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Burdens and benefits of diversity work: emotion management in STEM doctoral students

Burdens and
benefits of
diversity work

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Abstract

Purpose – As part of the broader effort to diversify higher education in the USA, many science, technology, engineering and mathematics (STEM) doctoral programs are deeply engaged in diversity work – an array of formal activities and practices meant to boost the representation of women and students of color. This paper aims to examine how underrepresented doctoral students in high-diversity STEM PhD programs contribute to diversity work in their programs.

Design/methodology/approach – A case study approach was used to understand the nature of diversity work in four STEM doctoral programs that have enrolled and graduated women and/or underrepresented students of color at rates significantly higher than their disciplines, despite being located in states with affirmative action bans. This study analyzes qualitative data from 24 semi-structured interviews and four focus groups with students from across the four departments.

Findings – Data reveal that underrepresented students are simultaneously positioned as representatives of progress and uncompensated consultants in their departments' ongoing equity and diversity efforts. As a result, student contributions to diversity work are experienced as an ongoing process of emotional labor in which institutional ethos and/or feeling rules in the department shape how students manage their internal and external emotions.

Originality/value – Although diversity-related work is widespread and growing within colleges and universities, this study shows how student engagement in diversification efforts can lead to significant emotional burdens that go unnoticed and uncompensated. In highlighting the invisibility of emotional labor and the skew of its distribution toward minoritized groups, this research calls attention to how tacit feeling rules can undermine the ultimate goal of diversity initiatives within graduate departments and programs.

Keywords Equity, Doctoral students, STEM, Diversity, Emotional labour, Emotion management

Paper type Research paper



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The educational benefits of racial and gender diversity are institutionalized in legal precedent as a basis for formal activities and practices in colleges and universities. However, those benefits are realized on a day-to-day basis through a host of micro-level interactions.

Researchers have examined the efforts to create more diverse racial and gender environments through policy and practice, but less is known about the work of “doing diversity” – the daily, informal and interactional work of fostering and sustaining these environments. We examine diversity work through the lens of women and doctoral students of color in science, technology, engineering and mathematics (STEM) fields located in high-diversity PhD programs. The labor of contributing to their programs’ diversity and equity efforts often extended beyond formal activities of “doing diversity,” to the daily requirement to “be” the diversity the program sought to create. This labor came with benefits but also exacted an emotional and psychological burden. Using the theory of emotional labor, this paper aims to understand those burdens, revealing how processes of inequality become enacted and embodied by unwitting participants, resulting in emotional strain and continued marginalization.

Literature review

Scholars have long noted formal versus informal organization as a critical distinction in understanding organizational life (Scott and Davis, 2007), but research on diversity efforts in higher education usually centers on organized, official initiatives (Kezar, 2007; Kezar *et al.*, 2008; Miley *et al.*, 2005; Smith, 2009). A strong literature concerns efforts to hire a more diverse faculty, for example especially in STEM disciplines where women and people of color remain severely underrepresented (Burrelli, 2008; Smith, 2009; Smith *et al.*, 2004; Stewart *et al.*, 2004; Stewart *et al.*, 2016; Turner *et al.*, 2008). Other research on formal diversity work examines functional processes with implications for diversity (Alon and Tienda, 2007; Engberg and Hurtado, 2011; Mayhew *et al.*, 2005; Museus and Jayakumar, 2012) or sponsored processes of organizational learning for diversity (Dowd and Bensimon, 2015).

Fewer authors attend to the informal work of diversity in higher education – that is, the social construction of diversity in daily institutional life. Ahmed (2012) uses anthropological narrative analysis to explain in vivid detail the daily work of diversity administrators in UK postsecondary institutions. As campus agents “doing diversity,” faculty and staff dictate how diversity work manifests in ways which do not align with the public image of diversity that institutions strive to project (Ahmed, 2012). To fill the gap, staff and faculty are tasked with “feeling and thinking *for* the institution [in order] to transform what the institution is *for*” (p. 140). Relatedly, Dowd and Bensimon (2015) draw from multi-institutional action and qualitative research to argue that institutional diversity work is conducted by researchers and practitioners who themselves grapple with racialized structural inequities on their campuses.

