-Pederson, & Allen, 1999, p. 37).

The psychological and behavioral dimensions are closely related to and reinforce one another; perceptions of the environment as comfortable or hostile certainly can influence students' comfort in engaging one another, and interaction across difference can lessen tension between groups (Hurtado, Milem, Clayton-Pederson, & Allen, 1999). Perceptions of a campus's psychological and behavioral climate for underrepresented minority students may also affect a GDO's ability to recruit a diverse graduate student community. As noted above, campus tension or negative peer interactions have been found to negatively influence the outcomes of undergraduates. (See reviews by Harper & Hurtado, 2007; Hurtado, Griffin, Arellano, & Cuellar, 2008.) It is possible that these phenomena could produce similarly negative outcomes for graduate students. Further, as prospective graduate students, particularly those from underrepresented backgrounds, consider where to enroll in graduate school, they may consider whether they find a particular campus welcoming of them and of diversity more broadly.

The fifth dimension, organizational/structural diversity, represents "the organizational and structural aspects of colleges and the ways in which benefits for some groups become embedded into these organizational and structural processes" (Milem, Chang, & antonio, 2005, p. 18). This dimension includes curriculum, budget allocations, reward structures, admissions practices, and the processes that guide university operations. The importance placed on diversity at a given campus can influence the GDOs' perceptions of

institutional support, where they are positioned in the administrative hierarchy, and their access to other divisions, departments, and faculty members. This dimension also includes the monetary resources afforded to GDOs, time allotted for travel (for recruitment, networking, etc.), and support for programmatic activities.

Finally, the CRC framework acknowledges the importance of two external forces: the government policy context and the sociohistorical context of a given institutional setting (Hurtado, Milem, Clayton-Pederson, & Allen, 1999). The government policy dimension includes legislation and court decisions, particularly those concerning the elimination of affirmative action and other avenues by which underrepresented communities access higher education. Although attacks on affirmative action directly affect a fraction of U.S. postsecondary institutions, the presence of this highly debated argument may create tension that in turn affects the climate for racial and ethnic diversity on campuses across the country (Hurtado, Carter, & Kardia, 1998). On the whole, public policy has the potential to influence campus policies, practices, and attitudes about race, ethnicity and diversity and may directly affect the programs GDOs can implement. For example, GDOs working in states with anti-affirmative action policies may face legal restrictions which limit their recruitment strategies or ability to allocate financial awards to underrepresented students they wish to enroll. Furthermore, sociohistorical trends like segregation and institutional racism have left an enduring mark on the number of students of color entering higher education, shaping institutions' ability to build a critical mass, and students' experiences of marginalization on campus.

Facilitating a more hospitable CRC often starts with concerted efforts to improve compositional diversity, as this dimension is described as the necessary, but not altogether sufficient factor in creating opportunities for learning across difference (Chang, 1999; Chang, Denson, Saenz, & Misa, 2006; Pike & Kuh, 2006). While it has been suggested that compositional diversity serves as a catalyst, promoting a more positive climate and influencing the other dimensions, it is unclear whether and how the other dimensions of climate in turn limit or enhance institutional efforts to increase compositional diversity. In other words, there is little understanding of whether psychological climate, behavioral climate, historical legacy of inclusion or exclusion, organizational/structural diversity, or external forces like policy and sociohistorical context collectively or individually have the potential to influence GDOs' ability to improve compositional diversity in the graduate student community. Thus, this study examines the role and relevance of each dimension of climate, both internal and external, as GDOs aim to increase graduate student diversity.

METHODOLOGY

The purpose of this study is to explore the forces and factors influencing the ways in which GDOs work to increase diversity in the community of graduate students on their respective campuses. Specifically, we address the following questions:

1. What barriers do GDOs perceive in increasing diversity at their respective universities?

2. How are the dimensions of CRC related to institutional efforts to recruit a diverse graduate student population?

We employ a qualitative multi-case study approach, with each GDO serving as her or his own case, to pursue these questions. This approach enables us to compare and contrast the experiences of GDOs across various universities, enabling us to gain greater analytical insight into several key concepts tied to the research problem as well as enhancing the external validity of the study's findings (Merriam, 1998).

Study Participants

The sample consists of 14 graduate diversity officers employed at 11 different research universities, defined by the Carnegie Classifications for Graduate Instructional Programs (Carnegie Foundation, 2008) as Comprehensive Doctoral with Medical/Veterinary or Comprehensive Doctoral (no medical/veterinary) universities. (See Table 1 for more details on the characteristics of these universities.) Eleven participants are women and three are men. In terms of racial and ethnic diversity, 11 participants self-identify as African American, one as Latino/Hispanic, and two as Non-Hispanic White. Many hold advanced degrees: five report having earned master's degrees, while seven have earned Ph.D.s. (For participant demographic information, see Table 2.)

Most (n = 11) participants had previously held jobs at one or more other institutions than their current university. Participants have worked at their current institutions anywhere from two to 30 years. Study participants reflect a range of experience working in diversity outreach and with graduate students. The average amount of time that each participant has worked in diversity recruitment and retention is 10.4 years (sd = 7.3), with experience ranging from one to 23 years. Participants also have considerable experience working with graduate students, averaging 11.36 years (sd = 9.4), with a range of one to 30 years.

Procedures

We identified participants using two sampling methods. First, the three principal investigators employed a purposeful sampling method based on the assumption that discovering, understanding, and gaining insight requires selection of a sample from which the most can be learned (Merriam,

TABLE 1

DEMOGRAPHICS OF INSTITUTIONAL SITES

Institution Pseudonym	Region	Control	Total Enrollment~	Graduate Enrollment^	Chief Diversity Officer (CDO)?
Agriculture University	Midwest	Public	> 35,000	11,000	yes
Baron University	West	Private	< 35,000	11,000	no
Colony University	South	Public	< 35,000	9,000	yes
Crest University	East	Private	< 35,000	16,000	no
Flagship University	Midwest	Public	> 35,000	15,000	no
Green University	West	Public	> 35,000	10,000	yes
Land Grant University	Midwest	Public	> 35,000	8,000	yes
Mid-State University	East	Public	> 35,000	6,000	yes
Riverdale University	East	Public	< 35,000	3,000	no
Seaside University	West	Public	> 35,000	12,000	no
Tech University	East	Private	< 35,000	6,000	no

~ To protect participants' identities, institutions are listed as having enrollments more or fewer than 35,000 students
^ To protect participants' identities, the graduate enrollment numbers are rounded to the nearest thousand.

