

# Navigating the Pipeline: How Socio-Cultural Influences Impact First-Generation Doctoral Students

Karri A. Holley  
University of Alabama

Susan Gardner  
University of Maine

This paper examines the experiences of doctoral students who are the first in their families to graduate from college. First-generation college students constitute one third of doctoral degree recipients in the United States (Hoffer et al., 2002), yet little is known about their graduate school experience. Social capital and reproduction theory offer insight into the relationship between individual mobility and social structures, while the concept of intersectionality emphasizes the multiple characteristics of individual identity. Through interviews with 20 first-generation doctoral students, this article considers the role of the discipline, the institution, finances, and family in the graduate school experience. The findings emphasize how the manifold components of a student's identity beyond the educational achievements of a parent help explain the first-generation doctoral student experience. Implications and recommendations for practice are offered.

*Keywords:* doctoral students, first-generation, access, gender, class, race

Over the last two decades, the doctoral degree has become the subject of increased attention from higher education researchers, administrators, and policy groups (Bowen & Rudenstine, 1992; Committee on Science, Engineering, & Public Policy, 1995; Golde, 2000; Walker, Golde, Jones, Bueschel, & Hutchings, 2008; Woodrow Wilson Foundation, 2005). This attention is in part attributable to the central role that the degree plays in the higher education system. Doctoral programs train future scholars, who in turn construct a variety of academic, research, and other professional careers. Given the importance of the degree to the country's scientific ambitions and economic security, concern has been expressed over the lack of student diversity in doctoral programs (Council of Graduate Schools, 2004; National Science Foundation, 2008).

In this article, we focus on an understudied aspect related to diversity within the doctoral student population: individuals who are the first

in their family to graduate from college, or first-generation students. The purpose of this article is to document the experiences of first-generation students currently enrolled in a doctoral program. The research questions that guided the study were as follows: 1) How do disciplinary and institutional characteristics influence first-generation doctoral students? 2) How are finances perceived by first-generation doctoral students? and 3) **How do family and community influences impact first-generation doctoral students?**

## Review of the Literature

Data from the Survey of Earned Doctorates, a federally supported effort to collect information related to Ph.D. graduates, reveal that more than one third of doctoral degree recipients (37%) identify as first-generation, where neither parent earned a baccalaureate degree (Hoffer et al., 2002).<sup>1</sup> This student population varies in terms of racial characteristics. Approximately half of African-American, Hispanic, and American-Indian doctoral degree recipients indicate that

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Karri A. Holley, College of Education, University of Alabama; Susan Gardner, College of Education and Human Development, University of Maine.

Correspondence concerning this article should be addressed to Karri A. Holley, College of Education, University of Alabama, 328E Graves Hall—Box 870302, Tuscaloosa, AL 35487-0302. E-mail: kholley@bamaed.ua.edu

<sup>1</sup> In 2002, the Survey of Earned Doctorates featured an extensive special section on first-generation doctoral recipients. Much of the data collected for this section is not normally calculated for the annual report.

neither parent holds a bachelor's degree; in comparison, less than one-quarter of Asian and white degree recipients come from families where neither parent completed the baccalaureate, and nearly half of Asian and white degree recipients had at least one parent who earned an advanced degree (Survey of Earned Doctorates, 2010).

The Survey of Earned Doctorates data do not account for socioeconomic status, although selected indicators speak to financial resources and debt accumulation. For example, 34% of first-generation doctoral degree recipients reported a reliance on their own financial resources during degree enrollment compared with 22% of their non-first-generation peers (Hoffer et al., 2002). While 21% of first-generation degree recipients accumulated \$30,000 or more in education-related debt, only 16% of recipients whose parents both hold a bachelor's degree did so. In addition, first-generation students reported a median time to degree of 8 years, compared with 7.3 years for non-first-generation peers (Hoffer et al., 2002). This population is more likely than non-first-generation peers to have attended a community college or completed their undergraduate degree at a master's college or university (Hoffer et al., 2002).