Research on the experiences of minoritized faculty and staff has also drawn out the cultural taxation of doing diversity for one’s institution. Women and faculty of color often shoulder more of the burden for diversity efforts in teaching and service, and subsequently suffer from such cognitive burdens as absence of belonging and/or perceived attacks on the legitimacy of their work (Joseph and Hirshfield, 2011; Nelson Laird, 2011). Underrepresented academic staff members are also unofficially tasked with embodying diversity in their departments and institutions (Mirza, 2006), often as tokens, and relieving the organization of further responsibilities to advancing a commitment to diversity (Hunter, 2006). To date, however, we know little about student engagement in diversity work, with the exception of their engagement in ethnic student organizations.

In graduate education, student organizations may also bridge mentoring gaps left by insufficient faculty diversity and/or limited face time with advisors (Girves *et al.*, 2005; Holley and Caldwell, 2012; Miller and Deggs, 2012; Miller and Dirkx, 1995; Patton and Harper, 2003). Student organizations also create networks who can help underrepresented students cope with racism and marginalization (Espino, 2014; Gay, 2004; Gildersleeve *et al.*, 2011; Truong and Museus, 2012), or even shape institutional diversity efforts (Chang, 2002)

when administrators and faculty create means for students to serve (Kuk and Banning, 2010).

Diversifying PhD programs

A growing literature recognizes graduate and professional programs as sites for diversity work, focusing on the efforts of graduate diversity administrators (Griffin and Muñiz, 2011), professors (Posselt *et al.*, 2017; Rogers and Molina, 2006; Slay, Reyes, and Posselt, under review in press) or faculty and staff working in collaboration (Posselt *et al.*, 2017). Collectively, this research draws out tensions in diversity work and means of resolving them. Better coordination is needed, for example, between administrators responsible for recruitment and the faculty responsible for admissions (Griffin and Muñiz, 2011), and programs must attend to climate and mentoring to realize sustainable gains from admissions and recruitment reforms (Slay *et al.*, 2018). This small literature, however, emphasizes formal diversity work over informal and has not attended to graduate students' roles in these diversity efforts. What do we know about experiences of graduate students in relation to diversity?

STEM graduate student experiences of climate

The "chilly climate" (first coined by Hall and Sandler, 1982) encountered by women and other minoritized students in STEM is such a frequent topic of scholarship that scholars have written reviews within and across national contexts (Ong *et al.*, 2011; Prentice, 2000). Ong *et al.* (2011) identified the baccalaureate origins and first two years of graduate school as particularly critical in the ways women of color engage this climate. They draw future researchers to attend to "informal, rather than structural, elements of graduate education that can be significant hurdles for women and minority students" (Ong *et al.*, 2011, p. 178), a conclusion reinforced in recent research on women's experiences in STEM doctoral education (Cabay *et al.*, 2018).

A central argument in this literature is that underrepresented groups' token presence within organizations (Kanter, 1977) permits the persistence of cultural dynamics such as communication patterns (Wolfe and Powell, 2009), gender and racial stereotypes (Malcom *et al.*, 1976) and self-presentation (Rhoton, 2011) that impede group members' full belonging and advancement. Informal exclusion of women and scholars of color from informational and social networks denies them formal opportunities for sponsorship and advancement (Fox, 1991). In doctoral education, women of color often endure an elusive "struggle to feel recognized as legitimate members of the STEM community" (Carlone and Johnson, 2007, p. 1207) and "extra, and indeed, invisible work in order to gain acceptance" from male faculty and peers (Ong, 2002, p. 43).

By emphasizing experiences that come with insufficient engagement with faculty (Chen *et al.*, 2008), the implication is that students from historically marginalized backgrounds will benefit from more involvement, and/or better integration, into department life. Indeed, decades of research on undergraduate education center on involvement, integration and engagement as mechanisms that positively influence student outcomes. However, in attending to marginalization, we have not examined how graduate school is experienced by minoritized students who *are* deeply engaged in their departments – and particular in supporting their program's diversity efforts. In PhD programs, a student's freedom to apply laser-like focus to their scholarship may be important to their success, and thus to their sense of belonging, so engagement in nonacademic activities cannot be assumed to come without cost. Further, it is possible that in institutional spaces that are actively negotiating

the politics of diversity and equity, student involvement may come with emotional and social burdens – not just benefits.