1998). We also sought to achieve a balance of geographical and institutional measures, including both public and private universities and universities from the West, Midwest, South, and East Coast. We identified a small initial group of GDOs based on past professional experiences with these individuals and knowledge of their professional roles at institutions that met our institutional selection criteria. After inviting selected individuals to participate in the study via email, we then identified other institutions that had at least one individual responsible for graduate diversity recruitment through our preliminary research of existing graduate diversity programs. We also invited these individuals to participate via email. The second sampling technique used was snowball sampling (Bogdan & Biklen, 1998). We asked those who agreed to participate to recommend other potential respondents, whom we then contacted and invited to participate.

All of the GDOs who agreed to participate had direct contact with a member of the research team, either in person or over the telephone. Each participant first completed a brief demographic questionnaire and then took part in a semi-structured interview (Merriam, 1998; Hammer & Wildavsky, 1993), during the autumn of 2008 and winter of 2009. Interviews lasted approximately 60 to 75 minutes and were audio-taped and transcribed verbatim.

TABLE 2
DEMOGRAPHIC CHARACTERISTICS OF STUDY PARTICIPANTS

Pseudonym	Institution	Sex	Race/Ethnicity	Highest Degree	Years in Diversity Work	Years at Institution	Years Working with Graduate Students
Alex Zapata	Green University	M	Latino/Hispanic	Doctorate	2	18	18
Allison Boyd	Riverdale University	F	African American/Black	Doctorate	5	5	7
Amie Folsom	Agriculture University	F	White	Doctorate	21	9	4
Craig Smith	Tech University	M	African American/Black	Master's	5	5	5
Deborah Hardwick	Seaside University	F	African American/Black	Doctorate	1	2	1
Denise Miller	Colony University	F	African American/Black	Master's	16	3	30
Dustin Chase	Land Grant University	M	African American/Black	Master's	23	30	23
Elizabeth Stevens	Crest University	F	African American/Black	Bachelor's	15	25	25
Jessica Hayman	Flagship University	F	African American/Black	Bachelor's	6	7	6
Joann Samuelsson	Mid-State University	F	African American/Black	Master's	19	9	9
Lindsay Danon	Mid-State University	F	African American/Black	Doctorate	7	7	1
Malia Lucas	Baron University	F	African American/Black	Master's	11	4	4
Monique Malone	Baron University	F	African American/Black	Doctorate	4	4	11
Sam Bailey	Flagship University	F	White	Doctorate	10	15	15

Participants and the institutions at which they are employed were assigned pseudonyms to ensure anonymity.

The interview protocol addressed a variety of issues related to how GDOs carry out their professional responsibilities, including, but not limited to: the strategies they employ to recruit underrepresented students, the sources of support—both internal and external to the university—that GDOs draw upon to inform their work; and the challenges and pressures they face in light of institutional, state, and national diversity policies. All participants were given a $25 gift card to thank them for their time and participation.

Analyses

We entered data from the demographic questionnaires into an electronic file using SPSS software, then completed descriptive statistical analyses to provide a general sense of the sample's demographic characteristics, level of experience working with graduate students and issues of diversity, and primary work responsibilities.

The primary sources of data for this study, however, are the interview transcripts. GDOs' narratives were organized through systematic coding, which we developed using a deductive and inductive process. In the deductive phase, the research team first reviewed the theoretical literature on campus racial climate and distilled the dimensions of CRC into an initial list of codes. During the inductive phase, the research team reviewed interview transcripts separately, memoing about the barriers GDOs described as they worked to increase graduate student diversity. The team then developed a list of appropriate codes to capture emergent themes. We next met as a group to combine and revise the individual coding schemes into one comprehensive codebook.

We applied this comprehensive list of codes to specific quotations from participants' narratives using ATLAS.ti software. Once codes were applied, the software was useful in aggregating quotations categorized within the same code. We read and reread data which were assigned the same code to challenge and confirm early perceptions on emerging themes, comparing and contrasting participants' perspectives on the forces shaping their ability to increase graduate diversity in their respective programs. We then analyzed the data using the "pattern matching" technique (Yin, 1994), in which data collected from participants are compared to existing literature and theory. In this case, we compared emergent themes to existing theory and research on CRC.

Limitations

While we glean many important insights from our study, we acknowledge several limitations. First, these narratives offer only one perspective on barriers to increasing graduate student diversity; we do not address or include the perspectives of other institutional leaders, faculty, or students. We also do

not offer a full analysis of how challenges might differ within an institution, challenges based on disciplinary differences, nor how institutions with and without an individual in a Chief Diversity Officer position may function differently.

Further, we do not explore whether and how institutions without GDOs pursue graduate diversity; thus, we cannot attest to whether the barriers they face take a similar form. Finally, as our sample draws from relatively selective research universities, we cannot ensure that these GDO perspectives would be similar to those from smaller or less selective campuses.

FINDINGS

The GDOs participating in our study hold a variety of positions at their institutions. This is clearly demonstrated in the range of their titles, such as Director of Multicultural Programs and Assistant Dean for Graduate Education. While their responsibilities show variability, all engage in both recruitment and retention as they strive to promote lasting diversity in graduate education on their campuses. Eight participants report that their jobs lean more toward recruitment, while five participants concentrate more heavily on retention. One participant appraised the division of her work as equally divided between recruitment and retention. In addition to traveling to conferences, graduate school fairs, and campus visits, GDOs plan on-campus recruitment activities and serve as a resource for prospective students. GDOs also coordinate a wide range of programs to foster the retention of underrepresented minority students, including skill development workshops, social events, and writing groups.