Differences do exist in terms of academic disciplines and first-generation doctoral students. These students are overrepresented in professional disciplines such as education and social work (Hoffer et al., 2002). Nettles and Millett (2006) reported that one third of doctoral students in humanities disciplines had at least one parent with a Ph.D. or advanced professional degree, whereas only 16% of doctoral students in education had a parent with an advanced degree. In addition, male students are more likely than female students to have parents who had not completed a bachelor's degree (Nettles & Millett, 2006).

Sparse data exist specific to attrition for first-generation doctoral students, reflective to the lack of longitudinal data on doctoral student completion and attrition rates more broadly. Recent statistics compiled by the Council of Graduate Schools through the Ph.D. Completion Project reveal that 57% of students who begin the Ph.D. complete the degree in 10 years (Council of Graduate Schools, 2009). This percentage varies widely by discipline, gender, and

race. For example, men complete at higher rates than women. White students have the highest 10-year completion rate at 55%, while African-American students have the lowest rate of 47% (Council of Graduate Schools, 2009). In engineering disciplines, 63% of students complete the Ph.D. in 10 years, compared with 60% in the life sciences, 57% in mathematics/physical sciences, 55% in social sciences, and 49% in the humanities (Council of Graduate Schools, 2009).

Despite the lack of data related to first-generation doctoral student persistence, abundant research has identified those factors that influence the graduate school experience for all students. Additional research by the Ph.D. Completion Project, for example, defined the main factors that enabled doctoral students to complete their degree, including family encouragement, institutional financial support, and mentoring/advising (Council of Graduate Schools, 2009). In particular, Gardner (2010) noted the crucial impact of socialization on degree completion, especially the extent to which students engage in productive relationships with faculty and peers. Additional findings by Gardner (2010) indicate that a student's ability to cope with ambiguity is inherent to socialization. She concluded, "As students begin a new phase [of their degree program] they experience both the transition as well as a great deal of ambiguity regarding the expectations. . . ambiguity then feeds into the need for self-direction" (2010, p. 76).

While extant research disproportionately examines undergraduate students who are first-generation, conclusions may be drawn from this literature related to first-generation individuals who pursue a doctoral degree. First, first-generation students frequently encounter discouraging obstacles as part of the higher education system (Saunders & Serna, 2004). These obstacles are likely to persist as students continue through higher levels of education, which is troublesome given the need for institutional engagement related to doctoral degree completion. In addition, existing research highlights the influence of family, peers, and community on first-generation undergraduate students. Terenzini, Springer, Yaeger, Pascarella, and Nora (1996) found that first-generation students received less support from their family to attend college compared with non-first-generation

peers. Further research by Pascarella, Pierson, Wolniak, and Terenzini (2004) emphasized the significance of family cultural capital to informing students about college enrollment, degree options, and demands of a college curriculum. The negotiation of these personal influences remains an essential aspect of how students experience the educational process, particularly as they move through postgraduate study.

### Theoretical Framework

Research regarding first-generation students typically relies on theories of social stratification, access, and knowledge that highlight individual paths toward particular outcomes, such as degree attainment (Pascarella, Pierson, Wolniak, & Terenzini, 2004; Walpole, 2007). By focusing on the social distribution of possibilities, as noted by Stanton-Salazar and Dornbusch (1995), researchers can study “the unequal distribution of opportunities for entering different social and institutional contexts and for forming relationships with people who control valued institutional resources” (p. 116). This perspective underscores how intergenerational mobility is influenced by social structures, and how individual students interact with educational systems.

Theories of social capital purport that, while individuals possess unique motivations and possibilities for behavior, they are constrained by social context, including norms, networks, and organizations (Coleman, 1988). Several characteristics are reflected in this perspective. First, social capital is productive, allowing an individual to achieve particular ends or goals that would be elusive without capital. Social capital is also situational, or dependent on the distinctive circumstances in which it is employed. Some forms of social capital may be more advantageous in one circumstance compared with others. Third, social capital is not solely an individual trait, but rather reflects a shared exchange between the individual, other people, and institutional structures (Bourdieu, 1977; Coleman, 1988).

