INTRODUCTION
First-generation (FG) graduate students, those whose parents did not graduate from a 4-year college, are underrepresented in doctoral programs (National Science Foundation, 2020). Those who attend graduate school face additional structural challenges relative to their continuing-generation (CG) peers (CG students are considered to have at least one parent with a 4-year college degree). These challenges include limited access to mentors, lack of familial financial support, and less familiarity with the cultural rules of navigating graduate school and the job search process (Gardner, 2013; Gardner & Holley, 2011; Holley & Gardner, 2012; Leyva, 2011). Such challenges undermine feelings of belonging and adversely impact degree completion (Crumb et al., 2020; Holley & Gardner, 2012; Gardner, 2013; Seay et al., 2008).

Because most of the research on FG graduate students is conducted with primarily White student population samples, less is known about the experiences of those who are marginalized and come from more diverse backgrounds (e.g., graduate students of color). The current study aims to 1) understand the experiences of FG graduate students from diverse backgrounds at the University of California, Santa Cruz, and 2) highlight areas of support they identify as needed for their success.

METHOD
Research team
The research team included four researchers who investigate the FG experience along the academic pipeline. The first two authors are FG graduate students who identify as Latinx women from low-income socioeconomic backgrounds. The third researcher is a Mexican American faculty also from a low-income FG student background. The fourth researcher is a senior faculty who immigrated to the U.S. from Central America to attend college. Their personal histories and identities shape their motivations and perspectives on this work.

Participants
Twenty-seven FG graduate students participated in individual, semi-structured interviews lasting 2 hours. Participants were recruited through announcements on graduate and FG student listservs, referrals from other FG graduate students and professors, and campus flyers. Participating students were from the social sciences (44%), physical & biological sciences (37%), humanities (11.1%), and engineering (7.4%) and ranged from their first to their seventh year in graduate school. See Table 1 for racial-ethnic and gender breakdown of participants.

HIGHLIGHTS
- First-gen graduate students’ progress can be challenged by lack of familiarity with the culture of graduate school, mismatch between their and the university’s values and goals, and financial difficulties.
- These challenges undermine belonging and community, persistence, and mental health.
- The university can help by demystifying graduate school, making resources for first-gen graduate students visible and accessible, providing opportunities for connection, and increasing financial support.
CG peers have the connections that help them navigate, including one CG peer who shared, “My dad is a professor, like, at this university... So, yeah, I was just, like, talking to them... about, you know, should I go into academia or industry or, like, what do governmental jobs look like.” This student recognized that without access to these lessons or guides, “there’s a gap that is kind of difficult to surmount.” Although the university offers resources, like career advice or workshops on certain graduate school processes, 18.5% of the participants mentioned it was challenging to learn about such resources. One student said, “… part of being a first-gen student is, as through my experience, not knowing that those resources are out there.”

Mismatch in cultural values and goals
FG graduate students shared their values and goals about their education and career choices, including valuing teaching, focusing on creating an inclusive and equitable environment, and getting a job outside academia. For 74.1% of the participants, such values contrasted with messaging they received in their labs, department, or university. One student was frustrated that it “felt wrong to, like, act like [graduate] classes were teaching me something I didn’t know, when, like, [community members] were the ones that knew much more about [the topics] then the instructor did.” This student recognized a disconnect in the type of knowledge valued in the university, such as theory and information from academic sources, which did not include the knowledge that came from their home community, or the connection they had with those communities. For another student, the mismatch was in expectations for career goals. The student shared, “I think at least in my department, everybody has the expectation that you’re, like, wanting to get a tenure track job, which isn’t actually feasible for all of us to do nor desirable...I just think the valuing of, like, a tenure track job is kind of messed up.”

Challenges to basic needs and mental health
The majority of the FG students (70.4%) identified as coming from working-class backgrounds. Many lacked a financial safety net, unable to rely on family for financial help, which placed them in precarious financial situations.

In managing these stressors, students experienced challenges to their mental health like anxiety, depression, and loneliness. One student grappled with their mental health and recognized that they should share such

KEY FINDINGS

Lack of access to the hidden rules of graduate school
Participants (77.8%) noted challenges with the hidden rules of graduate school including not knowing how to talk to faculty members; how to juggle teaching, classes, and research; or how to write grant applications and fellowship essays and talk about their strengths. For example, one student wanted others to “Provide info... demystifying... social rules of, like, what’s grad school? How do you apply for this conference? What should you look forward to?” Scholars have referred to these rules as the “hidden curriculum,” or the hidden cultural or academic lessons that facilitate success within a domain (Giroux & Penna, 1979).

These hidden rules can be particularly challenging for FG students who do not have a family member to ask for advice. One FG graduate student remarked on how their

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Table 1. Demographic breakdown of participants

Coding procedure
We used thematic analysis (Braun & Clarke, 2006) to analyze patterns across the interviews. To begin, we independently read the interviews to become familiar with the data and noted any impressions from the data. The team then met several times to discuss their impressions, create categories from those impressions, and construct a codebook. Over the course of a year, we continued to code interviews and met bi-weekly to discuss discrepancies and reach a consensus in their coding. The research team coded for several research objectives (e.g., FG students’ strengths for learning, resistance in the academy). However, for the purposes of this brief, we focus on challenges to bring visibility to these experiences – especially as an understudied group – and to work toward institutional change.
challenges with their advisor, “... you should communicate life situations and sort of well-being and [your] mental health state... to your advisor because those things are actually part of your ability to be good at being a grad student.” Yet, students recognized the difficulty in doing so and instead relied on strategies such as “put[ting] it to the back of their mind and just push[ing] forward.” This might be, in part, related to the pressure to continually work regardless of personal challenges. One student shared: “I think that, um, just the poor work-life balance that grad school promotes... is very toxic as well as I think Santa Cruz is unique...you know, we can’t really afford to live here, so how are we really going to afford to take any time for our mental health.”