As they describe their work, GDOs note several significant barriers that shape their ability to recruit and retain a diverse community. These barriers are grouped into five categories (described below), which we then map on to the CRC framework, highlighting the ways in which various aspects of climate manifest and influence GDOs as they work to increase graduate diversity on their campuses.

Community Context

While suggesting that it is largely out of their control, GDOs admit that location and the communities surrounding their institutions can influence their ability to increase graduate student diversity on their campuses. Some GDOs speak of the challenge of drawing students to a place unfamiliar to the students' home location. For example, some prospective applicants express concerns about earthquakes at West Coast institutions or snow at Midwestern institutions.

It was more common, however, for GDOs to note the challenges presented by the lack of diversity in surrounding communities. Colony University,

Mid-State University, and Land Grant University are located in rural, predominantly White areas, and their respective GDOs discuss how this location affects diversity recruitment. Lindsay Danon succinctly notes that Mid-State's rural location can pose some problems, saying, "I'm clear people come here and all they think about is cows and pigs, and they think they're out in the middle of nowhere. That's a hurdle (laughs), no doubt." Joann Samuelsson, also at Mid-State, says that it can be challenging, when working with students of color who are being recruited by campuses in multiple (often urban) locations, to provide compelling reasons for moving to a more rural area. Dustin Chase of Land Grant University highlights the importance that many students of color place on being close to urban or diverse areas and stresses his institution's proximity to large cities two to three hours away. Interestingly, GDOs at suburban institutions, such as Baron and Flagship Universities, face similar questions about diversity in the surrounding community, explaining students are more attracted to campuses where there is substantial racial and ethnic diversity nearby.

Campus Environment

In addition to describing the ways in which campus location and the diversity in the surrounding community shape their ability to increase campus diversity, GDOs attend to diversity at the macro- and micro-levels on their respective campuses. At the macro-level, GDOs discuss campus diversity broadly, citing how the number of underrepresented minority students and faculty affect their ability to draw and retain students of color. For example, Amie Folsom describes Agriculture University as a "very White campus": approximately 80% of undergraduates are White, almost 90% of faculty are White, and under 6% of graduate students are from underrepresented backgrounds. Folsom also describes a recent "exodus" of faculty of color, a result of their belief that the university lacks a true commitment to diversity. Folsom views this homogeneity and faculty departures as potential indicators to graduate students of color that they are not welcome on campus.

Alternatively, Denise Miller speaks favorably of Colony University, a public Southern university that was segregated through the 1960s. Miller shares how Colony's leadership in challenging historical perceptions by increasing undergraduate diversity in fact lends positive weight to her own work. Speaking of programs to support Latina/o and lesbian, gay, bisexual, and transgender students, she explains, "I see things at the undergraduate level, which certainly will impact. As they get stronger, I think we will get stronger." In other words, increased diversity and support in the campus community generally make the environment "a lot better" in her mind, facilitating her recruitment and retention efforts.

At the micro-level, GDOs note the presence or lack of students of color in individual academic departments. Dustin Chase places great importance

on addressing students' concerns that they will be "the only one" in their departments when recruiting, highlighting Land Grant University's history of recruiting and retaining diverse students. To Chase, this history suggests that students of color will not have to deal with the racism, stereotypes, and "bridge building" he ascribes to being the first underrepresented student to ever enroll in a department. Lindsay Danon also notes the importance of micro-level diversity, citing the negative impact on prospective students of walking into a department and seeing no other students or faculty of color. Such experiences raise questions for potential students about commitment to diversity and whether faculty are doing work relevant to underserved communities.

In addition to compositional diversity, GDOs speak to the importance on retention of quality interactions between underrepresented graduate students and faculty. According to GDO narratives, these relationships are sometimes challenging because faculty lack awareness of issues salient to underrepresented students. For example, Lindsay Danon explains that departments have trouble retaining students when they "[do not 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." However, it appears that under-represented students are more often challenged by the racism, stereotyping, and assumptions they face as they interact with professors in their respective departments. Joann Samuelsson expresses an awareness of this racism based on her past experiences working with students at Mid-State University and often reminds current graduate students that she can to help them manage such experiences should they arise.

Craig Smith also speaks of Tech University's challenges in managing rela-tionships between underrepresented graduate students and a predominantly White faculty. While there have been some successes and intentional efforts to increase diversity (underrepresented students are approximately one fifth of all undergraduates), graduate student diversity has held steady at 5% over the past five years. Smith perceives that faculty assumptions and stereotypes about people of color influence Tech's difficulties in increasing graduate di-versity. Students often express frustrations in dealing with a covert form of racism they "can't put their finger on," but sense, in their interactions with professors. He adds:

> 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 relation-ship product sucks.

Although Smith acknowledges that sometimes students are part of the problem in student-faculty relationships that end negatively, he sees the faculty member as more often the instigator. For Smith, these negative relationships, based on faculty assumptions and stereotypes, are the biggest barrier in keeping him from substantially improving underrepresented minority student retention in graduate education.

In addition to connecting the retention challenges that underrepresented students face on campus, some GDOs were keenly aware of how negative student experiences influence recruitment. Lindsay Danon explains that current students often talk with prospective students about the quality of relationships within a department; these conversations, he acknowledges, perhaps dissuade otherwise interested students. Smith adds that fostering a better departmental experience for students would improve his ability to recruit new students: "If we can get the relationship product right, then as we get students in, they'll start to talk about the fact that, 'Well I came here and I left a better person than when I came.'" Smith hopes that improving the quality of student-faculty relationships will not only improve the experiences and retention of current graduate students but that students' positive assessments of their experiences will encourage other underrepresented students to join Tech University's graduate community.