Education systems have been considered by theorists (Bourdieu & Passeron, 1977; Carnoy, 1982; Willis, 1977) as structures which reinforce the social, racial, gender, and economic divisions in larger society. Consequently, as outlined by Lamont and Lareau (1988), children

from privileged backgrounds enter school possessing knowledge aligned with the dominant frameworks, whereas other children must acquire this knowledge after they begin school. Inherent in reproduction theory is the possession and operation of power. This power is one of “legitimizing the claim that specific cultural norms and practices are superior, and of institutionalizing these claims to regulate behavior and access to resources” (Lamont & Lareau, p. 159). The availability of educational resources is highly dependent on individual characteristics such as race, ethnicity, and socioeconomic class, positioning colleges and universities as a partner in the perpetuation of a dominant, normative system (Meyer, 1977).

Underscoring these multiple theoretical perspectives is the idea that identity impacts an individual’s experience with various types of social structures. Identity, of course, is more than the result of a single characteristic. Raissiguier (1994, p. 81) defines identity as “the product of an individual or a group of individuals’ interpretation and reconstruction of their personal history and particular social location, as mediated through the cultural and discursive context to which they have access.” Raissiguier’s definition emphasizes that identity is fluid, responsive to social context, and comprises those multiple traits inherent to the individual. It is experienced across, between, and among categories of difference, including race, class, sexual orientation, gender, and nationality. When viewed from the theoretical perspectives outlined above, the complexity of an individual’s identity offers a greater explanation than a single category (Hancock, 2007). The complexity is not additive; that is, the sum of identity is not a compilation of individual components. Hancock (2007, p. 72) suggested, “Individuals develop and navigate their identities in ongoing ways based on their family, school, and neighborhood interactions at the individual and institutional levels.”

The construct of intersectionality raises important questions with regard to the experience of first-generation doctoral students. First, what is the relationship between the parent’s educational achievements and that of other characteristics such as race, gender, and class? Second, what differences might exist at various educational levels (i.e., undergraduate vs. graduate studies)? Taken together, the literature on first-

generation students has traditionally focused on the undergraduate experience. Such literature has raised important questions about the role of knowledge amassed from family and peers with regard to college-going behaviors as well as how financial resources enable educational access. This study seeks to extend this line of inquiry to consider how such issues impact first-generation students enrolled in a doctoral program. We suggest that the multitude of barriers faced by first-generation college graduates could present cumulative and unique challenges in terms of beginning and completing a doctoral degree.

### Method

This study used individual, semistructured interviews to understand the experiences of first-generation doctoral students (Creswell, 1998; Polkinghorne, 1998). Twenty participants currently enrolled in doctoral programs who self-identified as first-generation were identified through purposeful sampling (Merriam, 1998). Interviews were conducted over the course of one year. Interview protocols were developed based on unique individual characteristics (such as race, gender, and academic discipline), which have been identified as salient issues for doctoral students (Golde, 2000) as well as first-generation students (Thayer, 2000). The interview questions spanned across the students' postsecondary participation, including motivation and expectations for pursuing an undergraduate degree, key influences related to graduate school enrollment, and significant events while enrolled in a doctoral program. We did not ask specific questions related to student income, although several questions focused on how students paid for their studies as well as the perception of their families' SES.

Ten students each were selected from two institutions that rank among the top 10% of those in the United States that grant doctorates to first-generation students, according to the National Survey of Earned Doctorates. More than 40% of the doctorates from each institution are awarded annually to first-generation students (V. Welch, personal communication, September 4, 2008). The institutions and students are identified here by pseudonyms to ensure confidentiality. Midwestern University is located in a state that exhibits a higher percentage of resi-

dents of color than the national average. The median household income, which is commonly used as a national indicator of poverty, ranks among the lowest in the country. As the state's flagship institution, MU enrolls approximately 25,000 undergraduate, graduate, and professional students. The 10 participants in the study from MU represent a range of academic disciplines, including psychology (2), chemistry (2), social work (2), English (2), history, and political science. All but two of the students are women. Six individuals identify as white, three individuals identify as African American, and one individual identifies as multiracial.