**Lack of social and academic fit**

FG graduate students also reported not fitting in socially (59.3%) and academically (22.2%). Participants mentioned it was challenging to socially connect with colleagues or advisors. For example, one participant mentioned they did not socially engage in “spaces where there’s no POC [people of color]” because it made them “feel uncomfortable.” They expected those spaces to “be more diverse.” Indeed, having spaces where others shared their backgrounds were important to the participants as some yearned to connect with other FG students. One student shared the importance of such a community and how they “[carried] each other to dissertation, and getting jobs. So it was, like, community.” Yet, many students (77.8%) mentioned they did not know or receive support from other FG graduate students.

Similarly, making academic connections was difficult. Some felt a climate of competition within classrooms, the department, and with advisors. Students shared that they witnessed students being pushed out of the program, which elicited feelings of not fitting in. One student questioned, “how come [others] dropped and I’m still here”

Others struggled with feeling like imposters and not being “academic enough”. This included being unfamiliar with academic jargon, not working enough hours, or feeling like academic work is too theoretical and removed from practical application. One student worked every day, including weekends, because they did not want others to think, “Oh you’re lazy. Oh, you’re not trying hard enough, like, your work is slow and you’re not here, like, why are you not doing that.”

**Intersectional experiences of classism/racism/sexism**

As students navigated their intersecting identities of class, race, and gender in addition to being FG graduate students, they encountered systemic experiences of oppression related to these intersections. A number of students (33.3 %) mentioned having experiences that were classist, racist, and/or sexist. These experiences sometimes made them feel unsafe or unwelcome in the university. One student had several experiences of racism and sexism when faced with conflict in academic spaces. As a woman of color FG student, certain times she “[didn’t] know how to navigate conflict in elite spaces and I just come out...a little bit too aggressive” and others might perceive that “a woman who, like, is aggressive, in the sense that I speak my mind, feels out of place... it can feel very unprofessional.” However, noted a student, the “code word is professional and that’s a proxy for all the identities that they value,” which is White, male, middle-class. Therefore, this student’s experience of racism/sexism is embodied in the language of being viewed as unprofessional.

Holding marginalized identities (i.e., FG, women, students of color) can also lead to experience of discrimination of being told they do not belong in the university were only admitted because of their minoritized status. Another student described their experience of being discriminated, “One girl from a different department... we were talking about fellowships and I told her I’m on a fellowship now... And the way she made it seem was, like, ‘oh, you got the fellowship because you’re a first-generation minority.’” One student summarized this experience as, “You can’t, like, tackle the first -gen identity without also tackling, like, the other identities.”

**IMPLICATIONS**

Understanding the diverse experiences of FG graduate students helps shed light on often invisible realities, as it is difficult to know when someone is from a FG background. As UC Santa Cruz and campuses nationwide serve larger numbers of FG students, understanding these experiences informs better institutional supports and practices. Based on our respondents’ experiences, we offer 5 recommendations.

1. **Demystify the graduate school process**

Avoid making assumptions about what students should know about graduate school. Instead, unmask the hidden
rules of lab, departmental, and university expectations by providing clear pathways for meeting expectations or navigating various parts of academia (e.g., juggling teaching, coursework, and research). This information can be conveyed via websites, handbooks, workshops, formal trainings, and everyday conversations. UC Santa Cruz’s First-Generation Initiative, along with other units, provide great starting tools for such conversations.

2. Consider students’ program and career motivations
In not considering students’ motivations and values, students can experience a cultural mismatch between what they bring and what is valued in the workplace. Learning about students’ motivations not only affirms their values, but it also provides a wealth of resources in learning how to better connect with other students and offer support. For example, for students who value mentoring and teaching, you can find opportunities for them to connect and to develop robust training to strengthen these skills. Such connections might be critical for the retention of these students in programs and for preparing them for jobs that fit their goals. If students share that their motivation to pursue a graduate degree is grounded in supporting family and giving back to the community, validate these motivations and allow students to bring those connections to the workplace. Recognize that tenure-track faculty positions are only one option in a larger workforce context. Develop programs that recognize and value students who may take these other paths.

3. Ensure basic needs
Many FG students struggle with financial insecurity, homelessness, and mental health. Check in with students regularly to learn more about their safety and health. Opening a space for honest conversations about well-being is a compassionate act and is essential for steering students to critical resources. The UC Santa Cruz First Generation Initiative has compiled a list of available resources for graduate students. More critically, as recent strikes on campus have underscored, provide livable stipends and safe housing options for students.

4. Facilitate social and academic connections
Connections are important for everyone, but especially for those navigating a completely new terrain. Help build better climates of connection through social events, mixers, and conversations that include the diverse members of your program. Challenge problematic practices and values that undermine connection, including valuing competition or making language inaccessible.

5. Address oppression through anti-racist practices
There is growing demand in higher education to adopt anti-racist practices and policies. These are essential for addressing racism, especially in historically White institutions. Build on these efforts by also considering the ways racism informs classism and sexism for our diverse and minoritized student groups.
REFERENCES


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