The Graduate Admissions Process

GDOs also describe decision-making in the graduate admissions process as having an important influence on their efforts to increase diversity. GDOs recruit students and provide applicants with information; however, they are unable to sit on admissions committees or make decisions about who will ultimately be offered a place in a graduate program. The graduate admissions process is decentralized, and decisions are made by faculty. Joann Samuelsson describes her role as being able to "generate a pool" and "get [applicants] to the table," but she is not involved in admissions decisions, describing it as "the last bastion of protectiveness." Malia Lucas, GDO at Baron University, also expressed frustration that she has little influence about who is admitted and who is not. In her words, "I might have some say, you know, put a bug in an ear, but . . . I can't say, 'Take this person she's great.' And they say, 'Okay, Suzie's in.'" GDOs may offer advice or advocate for a particular student's admission, but there is no guarantee that the faculty will listen or consider diversity seriously as part of the admission process.

In undergraduate admissions, decisions are made by a centralized office which can make decisions about what will be considered during the review process, particularly the value placed on recruiting and admitting students from underrepresented groups with diverse perspectives. Graduate admissions is significantly more decentralized and led by faculty rather than by a trained staff of administrators. GDOs express frustration at being excluded

from admissions, particularly because they are concerned about faculty perceptions of underrepresented students. They report that faculty often view students of color as less able or unqualified based on two factors: the prestige of the undergraduate institutions that underrepresented students attended, and their scores on standardized tests. First, several GDOs work with faculty who place great importance on prospective students' undergraduate institutions and assume institutions with less familiar names do not train students as well as more prestigious ones. One GDO spoke of her efforts to change the mind of a faculty member who did not seriously consider applicants from HBCUs because of a previous negative experience with an HBCU graduate. Craig Smith brings faculty together to debunk stereotypes and provide more information about institutions that are perceived as less rigorous or selective so that faculty are less likely to say, "Well, I've never heard of that school before, so I can't vouch for it, so I'm going to throw that application out." For Deborah Hardwick of Seaside University and others, it is important to create opportunities for faculty to recognize the potential of underrepresented students who "aren't from Harvard, aren't from Stanford, who aren't from Yale," thus challenging faculty beliefs or lack of knowledge about the kind of preparation students receive from institutions they deem less prestigious or of which they are simply unaware.

GDOs also describe as problematic faculty reliance on GRE scores as an indicator of ability. GDOs repeatedly mention faculty members' tendency to disregard underrepresented minority applicants when their test scores are lower than others in the applicant pool or deemed unacceptable. To combat a perceived overreliance on and misinterpretation of standardized test results, Monique Malone of Baron University conducts admissions workshops where national GRE averages and percentiles are disaggregated by race, thereby hoping to illustrate to faculty that the meaning of these scores and how they are interpreted may vary by student background:

> The African American who has a 700 GRE is actually 98% percentile (laughs) whereas, you know, a Caucasian is only in the 92nd percentile. It was like, no, you're not getting a lot better than this. Just so you understand it, you know what the difference is.

In addition to highlighting persistent score disparities between underrepresented and majority students, Malone's comment demonstrates the contextual knowledge and expertise GDOs can provide, helping faculty understand more nuanced ways of evaluating the information provided by measures like GRE scores. However, GDOs may not be invited to share their perspectives, and cannot ensure that their insights will be considered as faculty make admissions decisions.

Support from Senior Leadership and Faculty

GDOs report to a variety of senior administrators including deans of graduate education, vice presidents for research, and vice provosts. While five participants have a Chief Diversity Officer on their campus to coordinate campus diversity efforts, little mention is made of these individuals and their relation to the work of GDOs. Rather, more discussion is focused on the administrators to whom GDOs report and other institutional leaders. Most importantly, GDOs see themselves in a better position to make change when reporting to senior-level administrators who are supportive and express a strong commitment to increasing the representation of Black, Latino, and Native American graduate students. For example, Sam Bailey and Allison Boyd applaud the senior administrators to whom they report, emphasizing their "toughness" in working with departments and their commitment to recruiting and retaining a diverse graduate student body.

Although several GDOs work with supportive senior administrators, others openly question the commitment of those to whom they report or of their campuses' most senior administrators. Deborah Hardwick observes a lack of alignment between the rhetoric of senior administrators and their support of graduate diversity work. For example, her own position is solely funded by external grants; she has no formal reporting line to any senior administrator and has only a "dotted line" to an associate dean. She questions the true campus commitment to promoting diversity, considering a lack of willingness to commit institutional monies to funding her position or formally place her on the organizational chart. Elizabeth Stevens of Crest University also notes the difference between her position and the formal emphasis placed on diversity in graduate education at her university and other institutions. She explains that institutions with offices and a team of administrators focusing on graduate diversity show a stronger commitment than those like Crest, who have only one administrator. Speaking of her own position outside of the graduate school and what it means for her work, Stevens shared her frustration:

> At the Graduate School they could care less what I'm doing. I do what I need to do, I do what I want to do, and everyone's happy that I'm doing it, and they don't have to pay attention to it. I mean that's how I feel.

Thus, Stevens sees her work as allowing the graduate school to focus its attention elsewhere, free from the demands of working to increase graduate diversity. While senior administrators may be pleased with diversity increases that may result from Stevens's work, she does not perceive that they truly care about diversity or want to commit time to this work.

Malia Lucas makes similar comments but focuses on the importance of faculty commitment and speaks to a general sense among participants that

few faculty are willing to invest time and energy toward increasing campus diversity. Many faculty at Baron University apply for competitive grants from the National Institutes of Health (NIH) and the National Science Foundation (NSF), and these organizations often inquire about the steps being taken by the applicant and the applicant's institution to increase diversity in graduate education. While few faculty contribute to or demonstrate an interest in her work, they frequently contact Lucas for information about her diversity programs when applying for grants. She finds this narrow focus exploitive and always acknowledges faculty and senior administrators who do and do not contribute to efforts to increase graduate student diversity in her reports to granting agencies.

