

Fitting the Mold of Graduate School: A Qualitative Study of Socialization in Doctoral Education

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Published online: 11 March 2008
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Abstract Doctoral student attrition in the United States has reached alarming proportions, with reported rates of approximately 50% across disciplines (Nettles and Millett 2006). Attrition rates of underrepresented populations have been reported at higher rates across disciplines (Council of Graduate Schools 2004), pointing to a disparate experience for these students. Socialization has been shown to be a determining factor in doctoral student success and retention (Turner and Thompson 1993) while not necessarily reflecting how the socialization experience differs by disciplinary and institutional contexts. Through this qualitative study I sought to understand the effects of the socialization process upon doctoral student success and retention in the disciplines of chemistry and history at two institutions. Results highlighted a disparate experience for women, students of color, students with families, part-time students, and older students. Suggestions for policy, practice, and further research are included.

Key words socialization · doctoral education · underrepresented populations

Sylvia is tired. Now a fourth-year chemistry doctoral student at Land-Grant University, Sylvia is not only working full-time on her research; she is also married and is expecting her third child any day now—all three of whom she has had while in graduate school. During our interview, she sighs, and tells me her impressions of graduate school so far:

I guess what continues to surprise me is how hard it is, and why I can't figure out why it's so hard. I think I've just determined that it's just emotionally taxing for some reason, and part of it is that everyday you're trying to defend yourself, and I don't think it's very good for self-esteem, personally.

Sylvia has also had a rocky relationship with her advisor throughout her program. I am surprised to hear that her advisor is a woman, also with children, when she tells me about

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her advisor's seemingly unrealistic expectations of her time in the lab. She tells me about her 20-hour-per-week assistantship and remarks, "I came to find out that they really expect you to be working 60 to 70 hours a week...[my advisor] told me that 40 hours a week only warranted half pay." Considering the multiple demands on her time and energy, it is probably not surprising that Sylvia has considered leaving graduate school more than once.

Sylvia is not alone in these thoughts; she is one of the many students who contemplate leaving graduate school. Indeed, the number of doctoral students who actually leave their programs is alarming with recent projections regarding attrition rates in doctoral education ranging from 40 to 70% (Nettles and Millett 2006). While several programs, initiatives, and efforts have been created in recent years (e.g., Carnegie Foundation for the Advancement of Teaching 2003; Council of Graduate Schools 2003; The Woodrow Wilson National Fellowship Foundation 2004) to respond to the problems facing graduate education in this country, doctoral student attrition nevertheless remains a key issue in graduate education today.

Why does doctoral student attrition matter? In financial costs, doctoral student attrition is extremely expensive for institutions. In its study, the University of Notre Dame found that it would save \$1 million a year in stipends alone if doctoral student attrition went down by 10% (Smallwood 2004). The expense and personal disruption can be immeasurable for the individual who leaves. Lovitts (2001) stated, "The most important reason to be concerned about graduate student attrition is that it can ruin individuals' lives" (p. 6). With such devastating effects, a greater understanding of the reasons for and the influences upon doctoral student attrition is needed.

One lens used to understand a doctoral student's decision to persist in or depart from the degree program is that of socialization. While many have discussed issues related to attrition in terms of a student's lack of aptitude or lack of financial support (Council of Graduate Schools 2004; Lovitts 2001), other studies have shown that the attrition problem is multi-faceted (Golde and Dore 2001; Lovitts 2001), meaning that there is no one reason why students choose to leave the degree program. Socialization, however, is the framework I chose for this study as it affects every part of the student experience, from the first contacts with a graduate program through the dissertation defense. Socialization is the process through which an individual learns to adopt the values, skills, attitudes, norms, and knowledge needed for membership in a given society, group, or organization (Becker et al. 1961; Kuh and Whitt 1988; Merton 1957; Van Maanen 1984). Indeed, unsuccessful socialization contributes to the decision to depart from the degree program (Council of Graduate Schools 2004). While a growing body of literature focuses on issues related to graduate student attrition and retention, including those of Nettles and Millett (2006), Tinto (1993), and Lovitts (2001), few studies relate to the influences of the socialization experience in graduate school upon underrepresented populations and these individuals' persistence in or departure from their degree programs.

I propose that it is a lack of "fitting the mold" of graduate school that may influence the large numbers of underrepresented students who leave their degree programs or whose participation is impeded from the beginning. Since the inception of graduate education in this country it has served a largely young, White, single, male population (Berelson 1960), resulting in a normative type of "mold" that has persisted in many fields. Indeed, the lack of diversity in graduate education has been a growing concern in the United States in the past several years, spawning several initiatives and granting agencies to further recruitment and retention programs for women and students of color across disciplinary lines (e.g., National Action Council for Minorities in Engineering 2005; National Science Foundation 2003, 2007). Very little is known about the socialization and

experience of these underrepresented populations or how these experiences differ by disciplinary and institutional context. One thing, however, is known: The attrition rate of women as well as racial and ethnic minorities is considerably higher than it is for White, male students (Council of Graduate Schools 2004; Lovitts 2001). Therefore, the students' individual demographic characteristics (i.e., race, gender, enrollment status, family background, etc.) play an influential role in their preparation for the degree program and their experience in it. Taken together, it is the students' "background characteristics [that]...interact with the structures they confront in their programs to determine their persistence" (Lovitts 2001, p. 41).