Collectively, the scholarship on diversity in higher education is vast but attends much more frequently to organized diversity work than informal, everyday efforts. However, research on marginalized graduate students' experiences in STEM highlights the power of organizational climate and informal experiences to shape their belonging and success. We have only begun to scratch the surface of the emotional labor inherent in diversity work, and there is no research that examines how graduate students contribute to departmental efforts or whether they experience the same cultural taxation that minoritized faculty and staff do from such contributions. Therefore, our research questions are as follows:

- RQ1. In STEM doctoral programs that graduate above-average shares of women or underrepresented students, what types of contributions do students make to the department's diversity efforts?
- RQ2. How do students describe and interpret these contributions to this work?
- RQ3. What benefits and costs come with engaging in diversity work?

Theoretical perspectives

Our conceptual framework centers on theories of emotional labor, defined as “the process by which workers are expected to manage their feelings in accordance with employer-defined rules and guidelines” (Wharton, 2009, p. 148). Hochschild's (1979, 1983) seminal work on emotional labor integrates the Freudian emphasis on unconscious, inner feelings with Goffman's (1959) focus on conscious outer displays to suggest that individuals perform and/or suppress emotions according to “feeling rules,” defined as “societal norms about the appropriate type and amount of feeling that should be experienced in a particular situation” (Wharton, 2009, pp. 148-149). Such contextual norms may dictate the expression of emotions in graduate students who are central to the diversity efforts in their departments.

Emotion management and labor

Hochschild (1979, 1983) identifies two ways that individuals manage their emotions according to feeling rules:

- (1) “deep acting,” wherein people work to align their private, inner feelings with expected outward expression of emotion; or
- (2) “surface acting,” wherein people work to modify their outward expressions to match normative expectations, sometimes concealing their true inner feelings.

Surface acting implies that certain social situations may cause individuals to experience emotional dissonance, where there is a disjuncture between felt and feigned emotions (Kruml and Geddes, 2000; Wharton, 2009). Emotion management requires energy exertion, and emotional dissonance can lead to negative psychological outcomes (Wharton, 2009).

Jobs requiring significant social interaction transform emotion management into emotional labor. Frontline service workers often have prescribed emotional scripts for interacting with customers and continuous supervision (Kruml and Geddes, 2000; Wharton, 2009). For professionals, however, feeling rules may arise from hidden processes of socialization to a field or organization (Wharton, 2009). Moreover, the power dynamics associated with gender, race and class can shape expectations about the emotional deference expected of workers (Wharton, 2009).

Beyond the workplace, organizational theorists have suggested that emotional investment is central to the reproduction of modern institutions (Lawrence and Suddaby, 2006; Voronov and Vince, 2012). Voronov and Weber (2015) put forth the concept of emotional competence (EC), which describes the “ability to experience and display emotions that are deemed appropriate for an actor role within the institutional order” (p. 457). Much like Hochschild’s feeling rules, EC hinges on how the institutional ethos – the shared ideal of what it means to be an actor in the institution – prescribes values, moral judgments and a sense of self-worth for institutional actors (Voronov and Weber, 2015). And like emotion management (Hochschild, 1979, 1983), EC is enacted through “private” self-regulation (i.e. where a person modifies their own emotions according to an institutional ethos) and “public” other-authorization (i.e. where other people validate one’s emotional displays).

Emotional labor and diversity labor in higher education

Emotional labor has also been studied in higher education – a professional context with high interactional demands. In her study of emotional labor in academia, Bellas (1999) suggests that “feminine” skills associated with teaching and institutional service are not as highly valued as the “masculine” counterparts of research and university administration. In this gendered reward structure, women faculty spend a disproportionate amount of time on emotionally labor-intensive activities that go unnoticed and underacknowledged (Bellas, 1999). Similarly, Moore *et al.* (2010) argue that as diversity-related courses get “dumped” on professors and graduate instructors of color, the distorted workloads place a distinctive emotional burden on these individuals – often expressed as anger with the devaluation of their contributions (Moore *et al.*, 2010). Harlow (2003) found that African American faculty members had to perform competence and authority to counter negative stereotypes, while suppressing emotional reactions to racism and sexism from students.

From these various strands in the literature, we gather that the everyday interactions that are integral to the graduate education experience (Lechuga, 2011; Patton, 2009) may involve significant emotional labor. The interactional demands of departmental life, and the emotive processes that students experience within them, cannot be separated from social identities in social contexts. Consequently, we contend that race, gender and other power dynamics will influence the degree to which – and how – individual doctoral students will confront and manage emotional burdens. To secure their belonging and contribute to programs’ diversity efforts, underrepresented graduate students may feel compelled to manage their emotions according to the feeling rules of their departments and the institutional ethos of the broader discipline or academic profession. We are especially concerned with the degree to which underrepresented students are engaged in surface acting (i.e. concealing true inner feelings), as its psychological damage may be an important barrier that no structural diversity policy is adequately able to address.