Access to Financial Resources

Funding and budget allocations for diversity recruitment and outreach are perceived as incredibly influential and important in promoting graduate diversity by GDOs. While most GDOs are allocated some funds from their institutions, many deem it necessary to supplement their budgets with grants and spend a significant amount of time drafting proposals. Funding opportunities are particularly accessible to support work increasing diversity in science, technology, math, and engineering. National funding agencies like the NSF, NIH, and Department of Education have embraced the need to improve diversity in graduate education and the professoriate, thus creating opportunities for GDOs to obtain funding to support their work. For example, six participants use Alliance for Graduate Education and the Professoriate (AGEP) grant funds from the NSF to fund recruitment activities (e.g., summer research programs, campus visits) and retention and student development initiatives, including conference travel, summer support, writing workshops, and student retreats.

The commitment that institutions demonstrate by allocating funds toward the recruitment and retention of underrepresented students appears linked in the minds of some GDOs to the larger anti-affirmative action movement in the United States. For some GDOs, particularly those at public institutions, anti-affirmative action policies limit access to financial resources and require changes to previously developed strategies for recruiting underrepresented students. A GDO working at a public institution in a state bound by an anti-affirmative action policy explains: "We don't have state money that we can contribute to diversity and outreach to specific racial and ethnic groups. . . . You can have an undergraduate research program, but it has to be open to everyone." Another GDO at a public university located in a state with an anti-affirmative action policy describes the substantial changes made to an institutional fellowship previously specified for underrepresented students; "diversity" is now defined more broadly to avoid legal challenges. While not bound by state policy, people became "conservative" at Dustin Chase's public

institution after the Michigan case (*Grutter v. Bollinger*, 2003) was decided, despite its support for the legality of affirmative action. Chase saw this conservatism manifest at Land Grant University in a decision to cut targeted financial aid programs and recruitment materials focused on underrepresented communities, areas in which the institution had previously invested.

A lack of funding, whether due to policy or to the decisions of senior institutional leaders, presents GDOs with a significant challenge. For GDOs, the ability to award fellowships and graduate assistantships is key to recruiting a more diverse community. For example, despite an expanded travel schedule, web presence, and follow-up efforts with prospective students, Dustin Chase emphasizes the importance of increased fellowship funding, asserting that students will not come without financial support. Denise Miller also describes how her outreach efforts have led to increases in the number of underrepresented students expressing interest in Colony University. However, without the ability to make adequate funding offers to students, Miller feels that Colony cannot realistically attract the most sought-after candidates.

In addition to being a specific recruitment tool, fellowship allocations give GDOs the ability to expand their limited level of influence on the admissions process. Deborah Hardwick succinctly observes: "Departments are willing to do something if funding is tied to it." For GDOs who manage diversity-related funding, funding can be a useful lever in convincing admissions committees to more carefully consider and recruit candidates from underrepresented communities. Alex Zapata of Green University comments on how he uses fellowships earmarked for underrepresented students to push departments toward initiating their own recruitment and retention plans by requiring an ongoing financial and educational commitment from the department before funds are allocated:

> If a department has a big plan, and they have a pool of three or four students that they want to bring, and if they have demonstrated some degree of commitment to not only recruiting but supporting students, then on occasion we have given them a cluster amount so that they can try to recruit three or four students as a part of a larger cohort, and then begin to sort of establish the groundwork for future work where they can expand the numbers, using their own funding as well.

Similar to Alex Zapata's efforts, Monique Malone is able to offer partial funding to support underrepresented students that a department may not be able to afford in the short term, shifting financial responsibility to that department over time. She describes this initiative as "a wonderful carrot," noting increases particularly in Black student enrollment. Those who do not have access to a fellowship fund, like Elizabeth Stevens and Malia Lucas, express frustration and explain that it places them at a disadvantage, further

limiting their ability to influence the admissions process. Therefore, while not an option for all participants, having control over financial resources allowed some GDOs to have a greater level of influence with admissions committees. That situation, they see, is key to increasing diversity in graduate education.

DISCUSSION

Our findings suggest that GDOs maintain the primary responsibility for coordinating diversity efforts at the graduate level, either campus-wide or within a particular academic school or college. The creation of these positions is certainly a noteworthy indication of institutional commitment to increasing diversity broadly and at the graduate level (Hurtado, Milem, Clayton-Pederson, & Allen, 1999), yet it does not guarantee a more diverse graduate community. GDOs identify five types of challenges that negatively influence their efforts to recruit and retain underrepresented students: (a) diversity and social outlets in the surrounding community, (b) diversity and racism in the campus environment, (c) the graduate admissions process, (d) support from senior leadership and faculty, and (e) access to financial resources.

While each theme is salient on its own, using the CRC framework as a lens facilitates understanding of the constructs underlying each barrier and how the barriers function together to challenge GDOs' efforts to increase campus diversity. Traditionally, compositional diversity has been considered a catalyst within the CRC framework. While not an end in and of itself, it is an important precursor toward facilitating a more hospitable campus climate and learning across difference (Hurtado, Griffin, Arellano, & Cuellar, 2008; Hurtado, Milem, Clayton-Pederson, & Allen, 1999). Our study is distinctive in its effort to understand how various dimensions of climate shape efforts to increase compositional diversity at the graduate level.

This discussion explains how dimensions of CRC manifest in the challenges GDOs face as they work to increase diversity in graduate education. Figure 2 depicts an altered representation of the CRC framework. (The external dimensions of climate appear in gray and the internal dimensions are white.) Rather than showing how the dimensions of the framework function together to influence the campus racial climate, this adaptation represents the findings of the study. The arrows illustrate connections among various dimensions of the climate framework and efforts to increase compositional diversity, including the complex ways in which various aspects of CRC function together, influence one another, and ultimately impact GDOs as they strive to recruit and retain underrepresented minority graduate students.