This study examined the doctoral experience of several underrepresented populations in graduate education, including women, students of color, older students, part-time students, and students with children. I begin with a brief literature review addressing socialization and its role in doctoral education.

Socialization and Doctoral Education

Socialization is generally transmitted through the existence of the organizational culture, and in the case of graduate students, through the culture of higher education. Tierney (1997) described organizational culture as "the sum of activities—symbolic and instrumental—that exist in the organization and create shared meaning. The definition of socialization pertains to the successful understanding and incorporation of those activities by the new members of the organization" (p. 3). Borrowing from Merton, Tierney stated, "Culture is the sum of activities in the organization, and socialization is the process through which individuals acquire and incorporate an understanding of those activities" (p. 4). He continued, "An organization's culture, then, teaches people how to behave, what to hope for, and what it means to succeed or fail. Some individuals become competent, and others do not. The new recruit's task is to learn the cultural processes in the organization and figure out how to use them" (p. 4). Therefore, expanding the metaphor of "fitting the mold," one who chooses to belong to a particular group or organization must learn its rules, guidelines, and culture in order to fit into this new group; those who do not learn these things, then, do not "fit the mold" of the particular group or organization.

This basic understanding of the socialization process is supplemented by the more context-specific work on graduate student socialization by Lovitts (2001), Golde (1998), and Weidman et al. (2001). Golde (1998) described the process of graduate school socialization as one "in which a newcomer is made a member of a community—in the case of graduate students, the community of an academic department in a particular discipline" (p. 56). She continued, "The socialization of graduate students is an unusual double socialization. New students are simultaneously directly socialized into the role of graduate student and are given preparatory socialization into graduate student life and the future career common to most doctoral students" (p. 56). This socialization tends to occur in stages or developmental phases throughout the education of the graduate student (Baird 1993).

According to Weidman et al. (2001), socialization for graduate students occurs in four developmental stages: Anticipatory, Formal, Informal, and Personal. The Anticipatory Stage occurs primarily as students enter the program and need to learn new roles, procedures, and agendae to be followed. These students will tend to seek information and listen carefully to directions. This stage can be described as the student becoming "aware of the behavioral, attitudinal, and cognitive expectations held for a role incumbent" (Weidman

et al. 2001, p.12). The Formal Stage is characterized by the graduate student observing roles of incumbents and older students while learning about role expectations and how they are carried out. Students in this stage are primarily concerned about task issues; and communication at this stage is informative through course material, regulative through embracing normative expectations, and integrative through faculty and student interactions. The Informal Stage is described as the stage in which “the novice learns of the informal role expectations transmitted by interactions with others who are current role incumbents” (p. 14). At this stage, the graduate student receives behavioral cues, observes acceptable behavior, and subsequently responds and reacts accordingly. Many of these cues will be received from the students’ cohort, those with whom most interaction occurs at this stage. Through the lessons learned in the Informal Stage, the student will then begin feeling less “student-like” and more professional. Finally, the Personal Stage is the time in which the students’ “individual and social roles, personalities and social structures become fused and the role is internalized” (p. 14). During this final stage, students accept a value orientation and relinquish former ways. The conflict impeding the total role transformation is resolved, and students will be able to separate from the department in search of their own identity.

The concept of socialization, however, is primarily based upon normative assumptions and behaviors of the individuals to be socialized (Van Maanen and Schein 1979; Ward and Bensimon 2002). In this way, the process of socialization generally acts upon individuals uniformly, not allowing for many individual differences. Indeed, when individual traits or characteristics are present that are not necessarily the norm, the process of socialization may not be as successful (Van Maanen and Schein 1979). Many scholars have discussed the inequities in the socialization process in academe for those who do not fit the majority profile (Baird 1990; Turner and Thompson 1993). Indeed, socialization in academe is neither color-blind nor gender-blind (Ward and Bensimon 2002). Ward and Bensimon (2002) stated, “Historically, higher education has been and continues to be a male-dominated enterprise. As a result, academic culture and the socialization that accompanies it reflect the experiences of men.” It is certainly not untrue to state that not only do the current socialization processes reflect the experiences of men, but also older, White men, as it is these men who are still typically the full professors and administrators in academe (National Center for Education Statistics 2006). Therefore, the experiences of the students who do not fit the traditional mold of graduate education (i.e., anyone other than young, White males) are explainable in that these students’ socialization experience is not entirely normative due to differences in their underrepresented status.