Case study methodology

The current paper is part of a larger qualitative study of STEM doctoral programs that have enrolled and graduated women and/or students of color at rates significantly higher than their disciplines, despite being located in states with affirmative action restrictions. We acquired enrollment and graduation rates for these populations for all graduate STEM programs from two large, research-intensive institutions, and subsequently compared them to national averages for the discipline. A pool of “exemplar” programs emerged based on their higher than average rates. Ultimately, a case study approach was used to facilitate a complex and holistic understanding of the nature of diversity work in four STEM graduate

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programs (Merriam, 2009; Stake, 2005): applied physics, chemistry, civil/environmental engineering and psychology. Cases were selected to balance pure and applied[1] disciplinary orientations, and through confirmation of each site’s appropriateness through an interview with the department chair.

Sampling and data collection

Our within-case sampling strategy entailed criterion and snowball sampling (Merriam, 2009) wherein we recruited faculty, students, staff and alumni in each of the four programs. An informational interview with each department chair provided an overview of the department’s diversity initiatives and helped us contextualize the administrative data that first brought the program to our attention. Semi-structured interviews (30-60 min) and focus groups (approximately 60 min) were conducted with students representing multiple concentrations, cohorts and social identities. The initial round of semi-structured interviews and focus groups obtained “perceptions and interpretations” of each department’s climate for diversity (Merriam, 2009, p. 40; Weiss, 1995), their participation in diversity efforts and other organizational conditions, such as its history. Focus groups also clarified similarities and differences in students’ experiences, revealing complexity that would be less accessible without observations of group interaction (Morgan, 1997). A second round of data collection followed up with student participants to learn about competition, well-being and student support in their departments, as it related to the departments’ trajectories toward greater diversity. Given the current paper’s focus on *students’* contributions to diversity work in their respective departments, we focused on student data only – contained in 24 interviews and four focus groups (see Table I).

Data analysis

Following a round of inductive coding, our research team engaged in focused analysis of interview transcripts (Creswell, 2013; Miles *et al.*, 2014), whereby we used our theoretical framework to develop a series of deductive codes representing three main themes of emotional labor: contextual norms that dictate expressions of emotion, the work of managing one’s emotions and the manifestations of emotional labor associated with diversity-related work. We then used NVivo 11 to code interview transcripts, highlighting instances when the data reflected these themes. We also used annotations to note contradictions, exemplary or illustrative quotes and patterns of intersecting codes. We also drafted collective memos, which helped us uncover themes and patterns, resolve conflicting interpretations of the data and search for disconfirming evidence.

Trustworthiness and rigor

To enhance trustworthiness and rigor of the conclusions, our research team engaged in interrater coding, meeting weekly to discuss and resolve discrepancies in our coding and to ensure alignment of our analyses. We also engaged in triangulation, member checking and

Table I.
Types and sources of data

STEM departments	Applied physics	Chemistry	Civil engineering	Psychology	Total interviews
Round 1: Focus group participants	8	6	0	0	
Round 1: Interviews	4	0	3	5	12
Round 2: Interviews	4	3	1	4	12
Total Interviews	8	3	4	9	24

a search for disconfirming evidence (Creswell and Miller, 2000; Lincoln, 1995). We triangulated analyses across student participants representing different social backgrounds, concentrations and stages in the PhD (i.e. pre-candidate vs. candidate). Also, our analytic process ensured that two members of the research team coded each interview and focus group transcript. Pairs were varied to minimize bias. The multiple social identities, intellectual backgrounds and experiences represented in our research team also helped to guard against unduly subjective interpretations of the data (Lincoln and Guba, 1985). Finally, as a form of member checking, we solicited feedback on each department's case study from the department chair.

Limitations

This paper has two key limitations. First, doctoral students in our sample – selected through criterion and snowball sampling – may view contributions to diversity differently from those selected through a random sample of each department's graduate students. Second, our study design relied on semi-structured interviews and focus groups to shape our conclusions; yet, these data do not fully shed light on some of the internal, cognitive aspects of emotional labor (i.e. emotion management) described in our conceptual framework. As emotional labor concerns interactions and relational dynamics, observational data could have added another perspective to our understanding of how students navigate the contextual norms that elicit such emotional responses.