External Dimensions of Climate

While largely outside of an institution's control, two external forces shape the campus racial climate as well as GDOs' efforts to increase diversity: the
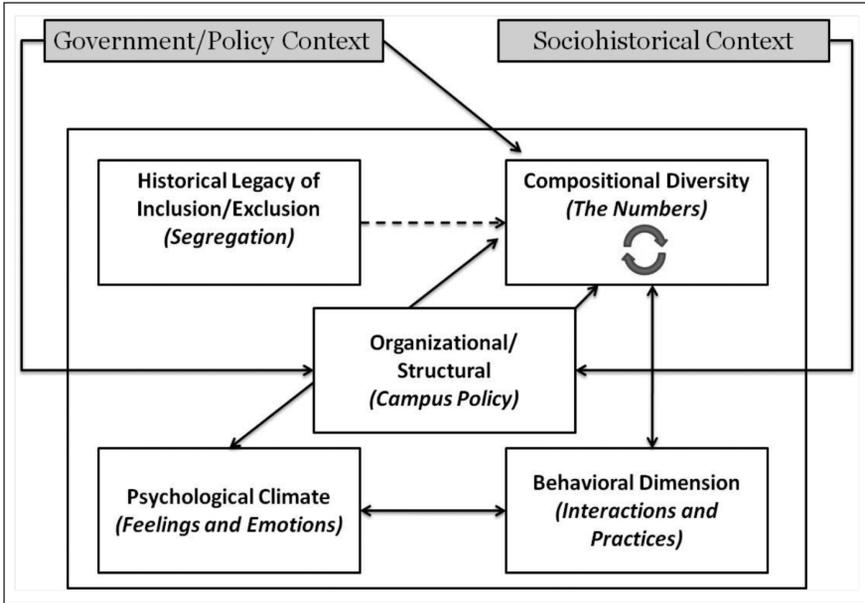
Figure 2. Reinterpretation of the campus racial climate framework based on the findings of our study, with attention to how dimensions of climate influence efforts to increase graduate student compositional diversity.

government policy context and sociohistorical forces (Hurtado, Carter, & Kardia, 1998; Hurtado, Milem, Clayton-Pederson, & Allen, 1999). Government policies are the proverbial double-edged sword for many GDOs, both supporting and challenging efforts to increase compositional diversity, represented by a direct arrow between these two dimensions in Figure 2. Grant programs funded by national agencies like the NSF and NIH are important to GDOs because they represent a clear commitment to increasing the number of underrepresented minorities in science. In addition to offering funding opportunities for GDOs, as a condition of funding research, they hold faculty and institutions accountable, insisting on evidence that the institution is implementing diversity recruitment and retention strategies.

While national research agencies positively influence efforts to increase compositional diversity, state governments and policies can present challenges. Anti-affirmative action policies often restrict GDOs' ability to implement programs specifically for Black, Latino, and Native American students. While the decision in *Grutter v. Bollinger* (2003) maintains that the use of race in college admissions is constitutional if considered holistically and as one of many factors, policies such as California's Proposition 209 and the

"One Florida" plan prohibit the consideration of race, ethnicity, gender, or religion in *any* public institutional decisions, particularly with regard to admissions, financial aid distribution, and hiring.

Discussions regarding affirmative action have largely focused on undergraduate and professional education (e.g., Bowen & Bok, 1998; Rhoads, Saenz, & Carducci, 2005; Sander, 2004; Trent, Owens-Nicholson, Eatman, Burke, Daugherty, & Norman, 2003; Zusman, 1999). Little work has considered how anti-affirmative action policies have influenced diversity efforts in master's and doctoral programs. Findings suggest the efforts of GDOs at public institutions in states are indeed hampered by these policies. Interestingly, GDOs do not describe a direct influence of anti-affirmative action policy on the admission of graduate students; rather, these policies influence decisions about, and sometimes the elimination of, recruitment and fellowship programs targeting underrepresented populations.

Our findings also suggest that anti-affirmative action sentiments alone can limit efforts to increase compositional diversity. These sentiments are perhaps best understood as sociohistorical forces, or issues and events in the larger society that shape how racial diversity is viewed on campus (Hurtado, Carter, & Kardia, 1998). In this case, external beliefs about "fairness" and whether affirmative action amounts to reverse discrimination and decreased institutional quality are described by one GDO as making institutional leaders hesitant to implement aggressive programs targeting underrepresented students. This finding suggests that sociohistorical forces may have an indirect influence on graduate student diversity, illustrated by the arrow between the sociohistorical and organizational/structural dimensions in Figure 2. Broad societal sentiments about affirmative action, rather than the beliefs of faculty or institutional leaders, may lead institutional agents to restrain recruitment efforts to avoid public rebuke, critique, or legal action.

Another sociohistorical force influencing the work of GDOs in a somewhat indirect way is the achievement gap between underrepresented minority students and their White and Asian peers. The potential graduate student applicant pool gets smaller at every educational decision point due to higher attrition rates among students of color (Allen, Bonous-Hammarth, & Teranishi, 2002; Ryu, 2008; Trower & Chait, 2002). Further, the GRE scores of underrepresented minority students, on average, tend to be lower than those of their peers (Pruitt & Isaac, 1985; Tapia, Lanius, & Alexander, 2003). Regardless, GDOs describe meeting and encouraging many talented students to apply to their institutions and feel that the achievement gap does not prevent the generation of a competitive applicant pool. Convincing doubtful faculty that there are many talented students to recruit requires GDO time and attention, broadening the scope of their responsibilities beyond working directly with students to managing the expectations of faculty and administrators.

Internal Dimensions

The five dimensions within the revised CRC model can also be used to gain a deeper understanding of the barriers facing GDOs as they work to increase compositional diversity. The first dimension, institutional legacy of inclusion and exclusion, speaks to the influence that an institution's history, particularly of segregation, can have on current campus experiences. The relationship between this dimension and compositional diversity is represented by a dashed line due to its weakness as a theme emerging from our analyses. Only one institution in our sample has a history of *de jure* segregation, and the GDO there believes that the history is slowly being overcome through more outreach and recruitment. Another GDO, however, used his institution's history of inclusion to ensure prospective applicants that they would be entering a hospitable environment. Regardless, it appears that an institution's historical legacy, either as source of pride or as something to overcome, has limited relevance within the context of this study.