Research Design

The findings reported in this article resulted from the analysis of a larger study on doctoral student socialization in the disciplines of chemistry and history. In this study I examined the socialization processes that doctoral students experience in their degree programs which facilitate or impede success and degree completion; this was the research question. The subset of data presented in this article resulted from the interviews with the doctoral students who, by their own accounts, did not “fit the mold” of graduate education. I utilized qualitative methodology to address the research question as it allows for a greater explanation and description of the students’ experiences. Qualitative methodology is also preferred when conducting exploratory studies, as it allows for the identification of unanticipated phenomena and influences (Maxwell 1996).

The disciplines of chemistry and history were chosen for inclusion in this study. The choice to study these disciplines was purposeful in that it allowed for diverse representation in disciplinary cultures (see Biglan 1973) as well as supplementary data provided by the disciplinary association's own studies (American Chemical Society 2002; Bender et al. 2004). Finally, these disciplines were chosen as I, as the researcher, had no prior knowledge of these disciplines or their characteristics; nor did I have any connection to the participants in the study. Besides the two disciplines, two institutions were also chosen for inclusion in this study: one mid-sized, public, lower-ranked institution, hereafter referred to as "Land-Grant University," and one large, public, prestigious institution, or "Flagship University." The institutions in this study are given pseudonyms in order to protect the identity of both the participants and the institutions.

These institutions were chosen due to their proximity thereby facilitating access to the participants. Both institutions are classified as Doctoral Extensive in the Carnegie Classification (McCormick 2001) and are state-supported universities located in the same state. These universities had individual characteristics and cultures that often affected the socialization experience of the students enrolled.

To address the research question I interviewed 40 doctoral students in the disciplines of chemistry and history at the two research-extensive institutions. The 40 participants included ten students from the disciplines of chemistry and history at both of the institutions. There were 14 males and 26 females (see Table I; and, with the exception of three Asian Americans and one African American, all other participants were Caucasian. It is important to note that, while often making up a significant proportion of students in the sciences, no international students were chosen for participation in this study as their experiences in their doctoral program are generally very distinct and particular to their culture (Mallinckrodt and Leong 1992). Human subjects approval was obtained from each institution prior to the initiation of the study.

To identify study participants I made initial contact with the department chairs and the graduate studies coordinators for all departments, who coordinated contact with potential participants on my behalf. While Land-Grant University's participants were garnered through direct contact with the students via e-mail or office phone, Flagship University facilitated recruitment of participants through departmental listservs in which the students contacted me directly for participation. Final participants for the study were chosen in order to ensure participation in all phases or years of the degree programs, as well as representation by gender, enrollment status, familial status, and racial/ethnic representation.

After obtaining consent from each participant, I began the interviews. These interviews lasted for 60 to 90 minutes and were guided by a semi-structured protocol focusing on the socialization experience of the students in their programs and asking them, in particular, about each part of the degree program process and their experience with it. Interviews were transcribed verbatim and analyzed using the constant comparative method (Bogdan and Biklen 2003). Data analysis was inductive, identifying common themes and concepts across experiences (Lincoln and Guba 1985). Coding was completed first by individual, then by

Table I Breakdown of Graduate Students Interviewed by Sex, Discipline, and Institution

Sex	Institution 1 "Land-Grant"		Institution 2 "Flagship"	
	Chemistry	History	Chemistry	History
Male	5	3	2	4
Female	5	7	8	6

department, followed by institution. After all coding was complete and themes were drawn across departments and then across institutions, all themes were compared and resulted in the final six themes for the larger study. This study focused on one of those themes, that of “fitting the mold.” While the interview protocol addressed the socialization of the doctoral students in their respective discipline and institution, I did not ask any of the students about how their individual identity characteristics (e.g., gender, race, age, etc.) affected their overall satisfaction and experience in graduate school. This article is based on the issues of identity that the 30 students, unprompted by me or the protocol, repeatedly discussed as affecting their progress or satisfaction within the degree program.

Several limitations to this study should be considered. First, this study was conducted as part of my dissertation research, therefore during a time in which I myself was a doctoral student. While trustworthiness of data was ensured through member checking and peer debriefing (Lincoln and Guba 1985), my own assumptions and understandings about doctoral education nevertheless existed at the time of the study. Second, inasmuch as purposeful selection of participants was intended, the participation of those interviewed was voluntary in that those who responded to the department chair self-selected to participate in the study. This self-selection may have led to students volunteering who had, in their perceptions, negative experiences to report as well as unequal representation by race and sex. However, by conducting interviews with 10 individuals in each department I was able to explore multiple perspectives. Finally, this study was conducted at only two institutions. While these students’ experiences may be transferable across institutional and regional lines, variations nonetheless occur within particular contexts.

Findings

From the analysis of the socialization experience of doctoral students in chemistry and history at two institutions, five groups of doctoral students emerged who described their experience as one that did not “fit the mold” of traditional graduate education including women, students of color, older students, students with children, and part-time students. These students discussed negative interactions with others, structural impediments to success, and general feelings of “differentness” that affected their overall satisfaction and integration in their degree programs.