Participants from Southeastern University, the second institution, included students in history (3), interdisciplinary studies (2), literacy (2), forestry, biochemistry, and counseling. Eight of the students are women, and all but one identify as white. The one student of color identifies as Latino. Southeastern University is the flagship institution of a state that features a lower than average percentage of non-white residents. The median household income ranks among the bottom third in the United States. Approximately 10,000 undergraduate, graduate, and professional students are enrolled at SU. The 20 students reflected various stages of their doctoral degree programs. Several students were in their first semester, while others were preparing to defend their dissertation. The participants' age ranged from 23 to 55 years; the majority of the participants were between 23 and 35 years old. Table 1 summarizes characteristics of each participant, organized by program status.

After receiving Institutional Review Board approval for the project, we contacted graduate program coordinators for all departments that awarded a doctoral degree at each institution. We sought students enrolled in a Ph.D. program who identified as first-generation. Adopting the definition used by the Survey of Earned Doctorates (Hoffer et al., 2002), first-generation students were classified as those where neither parent received an undergraduate degree. We also distributed information about the study via the graduate student association on each campus. The individual face-to-face interviews lasted approximately one hour; with the participant's consent, the interviews were audio-taped and later transcribed. The respective transcripts and themes

Table 1  
*Summary of Participants*

Name	Discipline	Race/Ethnicity	Gender	Program status
Cynthia	Psychology	White	F	Coursework
Ingrid	Forestry	White	F	Coursework
Janelle	Political Science	White	F	Coursework
Lindsey	History	White	F	Coursework
Margaret	Chemistry	African-American/Hispanic	F	Coursework
Michelle	Interdisciplinary Studies	White	F	Coursework
Phillip	Biochemistry	White	M	Coursework
Ralph	Social Work	African-American	M	Coursework
Renee	Counseling	White	F	Coursework
Beatrice	Social Work	African-American	F	Exams
Louise	Literacy	White	F	Exams
Annalise	History	White	F	Dissertation
Charlotte	History	White	F	Dissertation
Kasey	Literacy	White	F	Dissertation
Kathy	Psychology	White	F	Dissertation
Katrina	Interdisciplinary Studies	White	F	Dissertation
Lenny	History	Hispanic	M	Dissertation
Michael	English	African-American	M	Dissertation
Mindy	English	White	F	Dissertation
Samantha	Chemistry	White	F	Dissertation

were provided to each participant as a form of member check, and the additional feedback was included as a supplemental data source (Merriam, 1998).

Data analysis originated in a “continuous dialogue” with the transcripts (Becker, 1998, p. 109). This dialogue entails an ongoing evaluation of emergent themes with the theory informing the study. The qualitative software NVivo was used to manage the multiple transcripts and facilitate the analysis. We identified shared experiences across the participants through an inductive analytic approach (Creswell, 1998). How participants entered college and transitioned to a doctoral program was of special interest and given consideration during conceptual analysis and the development of overall categories. Data drawn from transcripts were broken down into discrete codes and later compared across the multiple transcripts. In addition to soliciting member checks from the participants, validity of the study was enhanced by the work of the two researchers: one, a white female who was a first-generation doctoral student and is now an associate professor; the other, a white female who was not a first-generation doctoral student and is now an assistant professor. Each researcher worked

individually on the analysis of data collected from one institution. Collaboration across the dataset refined the relevant themes and groups, leading to consensus regarding conclusions from the study.