While this study focuses on efforts to increase compositional diversity in the graduate population, GDOs note the potential influence of the current compositional diversity, or the actual number of individuals from different racial groups on campus, represented by the recursive circle of arrows within the compositional diversity dimension in Figure 2. Compositional diversity is most often linked to recruitment. Prospective students appear to use the number of students of color on campus as an indicator of climate and their potential comfort within the environment. Broad efforts to increase the presence of people of color across campus appear to influence favorably prospective students' perceptions of the institution's commitment to diversity and signal an appreciation of the voices, needs, and experiences of individuals from a variety of backgrounds. Interestingly, GDOs note that the compositional diversity of the community off-campus is also important in recruitment, giving students an indication of their potential comfort in their environment and accessibility of social outlets and personal resources outside of school.

Compositional diversity also influences GDOs' work fostering student retention, particularly when examined along with the psychological and behavioral dimensions of the CRC framework. These relationships are represented by a series of double-headed arrows connecting compositional diversity, behavioral climate, and psychological climate in Figure 2. Consistent with the literature on the experiences of doctoral students of color (Hurtado, 1994; Lewis, Ginsberg, Davies, & Smith, 2004; Nettles, 1990; Taylor & Antony, 2000), GDOs share their feelings that underrepresented minority graduate students often experience isolation and acclimation challenges as one of a few—if not the only—racial or ethnic minority in their departments. Isolation is not based on small numbers alone. According to GDOs, isolation is

partly rooted in a negative or hostile psychological climate, which reflects students' perceptions of discrimination and racial conflict in the campus environment (Hurtado, Carter, & Kardia, 1998). Little work has focused specifically on the influence of hostile psychological climate on graduate students; however, a hostile psychological climate has been linked to lower rates of social integration, sense of belonging, and institutional commitment among underrepresented undergraduates (see reviews by Harper & Hurtado, 2007; Hurtado, Griffin, Arellano, & Cuellar, 2008). GDOs suggest that the limited, stereotypical, and sometimes racist perceptions that underrepresented graduate students encounter in their academic programs challenge efforts to recruit and retain underrepresented graduate students.

GDOs also suggest that negative perceptions of students are reflected in relationships between faculty and underrepresented students, specifically represented by the double-headed arrow between behavioral climate and psychological climate. The quality of interactions between faculty and students falls within the behavioral dimension of climate, which captures the frequency and nature of intergroup interactions. Mentorship and positive relationships with faculty are key to the development and retention of underrepresented graduate students (Adams, 1992; Bowman, Kite, Branscombe, & Williams, 1999; Hill, Castillo, Ngu, & Pepion, 1999; Wright & Wright, 1987). Students not exposed to these relationships have lower interest in becoming professors, turn in worse academic performance, experience fewer increases in critical thinking ability, and achieve less success in obtaining research grants and fellowships than their peers with positive faculty-student mentoring relationships (Adams, 1992; Belcher, 1994; Hill et al., 1999; Kelly & Schweitzer, 1999). Thus, the challenges that underrepresented students may have in forming positive relationships with faculty may lead to greater dissatisfaction with their graduate experience, weaker academic outcomes, and lower likelihood of degree completion.

It is important to note that a hostile psychological climate and a behavioral climate shaped by negative student-faculty interactions is not only a retention problem; it is also a recruitment problem. Current graduate students are purveyors of knowledge and can share the quality of their experiences with prospective students during campus recruitment visits, at conferences, and through informal student networks. When students have negative experiences in a particular department or on campus, it can dissuade prospective students from seriously considering that institution. Thus, while the original CRC framework (Hurtado, Milem, Clayton-Pederson, & Allen, 1999) portrays compositional diversity as having a one-way influence on psychological and behavioral climate, we suggest that the relationship may be more complex. Our findings suggest a recursive loop between these dimensions, with psychological and behavioral climate having the potential to influence the ability to attract students of color to a given campus.

Finally, the organizational/structural component of CRC appears to be particularly salient to the work of GDOs, and viewing the study's findings through this lens facilitates a clearer understanding of the connection between a university's structure, patterns of resource allocation, and the advancement of campus diversity. The relationship between these dimensions is represented by an arrow from the organizational/structural component to compositional diversity.

Our participants describe in detail how three organizational/structural factors influence their ability to promote graduate diversity: the support from senior leadership, a decentralized graduate admission process, and access to resources. First, our findings suggest that the importance university leaders place on graduate diversity impacts the work of GDOs. Literature on organizational change suggests that a comprehensive plan implemented over time is required to deeply alter colleges and universities (Kezar & Eckel, 2002) and that this approach is particularly important when it comes to improving campus diversity (Chang, 2002; Hurtado, Milem, Clayton-Pederson, & Allen, 1999; Milem, Chang, & antonio, 2005; Musil et al., 1999). Similarly scholars note that the entire campus community—faculty, administrators, and students—must embrace graduate diversity as a high priority and comprehensively integrate it into their work to foster lasting institutional change (Aspray & Bernat, 2000; Tapia, Lanius, & Alexander, 2003).

Having a GDO is an important step toward increasing graduate diversity; however, it also appears to allow faculty and institutional leaders to pay less attention to these issues in some cases. While some GDOs view senior administrators as key advocates in their work, others cite a lack of commitment from the faculty and senior administration as demonstrated by the staff's lack of attention to graduate diversity and minimal engagement in graduate diversity efforts. Thus, these findings highlight that institutions may begin to demonstrate a commitment to diversity by creating a GDO position; yet there will be limited progress in increasing graduate diversity without visible support from faculty and the senior administration.