Findings

Interpreting our data from the perspective of emotional labor highlighted a critical distinction between formal and informal contributions to diversity, with the informal manifesting dynamics of emotional labor that scholars have uncovered in other contexts. The participants in this study are agentic, and both find ways to navigate emotionally fraught environments and find relief from emotional dissonance elicited by the institutional ethos and associated feeling rules.

Formal diversity work through recruitment and peer mentoring

The most common types of formal contribution that students make to departmental diversity efforts included participation in recruitment and peer-to-peer mentoring. Women in applied physics arranged a “female roundtable” for prospective students to meet current students and talk about issues related to their identities. In psychology, almost every student of color mentioned “Students in Psychology”[2] (SIP), a student-led organization dedicated to recruiting and supporting students of color. Students of color created this group in response to the lack of support they perceived. They planned coffee hours during campus visits, invited faculty of color to speak to students and arranged for recent graduates to come back and encourage current students. Charles, who is African American, described SIP as:

[...] a space for students to come together. At least for me, it let me know I wasn't alone, and some of the experiences I was having weren't unique to being a student of color – or just underrepresented student in general. I think it really provided that space in a more formal way than I had experienced in some instances just informally talking to students.

Many students credited SIP for providing the support they otherwise lacked from faculty advisors, labmates or other peers.

Informal diversity work in everyday interactions

Students also shared with us a more expansive understanding of diversity work than organizational activities alone. They constantly constructed diversity as a value, goal and identity through interactions among students, faculty and staff. Female students and students of color, given their underrepresentation in STEM fields, were often expected to simultaneously represent their personal social identities and broader communities, as well as their department's commitment to diversity – whether they wanted to or not. Student labor in the service of the department's image thus helped these departments perpetuate an idealized vision of themselves as superior to disciplinary counterparts that struggled to enroll underrepresented groups. Underrepresented students embodied the diversity these departments hoped to achieve.

As we report in the findings that follow, however, students were also forced to stifle emotional responses to instances of discrimination, microaggressions and messages of doubt related to their identities. This demanded sophisticated social-emotional skills, code-switching[3], surface acting and significant emotional dissonance. In that sense, underrepresented students' mere presence and engagement in departmental life reveals how students actually contribute to, experience and are impacted by departmental diversity efforts.

Navigating feeling rules in high-diversity STEM departments

Across the departments we studied, students understood certain social and emotional terrains one should avoid bringing up in public. In chemistry, Anya identified the only “acceptable struggle to discuss” was issues with research projects. “It is academics. You don't get your emotions.” Similarly, in psychology, Naomi bemoaned the culture of “performing being productive” and cultivating a perfect professional image in expense of showing the real struggles of the role. These feeling rules signaled to students that issues outside of their discipline, particularly emotions related to social well-being, were not allowed.

Students of color and women also noticed another layer related to issues of social identity, a salient aspect of their social-emotional life. As departments with greater numbers of women and students of color, students noticed the department's commitment to diversity was somewhat shallow or only embodied by a few individuals. Maria, an undocumented Latina in civil and environmental engineering, captured this dissonance best saying:

And so I think that they value [diversity] but I think it is because you're taught that you're supposed to value it. You're supposed to be diverse. It is something you kind of have to do to be able to claim it [...] It is one of those pluses for your department. It makes your department look good [...]. I'm sure if you ask anybody they can say diversity matters because – They can come up with a reason but is it practiced, is it discussed, and is it really, um – considered essential?

In response to feeling rules proscribing emotional displays and discussion of issues outside of science, plus an institutional ethos that perpetuated a fiction of diversity achieved, students relayed the need to suppress emotional responses to discrimination (primarily racism) because of an implicit understanding that these would be unwelcome expressions of emotion. Christina, an African American student in chemistry, relayed her frustration with an environment where all “people ever talk about is science” in the context of a police shooting that made national headlines:

People don't talk about the news or things that are happening in the real world [...] I'm from Cleveland [where] Tamir Rice was shot [...]. He was shot in a park that was directly next to the house my mom grew up in [...] nobody talks about how that could possibly affect them or

anything like that. Or have really hard conversations about it because we're all relatively privileged [...] I'm not speaking for everyone but generally as a department [...] there is not a culture of talking about anything else.