## Results

We structure our discussion of the data by three primary themes: 1) the influence of disciplinary and institutional characteristics; 2) the influence of finances; and 3) the role of family and community. In doing so, we emphasize the inherent intersectionality between these multiple areas as well as between student demographics. Students did not engage with the academic discipline, for example, in isolation. Rather, unique facets of an individual’s identity—including, but not limited to first-generation status—played a key role in participant experiences. Often these facets served as multiple disadvantaged identities. In other cases, student identities served as points of pride or resilience. Inherent throughout the data was the concept of being “first,” and what such a groundbreaking effort meant for not only the individual but also for those within his or her immediate family.

## The Influence of Disciplinary and Institutional Characteristics

Doctoral students experience the university through disciplinary-specific cultures (Becher & Trowler, 2001). For the participants in this study, their academic endeavors were highly influenced by disciplinary and institutional characteristics. As one example, the motivation to pursue a doctoral degree was frequently embedded in professional norms. For disciplines such as psychology, where the doctorate is considered necessary for professional practice, students noted they were influenced to continue their education. Cynthia, a white woman from a middle-class background, explained her interest: "I wanted to be able to practice psychology without supervision . . . . To do the jobs I wanted to do, I needed a Ph.D." However, numerous students recounted their surprise at realizing that an advanced degree was required to fulfill their career goals. Kathy, a white woman who grew up in a poor, single-parent household, noted that she became interested in psychology while a community college student. "I knew I wanted to be a psychologist," she said. "But when I started my undergraduate program, I didn't know what that would entail. Once I found out, I was committed to doing that." The data suggest that the first-generation students in our study were initially unclear as to the educational trajectories available to them.

In addition, a student's choice of discipline often provoked an emotional response from family. Charlotte's family continually compared her perceived career outcomes associated with a doctorate in history to other disciplines. Charlotte explained, "If I had to go to college, my family would have preferred that I would have gotten something practical, like an accounting degree or a teaching certificate, something that you could go get a job in." While she defined her childhood as one in an upper-middle class home, based on her father's earnings as a mine supervisor and union leader, Charlotte also emphasized the perceived connection between job skills and hiring potential. She added, "The more I went to school, it just confused the hell out of them."

Several students in the study were residents of the state in which they attended their doctoral program, and a small number received their undergraduate or master's degrees from the

same institution. These participants spoke to either family obligations that kept them in the area, or financial limitations that prevented them from pursuing a doctorate at other universities. Such limitations were complicated by the student's lack of awareness about prestige and reputation. Katrina, a white woman pursuing a doctorate in interdisciplinary studies, explained her decision: "I didn't know what to look for [in a doctoral institution]. I thought you just went to the cheapest one. Why would you do anything else?" When reflecting on how her choice of institution might impact her career options as a faculty member, she added, "I didn't understand the value of going to a school that might have a nice name . . . . [My peers] made much more informed decisions. I kind of fell into it, and am still falling into it in so many ways. It's a frightening feeling."

## Financial Influences

Not all of first-generation doctoral students who participated in this study were from working-class or poor families. Even for those individuals who defined their background as middle class, their family background played an important role in the perception of financial resources. "I saw how much work my parents had to do in a day just to come home and essentially put food on the table and pay the bills," explained Phillip, a white man enrolled in a biochemistry program. "They worked extremely long hours, sometimes in multiple jobs, sometimes in horrible shifts." Phillip decided he wanted to follow a different path than his parents and opted to pursue a doctoral degree in hopes of achieving greater job security and autonomy. "In my mind, I thought, 'I don't want to work this hard. I don't want to have to run from job to job.' But [the doctoral program] is a different kind of hard work," he concluded.

Concurrent with notions of intersectionality was the role that gender played related to financial expenditures and earning potential. Several women in the study describe how their fathers (or other male family figures) resisted the idea of their daughters pursuing higher education. Janelle, a white woman enrolled in a political science doctoral program, explained that her father worked in the local textile plant while her mother stayed at home with the children. "You got out of high school and got married, and

maybe got a job or had kids and stayed home. Which is what my mother did. So there was never really that much emphasis on education," she explained.