Faculty can contribute to the promotion of graduate diversity in several ways, but GDOs speak most to the importance of faculty support of their efforts during the admission process. Faculty and academic administrators across departments—not GDOs—control the number of graduate students of color who will be admitted and potentially enroll. This decentralized process limits GDOs' ability to fully leverage a key strategy to increase graduate diversity: the admission of more underrepresented students. Faculty hold primary responsibility in determining what makes a student "qualified" and competitive in the admissions process, while GDOs have varying levels of influence on the decisions faculty make.

Finally, support from senior institutional leaders can take the form of funding and financial resources. Financial support for students from under-

represented and low-income backgrounds is important to the recruitment and retention of graduate students (Aspray & Bernat, 2000; Pruitt & Isaac, 1985), and GDOs certainly utilized funds to inform students about their institutions and support them once they matriculated. However, GDOs rely heavily on external grant money to fund their efforts, often having limited institutional budgets. In addition to calling for more funding, GDOs highlight the importance of having control over financial resources. Such control allowed some GDOs to have greater influence on the graduate admissions process, using their ability to allocate resources to make their voices heard within admissions and to demand greater faculty attention and effort toward graduate diversity.

CONCLUSIONS AND IMPLICATIONS

The underrepresentation of Black, Latino, and Native American students among our nation's Ph.D.s has been identified as an issue of critical importance. National directives increasingly emphasize equity in access and degree completion at all levels of higher education, citing the importance of diversity in maintaining our nation's competitiveness in the global economy (Smith, 2009). Particularly notable is President Obama's February 2009 declaration that by 2020, our nation will have the highest proportion of postsecondary graduates in the world. A focus on postsecondary completion further necessitates an increase in the number of doctorates granted to U.S. citizens—particularly in science and engineering—to meet national workforce and economic needs (Council of Graduate Schools, 2007). Increasing the representation of racial/ethnic minority groups at the doctoral level is vital if our nation is to meet its scientific goals, including technological advancement and environmental sustainability (National Academies Press, 2010).

Furthermore, our universities must curtail their reliance on foreign-born talent to fill graduate programs; in addition to national productivity and economic security concerns, current trends suggest that foreign students often return to their country of origin, where there are better economic opportunities and a chance to positively impact their home community (Woodrow Wilson National Fellowship Foundation, 2005; Smith, 2009).

With this pattern in mind, both federal and state policies must address and facilitate GDOs' efforts to increase diversity in graduate education. GDOs in our study highlight the importance of financial support from organizations like the NSF and NIH, and the importance of federal agencies to both continue and expand funding opportunities aimed at diversity recruitment and retention efforts. Given the national push for degree production in science, math, and engineering fields (Nelson & Brammer, 2010; Woodrow Wilson National Fellowship Foundation, 2005), federal funding for student financial

aid and research opportunities at the graduate and undergraduate levels are critical to creating and maintaining a diverse pipeline of students. To balance or counteract anti-affirmative action policies and sentiments, state leaders should consider providing financial incentives to public institutions that not only enroll diverse graduate student populations, but also produce doctorates from underrepresented backgrounds with strict attention to educational quality. This funding could incentivize and facilitate collaborations between faculty, institutional leaders, and GDOs as they strive to come up with innovative strategies to improve diversity in graduate education.

Given our study's findings, we offer the following recommendations for practice: First, universities must attend to all facets of campus racial climate to promote the recruitment and retention of diverse graduate student populations. Climate has typically been considered a key component of retention, yet our findings suggest that climate is also a critical issue considered by prospective students in making their decisions about where to apply and enroll. Members of the campus community, particularly faculty and staff who work with graduate students, must be sensitive to the psychological and behavioral climate for underrepresented populations so that they can best support and promote student success, which in turn will support recruitment. While we echo the often-suggested strategy requiring community members to attend diversity workshops and trainings to promote more positive departmental and campus climates, we also suggest that institutional leaders provide incentives or rewards (e.g., increases in funding, institutional recognition) for those who maintain positive and inclusive environments. By addressing all dimensions of the campus racial climate model and improving the climate for underrepresented groups, universities strengthen their ability to increase compositional diversity in graduate education. As such, graduate diversity— as well as diversity across campus sectors—must be a campus-wide priority, and not simply a priority of the GDO.

Many forces shaping graduate diversity may be out of the hands of GDOs, yet university stakeholders must acknowledge the existence of these forces to navigate and respond to them accordingly. While GDOs are unable to control external pressures such as the anti-affirmative action regulatory environment, they must be well informed about the policy landscape to effectively execute their work. Regular communication between GDOs, other diversity stakeholders, and campus legal counsel is strongly encouraged so that GDOs are best positioned to offer robust programs and funding that both promote graduate diversity and are within state and federal legal guidelines. University leaders are wise to consult a recent publication by the American Association for the Advancement of Science in collaboration with the Association of American Universities: *Handbook on Diversity and the Law: Navigating a Complex Landscape to Foster Greater Faculty and Student Diver-*

sity in Higher Education (Burgoyne, Shaw, Dawson, & Scheinkman, 2010). Finally, universities must fully understand and address the implications of their organizational structure on efforts to increase graduate diversity writ large. For GDOs to be most effective, they require strong financial support coupled with a prominent, well-supported position on the campus' organizational chart. Since most universities have a decentralized, faculty-run admissions process, GDOs and faculty must forge stronger partnerships, and faculty must fully embrace the significant role they play in helping their home university achieve greater diversity. GDOs should be enabled to provide input and expertise to admission committees, and faculty must be willing to evaluate students' potential in a holistic way, thus looking beyond applicants' GRE scores and undergraduate institutions.

Additionally, GDOs describe having control over special scholarship and fellowship allocations as a successful way to encourage consideration of diversity in the admissions process. Thus, this strategy could and should be implemented and expanded, enhancing GDO resources and power in the graduate admissions process. These strategies recognize that, without strong faculty support and participation, efforts to increase graduate diversity will produce limited results. Therefore, anything that encourages faculty to more strongly consider the importance of diversity as they engage in their work would be a positive step toward increasing diversity in graduate education and, ultimately, in the professoriate and American workforce.

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