While these students’ frequently negative experiences cannot be entirely attributable to their differences in the socialization process, my point here is that these differences do play a part in the students’ overall satisfaction and integration into their programs. In particular, their experiences and perceptions indicate that the socialization process in these departments does not take into account the diversity of backgrounds and experiences of today’s students, resulting in a less than satisfactory experience for members of these student populations. As described below, this experience has prompted several of these students to contemplate leaving their degree programs. A description of each of these populations follows, beginning with an overview of the current demographics in doctoral education.

Women

Enrollment by gender in doctoral education has changed dramatically over the past 20 years. In 1987, more men than women were enrolled in doctoral degree programs (National Center for Education Statistics 2006). Since then, female enrollment has risen dramatically with only small increases in male doctoral enrollment. In 2001–2002, for the

first time, more women received doctoral degrees than men in the United States (National Center for Education Statistics 2006). Disciplinary differences and societal demands may account for much of the shifting demographic tide in the past 20 years. For example, as more women enter postsecondary education, they are more apt to pursue postgraduate degrees. Furthermore, as the doors of traditionally male disciplines began to open, such as in the sciences and engineering, more women have entered these disciplines.

While not every female student interviewed expressed concern regarding her experience, comments did arise throughout the study which drew attention to the matter of sexism and the experiences of female students overall. Women students at both institutions and within both disciplines discussed issues related to their gender and how this at times affected their experiences, which is particularly of note since the students were never directly questioned about issues related to gender in the study. Moreover, of the 12 students who talked to me about leaving, who planned to leave, who were taking anti-depressants, or who had to seek professional help to assist them through their degree programs, all except one were women. Again, while definitive connections between these students' gender and their lack of satisfaction with the degree programs cannot be made, students' repeated comments on this issue certainly warrant notice.

While science-related fields, like chemistry, have made inroads recently in regard to recruiting and hiring more female faculty, the discipline is still predominately male-oriented and male-governed (Committee on Professional Training 2000); and, therefore, the dominant socialization process is also predominately male (Ward and Bensimon 2002). Recent comments by former Harvard President Lawrence Summers, suggesting that women do not hold elevated positions in the sciences due to innate inabilities, further illustrate the preponderance of sexism and patriarchy that still exists in academia (Fogg 2005). Even with the expanded role of women in humanities-related fields in the recent past, it is still more often men who are tenured and given the rank of full professor (National Center for Education Statistics 2006).

It was therefore not surprising that, in both disciplines studied, the women often commented about the male-dominated environment surrounding them. Karen, a chemistry student at Flagship, remarked, “[There are] a lot of gender issues; it’s a heavily male-dominated field and...a lot of sexist attitudes.” Equally, many of the women referred to what they deemed the “Old Boys’ Club.” Brenda, a history student at Land-Grant, commented, “Women who make inroads are very threatening.” Deborah echoed, “It’s a rough campus for women. It’s not a female-friendly campus,” similarly pointing to the students’ awareness that sexist attitudes prevail and influence their overall experiences in graduate school. However, the female chemistry students at Land-Grant never mentioned issues of sexism in their experiences. It may be that the appointment of a female as the chairperson speaks loudly to the overall culture of the department as one that supports its females and allows inroads to power. Lynn, a chemistry student at Flagship, however, pointed out the difference at her institution: “There are very few female faculty in the department.”

Students also see discrimination in faculty hires and are concerned about how this might affect their future job searches. Deborah, the history student from Land-Grant, said, “I’ve watched the last six hires at the two schools [I attended, and] the last six or seven searches that ended up in a tenure-track hiring were all young, White males. I mean, I’m not *that* stupid to recognize a pattern.” Brenda, another Land-Grant history student, talked about the lack of female hires in the department. She whispered as she told me, “There is a dynamic afoot in this department that is anti-feminine.” Even several of the male students in the study discussed issues of gender. Dean, a history student at Flagship, talked to me about the survey their graduate student association had conducted on student satisfaction in the

department. He told me, “The department’s had trouble retaining women graduate students, and they don’t know why.”

Taken together, the students quoted above were able to describe their departments and their campuses as those for which women students and faculty did not “fit the mold.” This lack of congruence made these women question their place in the academy in the present and in the future.

Students of Color

Enrollment by race and ethnicity has also changed over the past 30 years in doctoral education. Enrollment of graduate students of color grew from 11% in 1976 to 25% in 2004. Specifically, the rate of increase for African American graduate students grew 181% from 1976 to 2004, for Asian Americans 373%, American Indians 162%, and Latino Americans 377% (National Center for Education Statistics 2007). Of the doctorates earned by U.S. citizens, nearly 19% went to members of minority groups—the largest percentage ever. While the total number of Americans earning doctorates has decreased in the last 5 years, the number of Asian–Americans, African–Americans, and Chicanos/Latinos earning doctorates has increased as a whole (Hoffer et al. 2006).