The sociocultural norms in Christina's department prohibited conversation about anything that was not related to science, including current events that should have catalyzed urgent discussions of race and racism.

Maria expressed a similar frustration with the normative understanding that discrimination is not worthy of dialogue. As Maria put it, "In science there is never any room to have those conversations [about identity and diversity] so there's no room to be offended." In fact, Maria recalled a specific incident during class when a white male student made a racist comment about people from developing nations being uneducated, and therefore unable to assist in engineering projects. In that moment, she turned to a fellow student of color:

[...] my friend was like, "It is not worth it, let it go". She wasn't very political but she could tell when I was upset [...]. It is just one of those things where you don't talk about it but now and then something comes up. And you can't even address it – you can't.

Both Maria and her friend seemed to understand that getting upset in response to such comments was not allowed, or even worth bringing up. Feeling rules, which forbade expressions of struggle and emotion, collided with an institutional ethos invested in portraying a diverse and inclusive environment. This combination proved highly effective at policing the public display of emotions related to discrimination, thereby silencing student voices and erasing the opportunity for such incidents to be meaningfully addressed.

Managing emotional distress in response to racism/sexism

Despite being in departments that enrolled more women and students of color, participants in all four departments reported managing their emotional responses to specific interactions marked by racism and sexism. Students of color and women cited both subtle devaluations and overt insults of their worth and abilities. In one instance, Vera, an African American applied physics student, met with a professor who was lauded for mentoring in the department about a concept she wanted to use in her qualifying exam. As she explained her understanding of the concept, the professor responded, "Oh do you really understand that or did you just memorize that?" Vera struggled to make sense of this comment saying:

Those are the things I think [that] really wear on you. And again, make you question yourself like, "Did he really just say that? Am I just making that up? Am I making it bigger than it actually is?" Or if, you tell somebody and like, "Really that's crazy; you shouldn't even think about it." Am I really crazy?

Racist and sexist incidents caused emotional distress, launching students into an elaborate process of managing their emotions, including uncertainty around their feelings and feeling "crazy" or wrong for bringing up discrimination in an environment supposedly free of bias.

Silvia, a Latina psychology student, experienced a similar process of managing emotions in reaction to racial microaggressions from white students in her lab. Silvia first questioned why peers would even behave this way: "You are actually saying that and I'm standing right here." After the initial shock, Silvia's emotion management concerned her feelings of anger, guilt and uncertainty as to how her reaction might be received by her labmate and other students:

And I don't know whether to speak up about this because then I'm going to be the crazy Latina that lashed out and just like reinforce some of things you already thought. Or like not say anything and just carry that weight that gets bigger and bigger and bigger as you go through

[...] I'm just going to let this go because it is going to be detrimental to myself if I keep thinking about it. I'm going to choose not to take action on that because I have to see this person for the next five years in my lab [...] I choose not to engage in that.

In addition to managing emotional reactions to discrimination, students of color bear the burden of managing others' views of their racial group. By speaking up, Silvia anticipated being read as a "crazy Latina" and feared reinforcing stereotypes of her race and gender. She chose to "let this go," suppressing her emotions and surface acting in her lab.

Emma, a white woman in applied physics, frequently observed sexist behavior in classes and labs. One occasion included rating women's attractiveness:

It is really frustrating; somebody was saying like, "Women in physics aren't real women" [...] this guy – he called it "physics plus three", which is on an attractive scale from 1 to 10. Women in physics get a "plus three" because they have a handicap that they're in physics, and women in physics typically aren't beautiful. So like a five in real life is an eight in physics. [...] There's tons of sexism.

These overt statements made working relationships with male colleagues difficult for Emma and other female students. Even in these high-diversity STEM departments, our participants engaged in surface acting to protect themselves from rumination about racist and sexist comments, so that they could continue working with individuals who initiated these microaggressions. Emotional labor was required for their persistence, and it exacted a serious toll.

Negative outcomes of emotion management

For many participants, this burden manifested in exhaustion and depression. Naomi, an African American student who was heavily involved in recruiting students of color through SIP, reflected upon her last year. "I think I'm just so tired; I don't feel like fighting anymore. So I hope some of the younger students start that fight; I'm too tired now." Charles, another African American student who had been active in diversity efforts in psychology, only realized the depth of his emotional distress after graduating:

I didn't realize how depressed – not clinically so, but how much of a depressed mood that I had until I removed myself [...] had a regular life, was around people or am around people who are like me [...] I didn't realize how my mental health had been affected in the prior environment that I was in.