Parallel with a national climate highly focused on issues of student debt and affordability, the cost of higher education loomed large for the participants. Their debt load was often exacerbated by undergraduate loans and a lack of knowledge about graduate student assistantships. Janelle reflected on how she paid for her undergraduate and graduate programs: "I've taught classes, I've worked full-time jobs, I take a full load and always have, and get what I need from the loans. I try to limit myself as much as I can on the loans, and work as much." When asked to compare herself to peers in the political science program from more affluent backgrounds, she said, "I push. I never stop. I push and I push and I push, and I would tell [other first-generation students] to do the same."

The requirement that doctoral students work a specific number of hours a week or not work outside the academic department provided an added complication for those participants with limited financial resources. "Our discipline is set up in a very classist way," said Kathy, a doctoral student in psychology. Reflecting on her recent experiences in securing a postdoctoral position, she explained, "You pay for all these interviews you go to, and you pay for all the air travel, the lodging, cars. . . . I actually have a second job now that my department doesn't know about." She concluded, "For me to survive—and that is really what this is about, survival—I have to have this job."

### **The Influence of Family and Community**

Throughout the study, the role that participants played within their families or communities provided a crucial element in how they experienced their doctoral programs. While intersectionality theory largely focuses on characteristics such as race or gender, the student's identity in relation to their family or community proved highly influential. Born to a teenage mother, Ralph was the only one of seven siblings to graduate from college. An African-American man who recently finished his first semester in a social work program, Ralph explained, "I tell my family that I am working on my Ph.D., and they say, 'You got to have a job.'

They can't see beyond that." Ralph concluded, "There's no one in the community that has a Ph.D. or a master's or that talks to [my siblings] about how it is done or how it is going to work." He noted the dichotomy of life everyday: waking up in the bedroom of his childhood home in a poor community, and spending his days on the campus of a major research university.

Michael, an African-American man who grew up in an inner-city urban neighborhood, also expressed the dichotomy of his life. Now writing his dissertation in English, he explained, "I'm pretty far removed from my social circle, you know? I'm living this dream that doesn't call for reality, the reality of me remembering where I come from."

The gap between the student's academic experiences and those of their family, friends, and peers was magnified as the student progressed in their program. Lenny, a Hispanic man enrolled in a doctoral history program, explained, "I just didn't have a reference. I felt as lost as every normal graduate student. . . .but my mom works at Wal-Mart and my dad is an electrician, so I didn't have anybody to tell me how to get through this." His family perceived this gap as well, although Lenny noted that they attempted to encourage him the best they could. "My parents try to be supportive, even though they're not entirely sure what I'm doing," he concluded. Other participants explained that support from family and friends, even those without advanced degrees, served as a crucial element to their success throughout the lengthy degree process. Studying for her doctorate in history, Charlotte said, "I don't know what my parents think I do. And the fact that I keep doing it, year after year, they can't understand." Near the end of her doctoral program in psychology, Kathy explained, "One of the things about being a first-generation student is that there is a big gap between what [my mother] understands. She doesn't know what college is like, let alone graduate school. I try to explain all the responsibilities I have, and she listens."

Reflecting on her parents' support during her first semester in a doctoral psychology program, Cynthia explained that such support came with a price in terms of additional expectations that were not always realistic. The first-generation doctoral students in this study expressed a burden in terms of academic achievement and family investment. Beyond the daily challenges

associated with the ambiguity of a doctoral program, participants felt indebted to their significant others. Cynthia summarized, "It's definitely nice to know I have that kind of support, but at the same time, there is a lot of pressure in that. A lot of my family thinks that I'm infallible now, but I screwed up too, you know? I struggle with this."