Owing to the few students of color in this study, I make only tentative comments about their experiences and issues stemming from their comments. Nevertheless, the four students of color with whom I spoke repeatedly remarked upon issues of integration and a general lack of satisfaction in their overall experiences. While the number of students of color in graduate education in the United States has indeed risen, the predominant racial demographic nevertheless remains Caucasian (National Center for Education Statistics 2006). This predominance points to the issue of socialization to normative characteristics when the individual does not fit the typical mold of graduate education.

Karen, a female chemistry student at Land-Grant, discussed the issue of race more often than any other student. She talked to me about her transition to academe from a position in industry for many years:

I worked really, really hard when I was in industry, and of course I suffered a lot of discrimination. I’m a minority, and I’m a woman, and [there are] tons of ways for me to be discriminated against. I worked really, really hard to get myself into a position where I could just be acknowledged and respected and awarded for my own personal contributions and I come here, and I think it’s worse.

Karen ended by saying, “I just hope I can make it out of here without too many scars.”

Older Students

In 2001, only 43.4% of all graduate students were between the ages of 22–29 (National Center for Education Statistics 2006), the age generally regarded as traditional in graduate education. In this study there appeared to be a typical age range of the students in their programs. While the majority of the 40 students came directly from their undergraduate programs at age 21 or 22 to begin their graduate studies, 16 students were over the age of 30. Each of them was keenly aware of the difference that their age made in their programs, frequently commenting about this issue and expressing their concern about how they did not fit the mold of graduate school.

The students in the chemistry departments felt this age difference most acutely. In an essay on doctoral education in chemistry, Stacy (2006) commented on the difficulties non-

traditionally aged students face, stating that it is “almost impossible for older, mid-career students” to enter chemistry doctoral programs (p. 4). In regard to socialization, most doctoral recipients earn their degrees in the sciences in the early 30s (Hoffer et al. 2006), leaving the student who does not fit this mold feeling displacement and an overall lack of integration with peers. Michael, a chemistry student at Land-Grant, described these difficulties in that he repeatedly alluded to his age, feeling old, or mentioned his desire to complete his program before he got any older. In Michael’s department, he is the only other graduate student interviewed over the age of 30. He said, “I’m old. I’m going to be 34.” Michael also commented on his concern about his age as he began the program:

I was worried about how old I am and how long it would take me to get the degree, because when I first inquired at [Land-Grant], the professor that I wanted to work for seemed a little surprised that I was old as I was. He said, ‘Well, I just want to break it to you now that it takes graduate students in [this field] about six to six-and-a-half years on average to finish their degree.’ So that was pretty depressing for me.”

Michael later joked about getting his research done in time and said, “I may be old, but I still have a lot of energy left in me.”

In history, as in the other humanities fields, most doctoral recipients earn degrees in their early to mid-30s. Therefore, students such as Deborah, a 52-year-old history student at Land-Grant, is very much a non-traditional student in her department. Nevertheless, she was aware of the role her age would play in her experience and therefore felt somewhat prepared for it. She remarked, “I knew there would be age discrimination.” She talked to me at length about her experiences with professors in relation to her age, and related:

They seemed a little wary of having an older student because [Land-Grant] is not the kind of school that has a lot of older students. A lot of teachers don’t like older students, and they find them annoying; I tried not to be annoying, I tried never to talk out, I tried not to ask a lot of questions deliberately because people get real annoyed at older students because older students do that. So I was purposeful about it. Sometimes a professor would say, “You’re not participating.” I thought it was hard for me to figure out what my role would be. I was always feeling old at [Land-Grant].

Ruben, a history student at Flagship, also discussed his concern regarding his age and his fit in graduate school. Now 67 years old, Ruben has returned to school after a long career in another area. He talked about his issues with integration in the department as related to his age and says, “I had a lot of difficulty connecting with the other graduate students. I’m old enough to be most of their fathers, so I’m afraid that’s caused some problems.” Because of this, Ruben staunchly advocated for support for non-traditional students, a population that Ruben regards as “just the tip of the ice berg” in academia today, as many of the Baby Boom generation begin to retire and choose to return to school.

Students with Children

As the frequency of older students enrolling in doctoral education has increased, so has the number of students with children. In this study, 8 of the 40 students interviewed had children. Not surprisingly, the women students with children discussed this issue more often than the men, but it was nevertheless an issue for all students concerned. In regard to socialization, academic structures, conventions, and traditions are typically not designed to allow students with children, whose schedules and responsibilities are often demanding,

much flexibility. This can be easily seen in the literature on faculty socialization as many women with children have reported disparate and negative experiences (Ward and Wolf-Wendel 2004).