Both pushing for diversity-related reforms and simply being a man of color in an environment unsupportive of his identity and values took an emotional toll.

Students also reported emotional turmoil during moments in the classroom where normative expectations conflicted with their cultural backgrounds and values. Maria described one such moment in an engineering course where the course assignment included "finding a third world country to build a plant on [...] so we could pollute as much as we wanted". She told us:

In my head I'm thinking, 'Whoa, that's my home'. I'm literally from a third world [country] [...]. My family is there [...]. But we're supposed to build that, and we're being taught as engineers that are entering the workforce that that is the way things are done [...]. That was one of the hardest courses I ever took.

For Maria, this assignment signaled that being a student in her discipline might require her to ignore systems of oppression that directly affected her family and community. Reconciling this professional expectation with her sense of cultural identity caused emotional difficulty for Maria throughout the course. In her case and others', emotional

dissonance and the surface acting it required led to feelings of burnout and depression among students of color and women, adding to the difficulty of persisting toward their degrees.

Relief from emotional dissonance

Students created spaces with counter feeling rules that allowed them to express emotions, relieving them of the emotional dissonance experienced in other areas and interactions within the department. These activities, such as SIP, constituted another way that students contributed to department diversity efforts, because these groups proved to be critical to underrepresented student well-being and persistence. For example, Anya, a white student, and some other chemistry students started a monthly breakfast meeting to discuss problems and process their feelings of inadequacy, even thoughts about dropping out of the program. For Anya, this discussion group represented a safe place “to vent and discuss the pros and cons of either your emotional health or your mental health or your academic health” because in the wider department culture, explicit feeling rules declared emotions as “not supposed to be there”.

Silvia also formed a support group among the other two Latinas and a black student in her year. Having people with whom to share emotions that came with being a person of color in the department was vital. Silvia explained, “It was that inherently we knew that there is something different about us. And there are comments that are going to be made and just having that person there to listen to your struggle that was quickly like – a life saver.” The ability to reveal genuine feelings of anger, confusion and being minoritized helped Silvia feel that sense of, “Okay, you understand what I’m going through. I can tell you this and I feel safe saying that and I can’t tell that to anybody else in the program.” These safe people allowed students to take a break from surface acting, and resolve emotional dissonance by being able to bring genuine feelings to an interaction.

Gender also played a role for identifying safe people in the departments. Recalling one instance after class, Karen, a white student in applied physics asked a colleague how she was doing. At first, the student concealed her distress, but then her friend broke down and said, “I don’t understand what’s happening anymore. It is just equations and I can’t see anything.” Two more female graduate students responded, embracing their colleague, telling her it was going to be ok, and buying her a chocolate muffin. Karen revealed she had had similar experiences:

I’ve had the reciprocal case where I’ve been really discouraged and have felt free to go to [female graduate students] for support. I definitely wouldn’t feel comfortable with that with guys.

In addition to sharing instances of relief from surface acting, students were aware that feeling rules among students fell along gender lines.

Discussion

The data demonstrate that marginalized student contributions to diversity work are experienced as an ongoing process of emotional labor in which institutional ethos and/or feeling rules in the department shape how students manage their emotions. Students not only engaged traditional forms of diversity work through recruitment events and peer mentoring but also described emotional burdens associated with “being the diversity” that programs are actively striving for. This management takes place internally and externally on a daily basis. Institutional ethos and feeling rules in these departments often constrain students’ ability to express emotional responses to discrimination, intensifying the need for

underrepresented students to know when and how to manage their emotions in various situations.

Within their departments and labs, students detected an institutional ethos that precluded discussions of race and gender, requiring them to suppress negative feelings that discriminatory incidents provoked. Students also had to manage their own and others' emotions in interactions, often surface acting to get along with professors and labmates. Emotional dissonance was common, as Wharton (2009) also found – whether it involved masking anger, depression and exhaustion or feigning silence, productivity and congeniality. By suppressing their emotions, students may have unknowingly contributed to a false image of their departments – to both internal and external constituents – as diverse, inclusive spaces largely free of discrimination and bias all while they suffered silently under the weight of gendered and racist interactions.