### Discussion

An analysis of first-generation doctoral student experiences reveals a complex interaction between individual considerations and the larger socioeducational context. This complexity is further embedded in the challenges students faced in terms of defining and bridging their educational aspirations with the expectations of family and their community. A pervasive theme throughout data collection and analysis was the idea that being first-generation constituted an invisible, often unrecognized external component of a student's life. It is important to emphasize, however, that being a first-generation student was often perceived as an *asset* by some participants in the study. Students noted their willingness to work hard or contrasted their expectations with those of peers who enjoyed perceived advantages. This finding supports more recent scholarship that critiques "deficit thinking," where individuals are compared with those with greater resources and found lacking (Yosso, 2005). Despite the weight of expectations, the first-generation students in our analysis frequently evoked their status with a sense of pride and felt their accomplishments were largely attributable to their background. A larger question remains, however, in terms of how individual students perceived their status as compared with the norms inherent in the educational system.

We summarize the responses to the three research questions which guided the study, focusing on the influence of academic discipline and institution; race and gender; and family and community. First, disciplinary-specific norms strongly influenced the experiences of first-generation doctoral students. On the one hand, this finding is supported by extant literature which emphasizes how cultural characteristics of the department and discipline impact doctoral students (i.e., Gardner, 2010; Golde, 2000). On the other hand, the participants in this

study emphasized how their choice of discipline was perceived by the family and significant others. While not consistent across all 20 participants, a recurrent theme suggests that the perceived economic benefits and skills associated with a discipline are a significant consideration for first-generation students. In particular, those students in soft disciplines such as history or English noted this concern. Second, all first-generation students do not come from low-income families, as highlighted throughout this study. Yet financial concerns seemingly existed for all participants regardless of their socioeconomic status. Part of this concern can be explained by the perception of a degree's utility; that is, participants recounted that observing their parents or other family members toil at minimum wage or labor-intensive positions influenced their educational aspirations. In addition, a collective anxiety existed as to the high price of the degree program, an anxiety that is likely shared among all doctoral students. Finally, the first-generation participants in this study worked under high expectations of their family and community related to their degree attainment. Students spoke of the divide that existed between their daily academic practices and their family lifestyle.

Inherent throughout the analysis was the relationship between a parent's education and demographic characteristics, such as race, gender, and class. Issues of race and gender often amplified the challenges facing first-generation doctoral students. Several women expressed the reluctance by those in their families or communities to support their educational endeavors. A degree that had questionable economic utility, for some families, was even more problematic when sought by a woman. When combined with extant research which notes the "chilly climate" faced by women in certain disciplines, first-generation women may face a challenging burden (Crawford & MacLeod, 1990). While the data did not specifically address race to the same extent as gender, the narratives provided by Ralph, Michael, and Lenny particularly speak to the obstacles for minority men pursuing doctoral degrees. These students felt a gaping divide between their academic homes and their personal communities, in part because of their identity as a doctoral student.

A limitation of this study reflects data collection from 20 self-identified first-generation doc-



toral students at two research universities. We did not interview first-generation students interested in graduate education who never enroll, nor those who enroll and drop out of a program. Future research would be beneficial to understand how individual student characteristics not addressed here, including a student's age or the time gap between completing the undergraduate degree and enrolling in a graduate program, impact first-generation status. In addition, because doctoral students engage with the institution through a discipline-specific context, additional research should examine the role of the academic department for first-generation students. While the data in this study reflected only two institutions, a broader focus could emphasize how institutional type, reputation, and prestige influence doctoral education for this student population. What careers these students pursue after degree completion, the time to degree, and the impact of financial aid or other support are also relevant research questions.

In conclusion, the findings outlined here indicate how first-generation students interact with a range of social, cultural, and institutional structures on their path to the doctoral degree. While such students may face a lack of capital or behaviors that enable a productive encounter with these structures, they also demonstrate individual motivation and direction that enable academic success. Higher education institutions should be cautious in terms of making the implicit assumption that all students enrolled in a doctoral program have determined how best to navigate the educational system. The fact that a first-generation student completes an undergraduate degree does not ensure that the student possesses specialized knowledge or is able to transfer the skills learned from the college admission process to that of graduate school. **Higher education institutions are in a significant position to enhance the experiences of this student population through deliberate programs and actions that target first-generation students.**

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