Sylvia, the chemistry Land-Grant student with her third child on the way, is the most illustrative of the issues related to being a parent in graduate school. She spoke often of the inner conflict she experienced when having to choose between spending time with her children and her graduate work. She said, “I wanted to stay home and just be a mom. It was a very tough time for me.” For Sylvia, the best way to deal with this conflict is to work at night, so she can spend the daytime with her children while her husband is at work. Obviously, however, this schedule separates her from the other graduate students. She remarked, “I’m very isolated that way.”

Perhaps the culture of the sciences, surrounding a laboratory setting, is even more difficult for students with children, as it emphasizes an almost never ending work schedule (Grant et al. 2000). For students like Lynn, a chemistry Flagship student, the pace of the research culture was particularly difficult for her family. She explained that she had to choose her research division based on its flexibility for her family, “I can’t be an experimentalist; it doesn’t work for my lifestyle. I have a family; I have a life outside that’s very important to me.”

Balancing of time and priorities is particularly relevant for students with children. Gloria, a history student at Land-Grant, commented, “I have to do this whole balancing thing with wife, mother craziness. I think my biggest concern is finding time for that.” Rob, another history student at Land-Grant, similarly explained, “It’s awfully painful when your children or your son wants to go out and play catch, and you can’t.”

Part-time Students

The part-time students were the last group of students interviewed who discussed issues of separation and a lack of integration. Such students now constitute 40.5% of the total doctoral student population (National Center for Education Statistics 2003). In this study, only three of the students interviewed were part-time, but this status nevertheless affected each of their experiences. Through the lens of socialization, these students’ experiences are clearly disparate from their peers who are traditionally full-time as they typically do not receive the full scope of the socialization experience.

For example, the majority of the interaction part-time students have in the department is with their faculty members rather than other graduate students. These students regretted not being able to spend more time with their peers and felt they were missing a large part of the overall graduate experience. Nick, a history student at Flagship, commented, “It would be nice to see them (the other graduate students) a little more outside the classroom, but that just hasn’t worked out.” June, another Flagship history student, equally noted, “I haven’t really gotten to know other students that well, I think, because of my situation.”

Fitting the Mold: Implications and Recommendations

The emergent theme of “fitting the mold” of graduate school was something I had not expected in this study but was nevertheless present in the underrepresented students’ experiences. In the existing literature, the topic of marginalization in regard to socialization in graduate school is present (e.g., Clark and Corcoran 1986; Ellis 2001; Margolis and Romero 1998) but treats graduate education as a monolithic enterprise. Furthermore, the

existing models of graduate student socialization, such as that of Weidman et al. (2001), do not account for individual differences by discipline, institution, or personal characteristics. Understanding how contextual factors, such as discipline, department, and institution, influence the socialization process is integral to better understanding how these contexts influence students' retention and success.

This study adds to the literature explaining that not only is the experience of graduate education not the same for all students, but that is also varies widely by discipline and institutional context. For underrepresented students the experience of graduate education and its normative socialization patterns may not fit their lifestyle and the diversity of their backgrounds, making them feel they do not "fit the mold." In this investigation, these differences played out in terms of gender, race, age, enrollment, and familial status; and the students' awareness of the differences resulted in what was often less than satisfactory experiences. In addition, for 12 of these students, these differences were influencing their decisions to depart from the degree program altogether. Therefore, for them the socialization process was monumentally important to their decision to remain in or depart from the degree program. Attrition and retention, in this study as in others (Council of Graduate Schools 2004; Lovitts 2001), is therefore clearly connected to the socialization process as experienced by the students.

Context, however, is an important part of this socialization process. It was interesting to note, for example, that the women chemistry students at Land-Grant University, working under the female department chair, did not express issues related to sexism whereas those at the male-dominated Flagship department spoke of it extensively. Conversely, the women in the largely-male history department at Land-Grant University discussed sexism as often as those in chemistry at Flagship. From this perspective, literature pointing to a need for critical mass of underrepresented populations in higher education environments (Knowles and Harleston 1997; Tierney and Bensimon 1996; Turner 2002) mirrors the experiences of these students who were often the minorities in their departments and in their institutions. Administrators and faculty at these institutions should be cognizant of policies regarding recruiting and retaining students and faculty from underrepresented groups in order to provide role models and mentors for these individuals (Ellis 2001). While the norm of an entering graduate student was once a twenty-something, White, single male, current graduate student enrollment is much more diverse. Furthermore, with the ever expanding number of first-generation students entering graduate programs, including many of these typically underrepresented populations (Hoffer et al. 2002), graduate education in the United States will continue to see changing demographics for many years to come.

From a programmatic standpoint, a peer-mentoring program that matches students with those who have had similar experiences may assist students in understanding and successfully navigating their own experience (see Brown et al. 1999). Support groups and opportunities for interaction could be similarly structured with these student populations at either the departmental or institutional level, and referrals to support services should also be available for students upon entrance to their programs. Students should be equally involved in transitioning to these new environments, which includes being aware of how their individual characteristics may influence their educational experience. Seeking support is a necessary part of the experience, but so is offering solutions to programmatic and cultural issues through involvement in graduate student organizations and departmental committees.