Students created relationships and organizations such as the “female roundtable” in applied physics and SIP in the psychology department, whose feeling rules run counter to those operating at the institutional level. These support groups and people represent emotional counterspaces (Ong *et al.*, 2018) in which they could express genuine feelings and receive respite from the dissonance and surface acting of everyday life. Similar to Mirchandani's (2003) study, in which self-employed women of color did emotion work to combat stereotypes of them and their businesses, students in this study performed emotional labor to manage others' expectations of their underrepresented identities, and they combatted feelings of alienation through social support groups and emotion management. Broadly, their emotional labor consisted of responses to constraints in their programs' psychological climates as well as acts of agency to craft more emotionally healthy environments.

Implications

Diversity-related work within colleges and universities is widespread, yet basic questions remain open about who contributes to that work, on what basis and for what compensation. Our study advances current discourse on diversity in STEM graduate education by complicating the notion of diversity as formally organized, invariably beneficial for all students, particularly women and students of color, and as supported most exclusively by faculty, staff and administrators. Our findings reveal that minoritized students within these high-diversity STEM PhD programs actively participated in enrolling and supporting higher shares of women and students of color than their field. However, in the name of “service,” their contributions of time and effort often went unnoticed and uncompensated. Students also performed labor as they navigated racist and/or gendered interactions and, in complying with departmental and disciplinary norms, managed the emotions and behaviors that such occurrences elicited. The invisibility of this emotional labor and the skew of its distribution toward minoritized groups are underacknowledged questions of justice that merit closer attention in institutional practices and illuminate avenues for future research.

Implications for practice. Professors and administrators can work to recognize the signals of exhaustion that emotional labor can produce and take steps to attune themselves to the tacit feeling rules that govern interactions and, by extension, the psychological climate of their departments and institutions. Leaders should develop the capacity of faculty, staff and students to recognize racism, sexism and other forms of discrimination, rather than continuing to relegate these realities to merely taboo topics of conversation (Harper and Hurtado, 2011; Dowd and Bensimon, 2015). Relatedly, students need available and accessible recourse to express concerns about racial and gender bias when it occurs. Acknowledging students' myriad forms of engagement in diversity work – and the benefits

and burdens that come with it – is important to encourage healthy student involvement. Finally, given the level of institutional investment in doctoral education, faculty and administrators must also consider the opportunity costs of students devoting significant time to activities not required for degree completion. Institutions have a critical role to play in supporting doctoral student success and well-being.

Implications for research. We contribute to burgeoning critical literatures on graduate education (Posselt *et al.*, 2017; Truong *et al.*, 2016) and diversity work in higher education (Ahmed, 2012; Dowd and Bensimon, 2015) and bring to light two specific areas for future research. First, the service burden that women and faculty of color often experience carries costs for research productivity (Aguirre, 2000; Baez, 2000; Padilla, 1994; Tierney and Bensimon, 1996) and may contribute to broader stratification patterns in the academy (Kelly and McCann, 2014). Their disproportionate service burden may actually begin in graduate school, where academic socialization occurs (Griffin *et al.*, 2015). Future studies should document the socialization to service expectations that takes place in graduate school, considering variation in disciplines/fields, degree program types and social identities. Second, complementing Truong *et al.* (2016), we show that, paradoxically, student engagement in diversity activities such as student organizations can create community, empowerment and affirmation, but also that it exposes students to additional identity-related stress by generating emotive dissonance. More research is needed to understand how students contribute to, perceive and are affected by myriad forms of engagement in diversity work – whether student organizations or departmental initiatives. We advise continued inquiry into both the educational *benefits* of diversity for doctoral students and the *burdens* often placed on students who represent the diversity that higher education is trying to build.

Notes

1. The designations “pure” and “applied” reflect Biglan’s (1973) multidimensional classification system of academic domains. Within the “pure-applied” dimension, “pure” disciplines focus on building theories and concepts, whereas “applied” disciplines focus on theory application. Although disciplinary orientation is not a major focus of this study, the inclusion of both disciplinary types acknowledges the variation within the STEM fields and the possible implications of these orientations on student experiences.
2. All names in the findings, both for people and organizations, have been replaced with pseudonyms.
3. Code-switching refers to the act of changing the language spoken, style of speaking and presentation of self across contexts (Guifrida, 2003). This was particularly salient for students of color who were bilingual and alternated between cultural practices of their communities and normative definitions of professionalism in their departments.

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