In addition, support services and information should also be available not only to students who are entering graduate school, but to those faculty, staff, and other students who will be working with them. This might be accomplished through university and college-wide professional development on diversity issues and through university support

services, including existing efforts such as the Equity Scorecard through the Center for Urban Education at the University of Southern California (University of Southern California 2007). Moreover, faculty and staff should also take into account the existing socialization processes and experiences in their programs and how these experiences may unduly influence students who do not fit what has traditionally been the norm.

Future research must continue to explore the multiple cultures and contexts that exist to represent the diversity of students within contemporary graduate education. For example, future research should investigate how a critical mass of faculty members or graduate students influences students' socialization experiences as well as how institutional competitiveness influences the socialization process. In addition, differences by geographic region and the existence of support services should also be explored. Without these new explanations and increased understanding of graduate students and their socialization, programs and experiences to retain these students will not succeed. Moreover, future research should explore faculty members' understanding of the socialization process for underrepresented students. Understanding and being aware of both the explicit and implicit socialization processes existent in their programs will assist departments and institutions in helping all students feel successful, not simply those who currently fit the mold of graduate education.

References

- American Chemical Society. (2002). *Graduate education in chemistry: The ACS committee on professional training surveys of programs and participants*. Washington, DC: Author.
- Baird, L. L. (1990). The melancholy of anatomy: The personal and professional development of graduate and professional school students. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research Vol. 6* (pp. 361–392). New York, NY: Agathon.
- Baird, L. L. (1993). Using research and theoretical models of graduate student progress. In L. L. Baird (Ed.), *Increasing graduate student retention and degree attainment* (pp. 3–12). San Francisco, CA: Jossey-Bass.
- Becker, H. S., Geer, B., Hughes, E. C., & Strauss, A. L. (1961). *Boys in white: Student culture in medical school*. Chicago, IL: The University of Chicago Press.
- Bender, T., Katz, P. M., & Palmer, C. (2004). *The education of historians for the twenty-first century*. Urbana, IL: University of Illinois Press.
- Berelson, B. (1960). *Graduate education in the United States*. New York, NY: McGraw-Hill.
- Biglan, A. (1973). The characteristics of subject matter in different academic areas. *Journal of Applied Psychology*, 57, 195–203.
- Bogdan, R. C., & Biklen, S. K. (2003). *Qualitative research for education: An introduction to theories and methods*. Boston, MA: Allyn and Bacon.
- Brown, M. C., Davis, G. L., & McClendon, S. A. (1999). Mentoring graduate students of color: Myths, models, and modes. *Peabody Journal of Education*, 74, 105–118.
- Carnegie Foundation for the Advancement of Teaching. (2003). Carnegie Initiative on the Doctorate: Brief Overview. Retrieved January 24, 2008, from <http://www.carnegiefoundation.org/CID/index.htm>
- Clark, S. M., & Corcoran, M. (1986). Perspectives on the professional socialization of women faculty: A case of accumulative disadvantage? *The Journal of Higher Education*, 57, 20–43.
- Committee on Professional Training. (2000). *Survey of Ph.D. recipients in chemistry*. Washington, DC: American Chemical Society.
- Council of Graduate Schools. (2003). The Preparing Future Faculty Program. Retrieved January 24, 2008, from <http://www.preparing-faculty.org>
- Council of Graduate Schools. (2004). *Ph.D. completion and attrition: Policy, numbers, leadership, and next steps*. Washington, DC: Council of Graduate Schools.
- Ellis, E. M. (2001). The impact of race and gender on graduate school socialization, satisfaction with doctoral study, and commitment to degree completion. *The Western Journal of Black Studies*, 25, 30–45.
- Fogg, P. (2005, January 28). Harvard's president wonders aloud about women in science and math. *The Chronicle of Higher Education*, p. A12.

- Golde, C. M. (1998). Beginning graduate school: Explaining first-year doctoral attrition. In M. S. Anderson (Ed.), *The experience of being in graduate school: An exploration* (pp. 55–64). San Francisco, CA: Jossey-Bass.
- Golde, C. M., & Dore, T. M. (2001). At cross purposes: What the experiences of doctoral students reveal about doctoral education. Retrieved January 24, 2008, from <http://www.phd-survey.org>
- Grant, L., Kennelly, I., & Ward, K. B. (2000). Revisiting the gender, marriage, and parenthood puzzle in scientific careers. *Women's Studies Quarterly*, 1–2, 62–85.
- Hoffer, T. B., Welch, V. J., Webber, K., Williams, K., Lisek, B., Hess, M., et al. (2002). *Doctorate recipients from United States universities: Summary report 2002*. Chicago, IL: National Opinion Research Center.
- Hoffer, T. B., Welch, V. J., Webber, K., Williams, K., Lisek, B., Hess, M., et al. (2006). *Doctorate recipients from United States universities: Summary report 2005*. Chicago, IL: National Opinion Research Center.
- Knowles, M. F., & Harleston, B. W. (1997). *Achieving diversity in the professoriate: Challenges and opportunities*. New York, NY: American Council on Education.
- Kuh, G. D., & Whitt, E. J. (1988). *The invisible tapestry: Culture in American colleges and universities*. Washington, DC: The George Washington University.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Lovitts, B. E. (2001). *Leaving the ivory tower: The causes and consequences of departure from doctoral study*. Lanham, MD: Rowman and Littlefield.
- Mallinckrodt, B., & Leong, F. T. L. (1992). International graduate students, stress, and social support. *Journal of College Student Development*, 33, 71–78.
- Margolis, E., & Romero, M. (1998). The department is very male, very white, very old, and very conservative: The functioning of the hidden curriculum in graduate sociology departments. *Harvard Educational Review*, 68, 1–32.
- Maxwell, J. A. (1996). *Qualitative research design: An interactive approach*. Thousand Oaks, CA: Sage.
- McCormick, A. C. (2001). *The Carnegie classification of institutions of higher education*. Menlo Park, CA: The Carnegie Foundation for the Advancement of Teaching.
- Merton, R. K. (1957). *Social theory and social structure*. New York, NY: The Free Press.
- National Action Council for Minorities in Engineering. (2005). Alfred P. Sloan Foundation graduate scholarship programs. Retrieved January 24, 2008, from <http://www.nacme.org/sloan/MPHPD/>
- National Center for Education Statistics. (2003). NCES Fast Facts. Retrieved December 3, 2003, from <http://nces.ed.gov/fastfacts>
- National Center for Education Statistics. (2006). NCES Fast Facts. Retrieved November 16, 2007, from <http://nces.ed.gov/fastfacts>
- National Center for Education Statistics. (2007). Status and trends in the education of racial and ethnic minorities. Retrieved January 24, 2008, from http://nces.ed.gov/pubs2007/minoritytrends/ind_6_23.asp
- National Science Foundation. (2003). Louis Stokes Alliances for Minority Participation. Retrieved January 24, 2008, from <http://www.nsf.gov/pubs/2003/nsf03520/nsf03520.htm>
- National Science Foundation. (2007). NSF: IGERT national recruitment program. Retrieved January 24, 2008, from <http://www.igert.org/index.asp>
- Nettles, M. T., & Millett, C. M. (2006). *Three magic letters: Getting to Ph.D.* Baltimore, MD: The Johns Hopkins University Press.
- Smallwood, S. (2004, January 16). Doctor dropout. *The Chronicle of Higher Education*, p. 19A.
- Stacy, A. M. (2006). Training future leaders. In C. M. Golde, & G. E. Walker (Eds.), *Envisioning the future of doctoral education: Preparing stewards of the discipline* (pp. 187–206). San Francisco, CA: Jossey-Bass.
- The Woodrow Wilson National Fellowship Foundation. (2004). Responsive PhD. Retrieved January 24, 2008, from <http://www.woodrow.org/responsivephd/agenda.html>
- Tierney, W. G. (1997). Organizational socialization in higher education. *The Journal of Higher Education*, 68, 1–16.
- Tierney, W. G., & Bensimon, E. M. (1996). *Promotion and tenure: Community and socialization in academe*. Albany, NY: State University of New York Press.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago, IL: The University of Chicago Press.
- Turner, C. S. V. (2002). *Diversifying the faculty: A guidebook for search committees*. Washington, DC: Association of American Colleges and Universities.
- Turner, C. S. V., & Thompson, J. R. (1993). Socializing women doctoral students: Minority and majority experiences. *The Review of Higher Education*, 16, 355–370.
- University of Southern California. (2007). The Equity Scorecard. Retrieved January 6, 2008, from <http://www.usc.edu/dept/education/CUE/projects/equityscorecard.htm>
- Van Maanen, J. (1984). Doing new things in old ways: The chains of socialization. In J. L. Bess (Ed.), *College and university organization: Insights from the behavioral sciences* (pp. 211–247). New York, NY: New York University Press.

- Van Maanen, J., & Schein, E. H. (1979). Toward a theory of organizational socialization. *Research in Organizational Behavior*, *1*, 209–264.
- Ward, K. A., & Bensimon, E. M. (2002). Socialization. In A. M. Martinez Aleman, & K. A. Renn (Eds.), *Women in higher education: An encyclopedia* (pp. 431–435). Santa Barbara, CA: ABC-CLIO.
- Ward, K. A., & Wolf-Wendel, L. (2004). Academic motherhood: Managing complex roles in research universities. *The Review of Higher Education*, *27*, 233–257.
- Weidman, J. C., Twale, D. J., & Stein, E. L. (2001). *Socialization of graduate and professional students in higher education: A perilous passage?* San Francisco, CA: Jossey-Bass.